ENVIRONMENTAL AND SOCIAL IMPACT STATEMENT FOR THE PROPOSED ESTABLISHMENT OF LONGIDO GIRLS SECONDARY SCHOOL AT OLTEPES VILLAGE, ORBOMBA WARD, LONGIDO DISTRICT IN ARUSHA REGION

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EXECUTIVE SUMMARY

Introduction

The Government of United Republic of Tanzania (URT) in collaboration with the World Bank has prepared the Secondary Education Quality Improvement Project (SEQUIP). The objectives of SEQUIP are to increase access to secondary education, provide responsive learning environments for girls and improve completion of quality secondary education for girls and boys. In summary, activities under SEQUIP will be structured into four main components:

Component 1: Empowering Girls through Secondary Education and Life Skills
1.1 Creating Safe Schools: Implementation of the Safe Schools Program including:

i. Trained school guidance and counselling teachers;
ii. Students' life skills training through girls' and boys' clubs by the guidance and counselling teachers; In-service training of secondary school teachers on the teacher code of conduct and gender sensitive pedagogical approaches;
iii. Training of school heads and School Boards on GBV, safe school issues etc.;
iv. School and classroom monitoring system for early identification of and intervention on girls at risk of drop out; and
v. Community-based mechanism for safe passage to school.

1.2 Promoting Girls' Completion of Secondary Education through Quality Alternative Education Pathways including:

i. Setting up an ICT-enabled system for tracking girls dropping out at national and district level to provide key information for AEP planning and implementation.
ii. Alternative Education Centers and LGAs undertaking local outreach activities to out-of-school girls in the community which will include activities such as AEP center-organized community meetings, information via local radio, flyers and brochures.
iii. Enhancing access to Alternative Education Pathways through (i) expansion of the network of AEP centers; and (ii) tuition fee subsidies for vulnerable girls.
iv. A quality package for strengthening student learning in Alternative Education Pathways will also be implemented
v. Environmental and Social Management Framework –Tanzania - Secondary Education Quality Improvement Project (SEQUIP)

Component 2: Digitally Enabled Effective Teaching and Learning
2.1 Effective Teaching and Learning

i. Minimum package of critical teaching and learning resources for all schools: This package consists of an adequate number of textbooks and teacher guides in core subjects (English, Math and Sciences).
ii. Equitable, gender-balanced teacher deployment to schools
iii. In-service teacher training/continuous professional development (CPD) to improve classroom teaching practice for secondary English, Mathematics and Science teachers
iv. Evaluate student learning in lower secondary to provide opportunities for remedial use: to allow for targeted early intervention to prevent girl dropout due to learning difficulties

2.2 Digitally-enabled Teaching of Math Sciences and English:

i. Development of an ICT in Education Strategy and plan for secondary education.
ii. Digital content and connectivity package to facilitate the teaching of English, Mathematics and Science in phases.

Component 3: Reducing Barriers to Girls' Education through Facilitating Access to Secondary Schools

Expansion of the secondary school network to substantially reduce the distance to secondary schools through an expansion of the secondary school network, especially in rural areas. SEQUIP will disburse project funding on the basis of the number of schools in each LGA meeting minimum infrastructure standards

Support upgrading existing secondary schools with the minimum infrastructure package (number of classrooms/students, adequate WASH facilities; multi-purpose science labs, electricity, etc.) with the

objective is that at least 50 percent of all existing schools in all LGAs will meet the minimum standards set.

Component 4: Technical Assistance, Impact Evaluation and Project Coordination Environmental and Social Management Framework –Tanzania - Secondary Education Quality Improvement Project (SEQUIP). SEQUIP will be jointly implemented by the Ministry of Education, Science and Technology (MoEST) and the President's Office, Regional Administration and Local Government (PO-RALG).

Tansheq Limited, a NEMC registered environmental consulting firm (**Reg No. NEMC/EIA/0034**) with offices at House No. 83 Wakulima/Ngano Rd, Hananasif Estate and P.O. Box 31517 Dar es Salaam, has been contracted by Po-RALG as Implementing Supporting Team (IST).

Project Location and Accessibility

The project area is located at Oltepes Village, Orbomba Ward, and Longido District in Arusha Region. The proposed site will be accessed by using the Arusha-Namanga road from the Arusha Regional Commissioners office, which takes about 75km. And the proposed site is found on the right-hand side of the Arusha-Namanga road, about 1.5km

Project Description
The school construction and design will consist of a required infrastructure package based on the school construction and maintenance strategy (e.g. number of classrooms/students, adequate WASH facilities, especially important for girls; multi-purpose science labs, electricity, etc.). The construction package will involve the following buildings;

Classrooms
The classrooms are designed following Education Bulletin number 1 of 2007 that directs capacity of each classroom level, 30 students for advance and 40 students for ordinary level. However, schedule of materials indicates each classroom will be having capacity of 40 students.

Construction will be undertaken in two phases. The first phase will involve construction of 12 classrooms within six blocks followed by the second phase that will involve the construction of 6 classrooms which will be of 3 different designs (2 classrooms with office, 2 classrooms with toilet and a 2 classrooms block).The proposed project development will adhere to the fire and rescue force directives for public premises.

The Education Global Practice Africa Region report prepared by World Bank provides the following directives; Student classroom ratios of 50:1 or less, student to functioning latrine ratio of 25:1 for girls and 30:1 for boys, at least one multipurpose science laboratory, student textbook ratios in mathematics and science subjects of 1:1, teacher: teacher guide availability of 2:1.

Laboratories
Education Bulletin number 1 of 2007 explain the capacity and set up of laboratory building for each level is 40 students, The scheduling of materials will adhere the bulletin as the following laboratory rooms will be constructed;

- Physics and geography lab
- Chemistry and biology lab,
- ICT room which is to be constructed in the second phase, and
- Domestic science

Administration block
The bulletin indicate for the school having capacity of 1000 student plus need to have not less than 40 teachers excluding other staffs such as school bursar, secretary etc. The administrative building will be constructed as an elevated building whereas only one (1) building will be constructed.

Toilets
The proposed toilet facility will comprise of one block with 16 holes to be constructed standalone as scheduling shows with estimates of one (1) hole for twenty (20) people, nevertheless, some of classrooms will be having sanitary rooms as designed, dormitory, and dining hall will also be having sanitary rooms.

The development of sanitary facilities is necessary to ensure the surrounding environment is well-managed and ensuring social well-being and practical operation of the school since human dignity is directly linked to access of safety and hygienic sanitation.

Dining hall
The Dining Hall is a pivotal gathering space on School's campus and is emblematic of The Family Boarding School ideal. The school will be having enough dinning space to all students since it is a boarding school thus meal will be served. According to the designs of the dining hall, it has the capacity of 2000 students.

Staff houses
The teachers' houses are designed to attract teachers out to the countryside, as well as to increase teachers morally to perform their duties unlike if they are coming far from the school. The design considers the staff house to have one (1) master bedroom, two (2) bedrooms/ one (1) master bedroom, three (3) bedrooms with Public toilet, Sitting room/dining, Kitchen and Store. Four (4) of the staff houses will be constructed.

Dormitories
Dormitories are places where students stay. The student housing must also aim to provide healthy and acoustically pleasant environments for the protection, comfort, and productivity of the students. The dormitories are designed as per provided to meet the SEQUIP objectives having a capacity to accommodate 120 students. For phase one five (5) buildings will be constructed while for phase two four (4) buildings.

Library
The library is important because it affects cultures, it affects innovation, and it affects individuals. Because of all this, library architecture has the responsibility to enhance these effects by providing a knowledge center that is inspirational and conducive to good communication and teaching interactions.

According to designs, the library to be constructed will accommodate 52 students for readings and the computer learning room will accommodate 8 students.

Sick bay
A sick bay provides a dedicated space for students who may feel unwell or require immediate medical attention. It will serve as a primary point of care within the school premises, allowing for timely assessment and treatment of minor illness or injuries.

Incinerator
This will provide a safe and efficient men of disposing waste specifically biomedical waste such as used sanitary pads, medical supplies and other potentially hazardous materials.

Other components that will be constructed within school compounds area are Playgrounds, Water tunnel, Water tank (hippo) and its pillars), Manhole and gully trap, Walkway & Paving.

Project activities

Main activities of the project include preconstruction, Construction, Operations, and decommissioning.

Mobilization phase/Pre-Construction Activities

The mobilization phase of the project, which is estimated to take average of maximum three months, will entail the following activities:

- Establishment of construction of camps, material and equipment storage areas, materials processing yards, including sanitation facilities. The following activities will be involved during establishment of the camp.
    - Bush clearing.
    - Construction of Material and equipment storage areas

- Construction of sanitation facilities
- Installation of electrical infrastructure
- Installation of water and wastewater infrastructure

- Identification of naturally-occurring material borrow sites (sand, fill, gravel borrow and quarry sites),
- Identification of sources of water for domestic and construction works

Construction Phase

The construction phase of the project, which is estimates to take 12 month for each of the phase one and will encompass following major activities:

- Earth works to facilitate widening and re-alignment of the road. Earth works will entail the following activities:
  a) Clearing and grubbing (clearing of vegetation, including trees).
- Extraction of naturally occurring construction materials. This will include:
  b) Excavation and transport of natural sand, gravel, and sub-base materials to construction sites
  c) Stone quarrying (including blasting), crushing and transport of crushed aggregates to construction sites
  d) Transport and handling of fuel, lubricants etc. from their sources to the project site
- Transport of construction materials from source to site such as roof, steel, woods, nails, rope

Operation phase

The maintenance activities of the Overall, SEQUIP will contribute to increasing total enrolment in secondary school by 1.8 million students and increase the number of girls graduating from both secondary schools and alternative secondary education pathways.

Decommissioning Phase

After completion of construction, all the utilities which were used shall be reverted to the Municipal Director who will decide on their future use. The main activities during demobilization phase, will engross the following:

- Collection and disposal of storage facilities such as pallets, packing, boxes
- Collection and disposal of construction materials and waste such as waste oil, sewage, solid waste (plastics, wood, metal, papers, etc.) at the workshop, site office etc. to authorized dumpsite
- Restoration of material borrows areas to safer condition

Project Cost

Total Project Cost is four billion Tanzanian shillings

Legal Framework

Relevant sectorial and cross–sectorial policies that provide directives on how projects should be operated

In/on concerned natural resources and sensitive ecosystems are:

i. The National Energy Policy,2015
ii. Education and training policy,2014
iii. The National Environmental Policy, 2021
iv. The Occupational Health And Safety Policy 2009
v. The National Employment Policy, 2008
vi. The National Research And Development Policy, 2010
vii. The National Biotechnology Policy,2010

Key legislation, which PO-RALG must adhere to during implementation of this project, includes:

I. The Education Act, Cap.353.
II. The Law Of The Child Act, Cap. 13 R.E 2019
III. The Engineers Registration Act, Cap 63
IV. The Architects And Quantity Surveyors Act, Cap 267
V. The Workers Compensation Act, Cap 263
VI. The Persons With Disabilities Act, Cap 183
VII. The Occupier Liability Act, Cap 64
VIII. The standard Act, Cap. 130
IX. The Environmental Management Act, Cap 191
X. The Water Resources Management Act, Cap 331
XI. The Forest Act, Cap 323 R.E 2022
XII. The Electricity Act, Cap 131
XIII. The Local Government (District Authorities) Act, Cap,287
XIV. The Local Government (Urban Authorities) Act, Cap,288
XV. The Fire And Rescue Force (Safety Inspection And Certificates) Regulations, 2008 As Amended In 2017
XVI. The Fire And Rescue Force (Fire Precautions In Buildings) Regulations, 2015
XVII. The Environmental Management (Control And Management Of Electrical And Electronic Equipment Waste) Regulations, 2021

Stakeholder Involvement and Participation

The Consultants identified organizations, groups, and individuals considered to be key stakeholders that
Might be impacted by the project components or have influence on the project.

- Region Academic Officer, (RAO),
- District Executive Director (DED) in Longido District and District Environmental Officer (DEMO), DSEO, As DE
- Ward officials including VEO at Oltepes village and WEO of Orbomba ward
- Meeting with villagers around in the proposed project area.

Stakeholders Opinions and Concerns

The stakeholder consultations identified both positive opinions and negative concerns. Stakeholders had positive opinions of the project in terms of:

- Education opportunities to the specific project area and surrounding communities
- Rising of Orbomba Ward's economy as a result of population increase

Stakeholders were concerned about:

Environmental and Social Impacts

The following impacts were identified in the various project development stages such as mobilization and construction, operational as well as decommissioning stage. These impacts were as follows:
Mobilization/Construction Stage:

- Loss/disturbance of biodiversity and threatened species
- Atmospheric emissions from engines of vehicles
- Dust and noise pollution from mobilization vehicles.
- Public health hazards and safety from construction of supportive infrastructure.
- Land disturbance.
- Roads accidents of the moving vehicles

Operation Stage:

- Disruption of air quality from emissions of exhaust and fugitive gases
- Disturbance to surrounding communities due to increased noise levels
- Aesthetic degradation, environmental pollution and outbreak of diseases and injuries due to improper management of surrounding hazardous and non-hazardous solid waste materials
- General health and safety impacts
- Increased population density

Socio – Economic Aspects:

- A more educated workforce in the country
- Decrease in unemployment rates
- Increase in income levels resulting to benefit to the government from taxes provided
- Women empowerment
- A more balanced and diverse demographic landscape with improved gender representation and opportunities for women in the respective regions and country

Decommissioning Stage:

- Abandoned infrastructure.
- Unemployment.
- Loss of revenue to the government

Enhancement of Positive Socio-Economic Impacts:

- Employment and training especially during construction
- Increased income/revenue/induced development.
- Increased income by utilization of local resources.
- Support to local social services and livelihood.

Project Alternatives Analysis

Different options were considered for the project. Analysis of alternatives compares reasonable alternatives to the proposed project site, technology, design, and operation in terms of their potential environmental and social impacts; the feasibility of mitigating these impacts; their capital and recurrent costs; their suitability under local conditions; and their institutional, training, and monitoring requirements.

It also states the basis for selecting the particular project designs proposed and justifies recommended emission levels and approaches to pollution prevention and abatement.

Alternatives considered for this project were the following

a) No-Go alternative,
b) Design and technological considerations
c) Location alternative
d) Energy alternative
e) Water alternative

Environmental and Social Management Plan

The Environmental Impact Assessment for the proposed construction of Regional Girls Secondary School, has identified a number of impacts that are likely to arise during construction and operation stage of the proposed project.

The EIA has examined bio-physical, socio-economic and cultural effects of the proposed activity from site clearance, school construction and the school operation.

The real benefits of the proposed project can result only if the risks of the identified adverse impacts are minimized. This can be accomplished through implementation of adequate preventive and mitigation measures by formulating policies to cover them accordingly.

Environmental Management Policy

This will ensure that Project management and staffs are carrying out their activities with the highest regard to the natural environment and sustainable utilization of environmental resources therein. The policy should therefore cover the following, among other issues:

- Ensure that all Project activities operate within legal requirements of all relevant national legislation
- That there are continuous environmental improvement and performance through monitoring of Project activities;
- Ensure that utilization of natural resources is optimal with measures in place to ensure resource availability for future generation;
- Awareness creation to the surrounding community regarding sustainable utilization of natural resources, protection of sensitive ecosystems and bio-diversity maintenance for communal livelihood; and
- Balancing between natural resource use, environmental conservation and economic development.

Occupational Health and Safety Policy

It is developed for this project so as enable establishment of appropriate measures that ensure that the health, safety and welfare of all users is cared for as well as the health requirements of the local community in which the project is located. The policy should highlight on the following, among others:

- Medical examination of workers;
- Sanitation in the Project area;
- Proper liquid and solid waste management and disposal;
- Emergency preparedness;
- Fire safety;
- Necessity and availability of personal protective equipment
- Risk minimization of accidental damage to the community and environment

Community Relations Policy

The Local Community Policy are developed by management of the Project to ensure that the management of the project develops and maintains sound relations with all stakeholders on mutual respect and active partnership. The policy should highlight on ways the management should:

- Work with the local community and relevant government departments and agencies to achieve sustainability of the project;
- Come up with ways of enhancing information flow from management to the community and Project stakeholders, and vice versa;
- Community capacity building; and
- Active engagement of the local community in all Project activities that impact on the local community.

With regard to environmental management during the pre-construction, construction, operation and decommissioning phase of the project, the principal responsibilities of each party as described below. For certain aspects of the programme, assistance will be needed from the Local Government Authorities and the NEMC (mainly in the form of guidance and advice and in project monitoring).

Environmental Monitoring Plan

This report contains a detailed plan to monitor the implementation of mitigation measures and the impacts of the project during its execution. This plan includes a cost estimate for carrying out the proposed monitoring plan.

Cost Benefit Analysis and Resources Evaluation

Environmental cost benefit analysis is assessed in terms of the negative and positive impacts. Furthermore, the analysis is considering whether the impacts are mitigatable and the costs of mitigating the impacts are reasonable. As it has been mentioned in Chapters 7 and 8, the potential benefits of the project, in terms of economic advancement and social benefit are substantial.

The environmental impacts are reasonably mitigatable. So to mitigate negative impacts, when compared to the required data are relatively small.

Social Cost Benefit Analysis

The benefits from project development can be judged in terms of employment, social welfare, education development, infrastructure development and the local economy (wages, goods and services). Thus, there will be a substantial spread of the benefit within the community through the provision of food, accommodation and other regular services to the employees and students.

Furthermore, the upgrading, development and maintenance of local infrastructure are benefits that will extend far beyond the project's scope and lifetime.

Decommissioning

Decommissioning is the last phase of project life. It involves terminating project activities and operations and rehabilitating site to or close to its original state. It is anticipated that the project shall continue as long as there is a demand for a project, however, individual components of the project shall be decommissioned as need be.

Conclusion

The project will have both positive and negative impact to the environment and the local communities along it. Measures have been proposed to enhance impacts which are positive to the environment and the local people.

For those impacts that are negative, mitigation measures have been proposed to avoid or abate them to the extent possible for the purpose of maximizing benefits of the school project and minimizing detriments of the project intervention to the communities.

Overall, the project shall act as a catalyst for positive change in the surrounding communities by improving education, infrastructure and social well-being, and by involving and engaging the local residents, the project can have a lasting impact and contribute to the overall development of the region.

ACKNOWLEDGEMENT

PO-RALG extends its heartfelt appreciation to the World Bank group for their positive support in creating an enabling environment for young girls to pursue their education in every possible way.

Additionally, we would like to thank and express our gratitude to the officials of Arusha Region, Londigo District, and the Ward Executive Officer for Orbomba Ward, the Village Chairperson for Oltepes Village, and all community members for their significant opinions and contributions during the preparation of this study.

Lastly, we would like to acknowledge and sincerely appreciate the hard work and dedication of the staff at Tansheq Limited, without whom this project would not have been possible.

ACRONYMS AND ABBREVIATIONS

ADB	African Development Bank
AEP	Alternative Education Program
AIDS	Acquired Immune Deficiency Syndrome
AOI	Area of Interest
APHA	American Public Health Association
ARAP	Abbreviated Resettlement Action Plan
BOD	Biological Oxygen Demand
BS	British Standard
CBOs	Community Based Organisations
CDP	Community Development Program
CH4	Methane
CO	Carbon Monoxide
CO2	Carbon Dioxide
COD	Chemical Oxygen Demand
CPD	Continuous Professional Development
dB	Decibels
DC	District Commissioner
DED	District Executive Director
DEMO	District Environment Management Officer
DEO	District Education Officer
DMD	Disaster Management Department
DOE	Director Of Environment
DP	Development Partner
DRC	Democratic Republic of Congo
EBRD	European Bank for Reconstruction and Development
EIA	Environment Impact Assessment
EIS	Environmental Impact Statement
EMA	Environmental Management Act
EMP	Environmental Management Plan
EPFIs	Equator Principle Financial Institutions
ESCP	Environmental and Social Commitment Plan

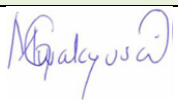
ESDP	Education Sector Development Plan
ESF	Environment and Social Framework
ESIA	Environment and Social Impact Assessment
ESMF	Environmental and Social Management Framework
ESMP	Environment and Social Management Plant
ESS	Environment and Social Standards
EU	European Union
FI	Financial Intermediaries
FYDP	Five Year Development Plan
GBV	Gender Based Violence
GCA	Game Controlled Areas
GCLA	Government Chemistry Laboratory Authority
GCS	Geographic Coordinate System
GDP	Gross Domestic Product
GIIP	Good International Industry Practices
GS Pipe	Galvanized steel
HIPC	Heavily Indebted Poor Country
HIV	Human Immunodeficiency Virus
ICT	Information and Communications Technology
IFC	International Finance Institution
IPF	Investment Project Financing
ISO	International Organization for Standardization
IST	Implementing Supporting Team
IUCN	International Union for Conservation of Nature
LGAs	Local Government Authorities
LPG	Liquefied Petroleum Gas
m	meter
MoEST	Ministry of Education, Science and Technology
NAPA	National Adaptation Programme Of Action
NEMC	National Environment Management Council
NEP	National Environment Policy
NESC	National Environmental Standards Compendium
NGOs	Non-Governmental Organisations

NOx	Oxides of Nitrogen
NSGRP	National Strategy for Growth and Reduction of Poverty
O	Oxygen
O3	Ozone
OHS	Occupational Health and Safety
OIP	Other Interested Parties
OP	Operational Policy
OPC	Ordinary Portland Cement
OSHA	Occupational Safety and Health Authority
OSPAR	Oil Spill Prevention Administration And Response
PAP	Project Affected People
PDO	Project Development Objectives
pH	Potential of Hydrogen
PLONOR	Pose Little Or No Risk
PM	Particulate Matters
PoRALG	President office, Regional Administration and Local Government
PPE	Personal Protective Equipment
ppm	Parts per million
PVC	Polyvinyl Chloride
RAO	Region Academic Officer
RAP	Resettlement Action Plan
RAS	Region Administrative Secretary
RC	Region Commissioner
RCDO	Regional Community Development Officer
REMO	Region Management Officer
REO	Region Education Officer
SEP	Stakeholder Engagement Plan
SEQUIP	Secondary Education Quality Improvement Project
SIA	Social Impact Assessment
SO2	Sulfur dioxide
TANESCO	Tanzania Electric Supply Company
TBS	Tanzania Bureau of Standards
TDV	Tanzania Development Vision

ToR	Terms of Reference
TSP	Total Suspended Particulates
TZS	Tanzania Standards
URT	United Republic of Tanzania
US EPA	United State Environmental Protection Agency
VEC	Valued Environmental Component
VEO	Village Executive Officer
VG	Vulnerable Group
VOCs	Volatile Organic Compounds
WASH	Water Sanitation and Hygiene
WB	World Bank
WBMS	World Bureau of Metal Statistics
WEO	Ward Executive Officer
WHO	World Health Organization
WSSA	Water Supply and Sanitation Authority

LIST OF REGISTERED EXPERTS INVOLDED IN CONDUCTING THE STUDY

Firm Registration No: NEMC/EIA/0034

S/N	Experts	Specialty	Signatures
1.	Eng. Gwakisa Mwakyusa	Team Leader	
2.	Mr. Lusako Raphael	Senior Environment expert	
3.	Eng. Anamary Philemon	Monitoring and Waste Management Expert	
4.	Mr. Erick Gagalla	Environmental expert	
Other Experts Involved in the Study			
1.	Nyasaila Nyakia	Sociologist	
2.	Veronica Msolla	Environmental Officer	
3.	Asia Abibu	Environmental Officer	
4.	Jerusalem Mwaipopo	Environmental Engineer	
5.	Joachim MarawitI	Environmentalist and GIS Expert	

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1 INTRODUCTION

1.1 Background

The Government of the United Republic of Tanzania (URT) in co-operation with the World Bank developed the Secondary Education Quality Improvement Project (SEQUIP). The objectives of SEQUIP are to increase access to secondary education, provide responsive learning environments for girls and in result, improve completion of quality secondary education for girls and boys.

Although access to and completion of primary education has improved over the last decade and substantial progress has been made in secondary education, secondary student enrolment rates of girls and boys are still very low in Tanzania compared to other East African countries.

The share of secondary students of the relevant school age population enrolled was only 28 percent in 2018, compared to 68 percent in Kenya, despite the recent enrolment surge. Secondary school attendance was 28 percent for girls and 27 percent for boys. The three main challenges in secondary education are:

(i) Access to and completion of quality secondary education for girls and boys;
(ii) A safe, supportive learning environment to keep girls in school longer and delay early marriage; and
(iii) Effective and clear Alternative Education Pathways (AEP) to enable girls and boys who drop out of lower secondary school, for various reasons including early pregnancy, to finish the lower secondary education cycle and enter upper secondary schools.

The proposed project intends at enhancing the secondary education through delivery point's improvement by increasing access to secondary education, provide responsive learning environments for girls and improve completion of quality secondary education for girls and boys

The implementing Government Agencies are Ministry of Education, Science and Technology (MoEST) and the President's Office – Regional Administration and Local Government (PO-RALG). Both Ministries are responsible for implementation of school-level education activities through the Local Government Authority (LGA).

One of the key components to be implemented through SEQUIP is facilitating access to secondary schools and bringing schools closer to communities.

The project plans to support construction of 1000 new schools and rehabilitation of additional facilities at existing secondary schools. The project will specifically have the following components.

- Component 1: Empowering Girls Through Secondary Education and Life Skills
- Component 2: Digitally-Enabled Effective Teaching and Learning
- Component 3: Reducing Barriers to Girls' Education through Facilitating Access to Secondary Schools
- Component 4: Project Coordination, Monitoring and Evaluation

The Secondary Education Quality Improvement Project (SEQUIP) will focus on enabling young girls to continue their secondary education despite social and economic barriers. More generally, SEQUIP will improve the completion of quality, learner-friendly secondary education for girls and boys. In 2018, 1,025,629 girls and 965,242 boys attended lower secondary school.

However, in the same year, a further 134,000 children, half of whom were girls, qualified to continue their schooling but were unable to because of lack of spaces in government secondary schools. Dropout rates are high for both boys and girls with a quarter of students leaving before they complete their lower secondary schooling. In 2017, about 5,500 girls were not able to continue with their secondary education due to adolescent pregnancy and early motherhood. SEQUIP will contribute to addressing these key challenges by:

(i) Creating a gender sensitive, learner-friendly school environment through investing in supportive structures in the school and community including trained school guidance stronger links with the community through Parent Teacher Associations and life skills training.
(ii) Supporting female students to avoid dropping out of secondary school due to pregnancy through measures that include:
    (a) Encouraging community awareness of risks for girls;

(b) Supporting safe passage and reducing the distance to schools to lower the risks of gender-based violence on the way to and from school; and supporting girls who become pregnant to access recognized, quality Alternative Education Pathways (AEPs) to obtain lower secondary certification and continue with upper secondary education or post-secondary education.
(c) Improving the quality of secondary school teaching and learning environments through the hiring of additional qualified teachers in core subjects and providing textbooks in core subjects.
(d) Increasing the number of secondary school spaces through the construction of new classrooms that meet minimum infrastructure standards and supporting the expansion of the school network to bring schools closer to communities.
(e) Using innovative digital technology to facilitate mathematics and science teaching and improve learning.

These SEQUIP interventions are aligned with the Government's Education Sector Development Plan (ESDP) (2016/17–2020/21) and related strategies. SEQUIP design also draws on lessons learned from previous and ongoing World Bank and Development Partner (DP) support to education in Tanzania.

Overall, SEQUIP will contribute to increasing total enrolment in secondary school by 1.8 million students and increase the number of girls graduating from both secondary schools and alternative secondary education pathways.

Over its lifetime, the Project will directly benefit about 6.5 million new and existing secondary school students, including 3.2 million girls. One SEQUIP will help more girls' transition from lower to upper secondary education, including girls who had to leave lower secondary government schools due to pregnancy

1.2 Project Objectives

The Program's objective is to increase access to secondary education, provide responsive learning environments for girls and improve completion of quality secondary education for girls and boys. The project interventions will:

(i) Create a safe, gender sensitive and learner-friendly school environment,
(ii) Provide good quality alternative education opportunities for secondary school drop-outs including young mothers;
(iii) Improve the quality of secondary education by improving teacher skills, reducing class sizes and providing adequate teaching and learning materials;
(iv) Use innovative digital technology to improve mathematics and science teaching and;
(v) Increase access to secondary education by providing more schools closer to the homes of children. Over the project's lifetime, 6.5 million children (3.1 million girls) will benefit from project interventions and an additional 900,000 children are expected to successfully complete their secondary education.

A need and evidence-based approach will be used in identification and selecting locations and schools that will benefit

1.3 Scope of the Study

The ESIA was conducted in accordance to the guidelines laid down by the Environment Management Act of 2004, and its regulations as well as the World Bank requirements as provided in the Environmental and Social Framework which goes down to the ten environmental and social standards. In its undertaking, the key consideration among others included the following:

- To ensure that environmental considerations are explicitly addressed and incorporated into the decision-making process, with the aim to anticipate and avoid, minimize, or offset the adverse significant biophysical and social effects of the proposed project; and to protect the capacity of natural systems and ecological processes to maintain their functions.
- To promote development that is sustainable and optimizes resources use and management opportunities

1.4 Land Ownership

The proposed area for expansion is owned by Longido District Council with a title deed No. 8377, the plot has a total area of 10.45 hectare. The landownership is attached in Appendix II

1.5 Study Approach and Methodology

The approach to this exercise was structured such as to cover the requirements under the Environment Impact Assessment and Audit Regulations, 2005. It involved largely an understanding of the project background, the preliminary designs and the implementation plan as well as commissioning.

In addition, baseline information was obtained through physical investigation of the project site areas, desktop studies, and public consultations with members of the community in the project areas, survey, photography, and discussions with the project Proponent.

The methodology used in this study follows specific procedures and guidelines set by the EIA & Audit Regulations of 2005. The study adopted the following approach: The process for conducting the Impact Assessment is closely related to the flowchart in Figure 1-1.

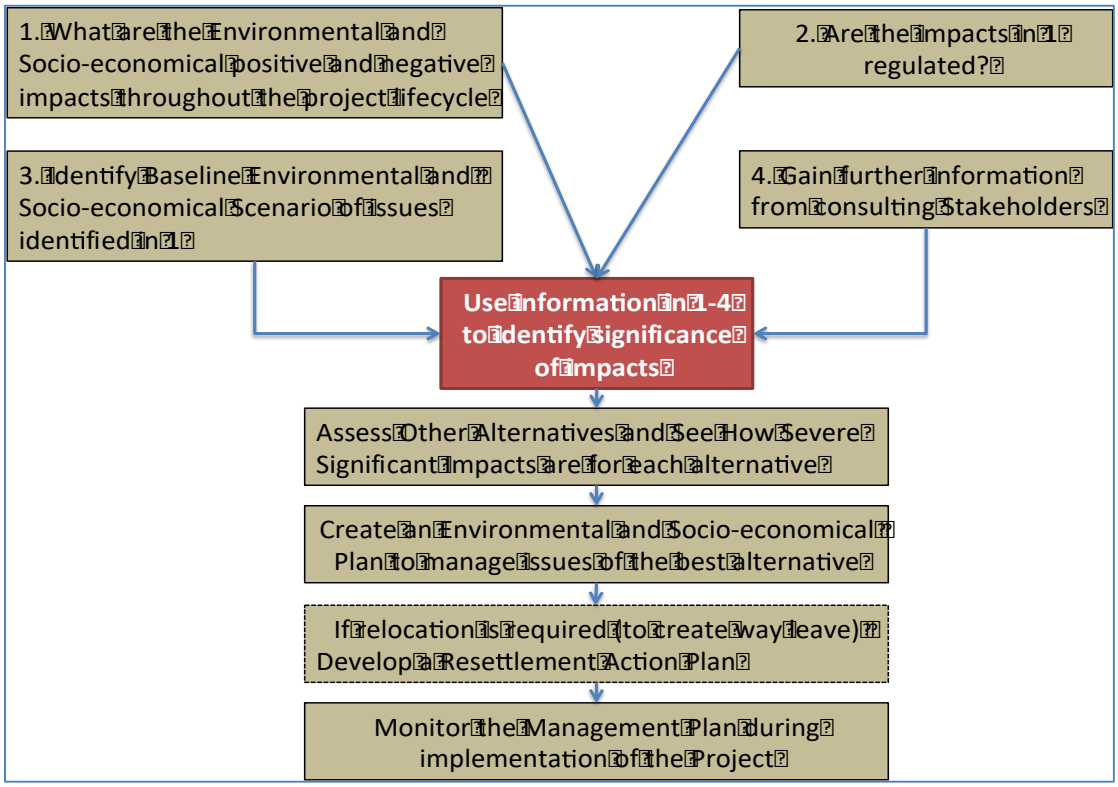

Figure 1-1: Impact Assessment Process

1.5.1 Issues Associated with the Proposed Project

Environmental and social Issues associated with school construction activities were identified based on previous history and detailed project activities. These are detailed in Chapter 2.

1.5.2 Regulatory Framework with Associated Issues

Description the relevant regulations and standards governing environmental quality, health and safety, protection of sensitive areas, sitting, land use control as detailed in CHAPTER THREE .

1.5.3 How the Situation is Currently (Baseline Situation)

In order to gauge the extent of impact, it is crucial to establish the status quo (**Error! Reference source not found.**). The consulting team conducted the baseline study of the current level of impacts. This involved a specialized study on flora and fauna, air, soil and water. It also covered socioeconomic issues, noise, etc. The aim of ascertaining the baseline it to appreciate to what extent the proposed project can alleviate or exacerbate the current situation.

1.5.4 Issues from Key Stakeholders

This EISA also reports on the following:

- A list of stakeholders consulted together with a stakeholder analysis.
- The method used to get their views and issues of concern raised.
- Issues raised by the stakeholders and the way they were addressed.
- Records of stakeholder meetings, communications, and comments.

1.5.5 Assessment of Impacts (Both Good and Negative)

This critically reviews and analyses interaction between the proposed project and the existing environment. In this analysis, the consultant distinguished between significant positive and negative impacts, direct and indirect impacts, and immediate and long-term impacts. Impacts, which are unavoidable or irreversible, are also identified. Wherever possible, impacts are described quantitatively in terms of environmental costs and benefits.

1.5.6 Consideration of Alternatives

This environmental assessment also involved an analysis of reasonable alternatives to meet the ultimate project objective. This analysis included any alternatives examined while developing the proposed project and that from an environmental, socio-cultural or economic point of view may be sounder than the proposed project.

This also includes the ‘no action’ alternative, which assesses environmental conditions without project. It is described how the alternatives compare in terms of potential impacts, costs, suitability under local conditions, as well as institutional, training, and monitoring requirements.

To the extent possible, costs and benefits of each alternative are quantified, incorporating the estimated costs of any associated mitigating measures. Finally, this report described the reasons for selecting the proposed project over the other alternatives.

1.5.7 Developing an Environmental Management Plan

This report recommends feasible and cost-effective measures to prevent or reduce any significant negative impacts to levels that are acceptable. This involves:

- Estimating the impacts and costs of those measures, and of the institutional and training requirements to implement them.
- Preparing a management plan including proposed work programs, budget estimates, schedules, staffing and training requirements, and other necessary support services to implement the mitigating measures.
- A management plan also covering the decommissioning phase of the project.

1.5.8 Developing an Environmental Monitoring Plan

This report contains a detailed plan to monitor the implementation of mitigation measures and the impacts of the project during its execution. This plan includes a cost estimate for carrying out the proposed monitoring plan.

1.6 Content of the Report

This report is designed to meet the requirements of Regulation 18 of Environmental Impact Assessment and Audit Regulations (United Republic of Tanzania, 2005) and as per the process of conducting ESIA. This introductory chapter is followed by the subsequent chapters as detailed in Table 1-1.

Table 1-1: Content of the Report

Chapter	Description
1. Introduction	Overview and objective of the study, methodology and outline of the report
2. Project Background and Description;	This chapter describes: • The executing entities of the project and their respective roles in the project • The project's geographic location, preferably illustrated with appropriate maps • Summary of the project (project objective(s), expected results/outcomes, outputs and main activities • Implementation arrangements.
3. Policy, Administrative and Legal Framework;	Describe the policy, legal and administrative framework within which the project takes place and identify any laws and regulations that pertain to environmental and social matters relevant to the project. This includes regulations about environmental and/or social impact assessments to which the project must adhere as well as laws implementing host country obligations under international law. If applicable. Where pertinent, consider legal frameworks for promoting gender equality. Flag any areas where the project might fall short on compliance.
4. Baseline or Existing Conditions;	The main purpose of this section of the ESIA report is to provide an understanding of current environmental and social conditions that form the baseline against which project impacts can be predicted and measured during project implementation. For moderate-risk projects that require only a partial ESIA and no scoping study, this section also provides an opportunity to substantiate the results of the ESMS screening by confirming potential impacts and/or identifying other potential impacts.
5. Stakeholder Identification and Analysis	The purpose of the stakeholder identification and analysis is to understand potential impacts on stakeholders and to clarify who should be involved in the ESIA process and how. This should be able to elaborate: • stakeholders' interests in and expectations from the project; • how they might influence the project (positively or negatively; • a first appraisal or estimation of how their livelihoods could be impacted by the project (positively or negatively); and • How they should be involved in the ESIA based on the information in the three items above.
6. Assessment of Impacts and Identification of Alternatives	This step is the heart of the ESIA; it itemizes and describes the identified impacts, makes predictions in terms of their probability, and assesses their significance. When analyzing the risks not only direct impacts should be taken into consideration but also indirect impacts such as inadvertent knock-on effects or cumulative effects that materialize through interaction with other developments, impacts occurring at the project site or within the project's wider area of influence and impacts triggered over time The purpose of the analysis of alternatives is to identify other options, including not implementing the project, to achieve the project objectives and compare their impacts with the original proposal. This step is required only for high-risk projects where the identified impacts are very significant.
7. Impacts Management or	A main output of the ESIA process is a strategy for managing risks and mitigating impacts. The identification of mitigation measures is done in

Chapter	Description
Environmental Mitigation Measures	consultation with affected groups and is guided by the mitigation hierarchy. The mitigation hierarchy implies that all reasonable attempts must first be made to avoid negative social or environmental impacts. If avoidance is not possible without challenging the conservation objective of the project, measures should be taken to 28inimize the impacts to acceptable levels and address remaining residual impacts with adequate and fair compensation measures.
8. Environmental and Social Management Plan	This is a risk management strategy is documented in an Environmental and Social Management Plan (ESMP) that describes: the mitigation measures developed during the ESIA, an implementation schedule and required resources and responsibilities. The technical and operational feasibility, cultural adequacy and sustainability of proposed measures must be demonstrated as well as requirements for capacity building and institutional strengthening, where relevant.
9. Environmental and Social Monitoring Plan	The ESMP should also indicate how the measures designed to avoid impacts would be monitored for effectiveness.
10. Resource Evaluation or Cost Benefit Analysis	This chapters intends to internalize all costs associated with management of environmental and social impacts while comparing with the benefits which could be derived from implementation of the project
11. Decommissioning;	How decommissioning of the project shall be affected and restoration of the site
12. Summary and Conclusions	An overview of the study as well as conclusion from experts regarding the findings
13. References	List of all sources of information used in the report
14. Appendices	Detailed descriptions which are important for the study but cannot be included in the main body

2 PROJECT BACKGROUND AND DESCRIPTION

2.1 Overview

The Project Development Objectives (PDOs) to increase access to secondary education provide responsive learning environments for girls and improve completion of quality secondary education for girls and boys. SEQUIP will contribute to addressing key challenges to girls and boys accessing education and this school will definitely target girls for their studying excel. The project aims to reduce distance to government target: 3km (or 45 minutes)

The project will contribute to increasing the total number of students in secondary education including Alternative Education Pathways (AEP) by 250,000. It will directly benefit about 1.8 million secondary school students, including 920,000 girls, 95% of whom are enrolled in lower secondary. SEQUIP will help more girls' transition from lower to upper secondary education, as girls are underrepresented at this level

2.2 Project Location and Accessibility

2.2.1 Project Location

The project area is located at Oltepes Village, Orbomba Ward, and Longido District in Arusha Region. Arusha Region is one of Tanzania's 31 administrative regions and is located in the north of the country. The region's capital and largest city is the city of Arusha.

The region is bordered by Kajiado County and Narok County in Kenya to the north, the Kilimanjaro Region to the east, the Manyara and Singida Regions to the south, and the Mara and Simiyu regions to the west. Arusha Region is home to Ngorongoro Conservation Area, a UNESCO World Heritage Site.

Longido District is located in the Northern part of Arusha Region. The District is easily accessible from all the countries of East African Community. Consequently and naturally, Longido District is developing as One Stop Boarder of the East African Community.It lies below the equator between latitudes 2 20' to 3 10' South of equator. Longitudinally, the LD is situated between 36 00' East of Greenwich.

It has a common border with Republic of Kenya in the North; Monduli district to South; Siha district to the East; Rombo district to North – west and Arumeru district to South – east. It also shares border with Ngorongoro district in the West.The project area lies in the following coodinates 246231 east, 9696676 south in Orbomba Ward

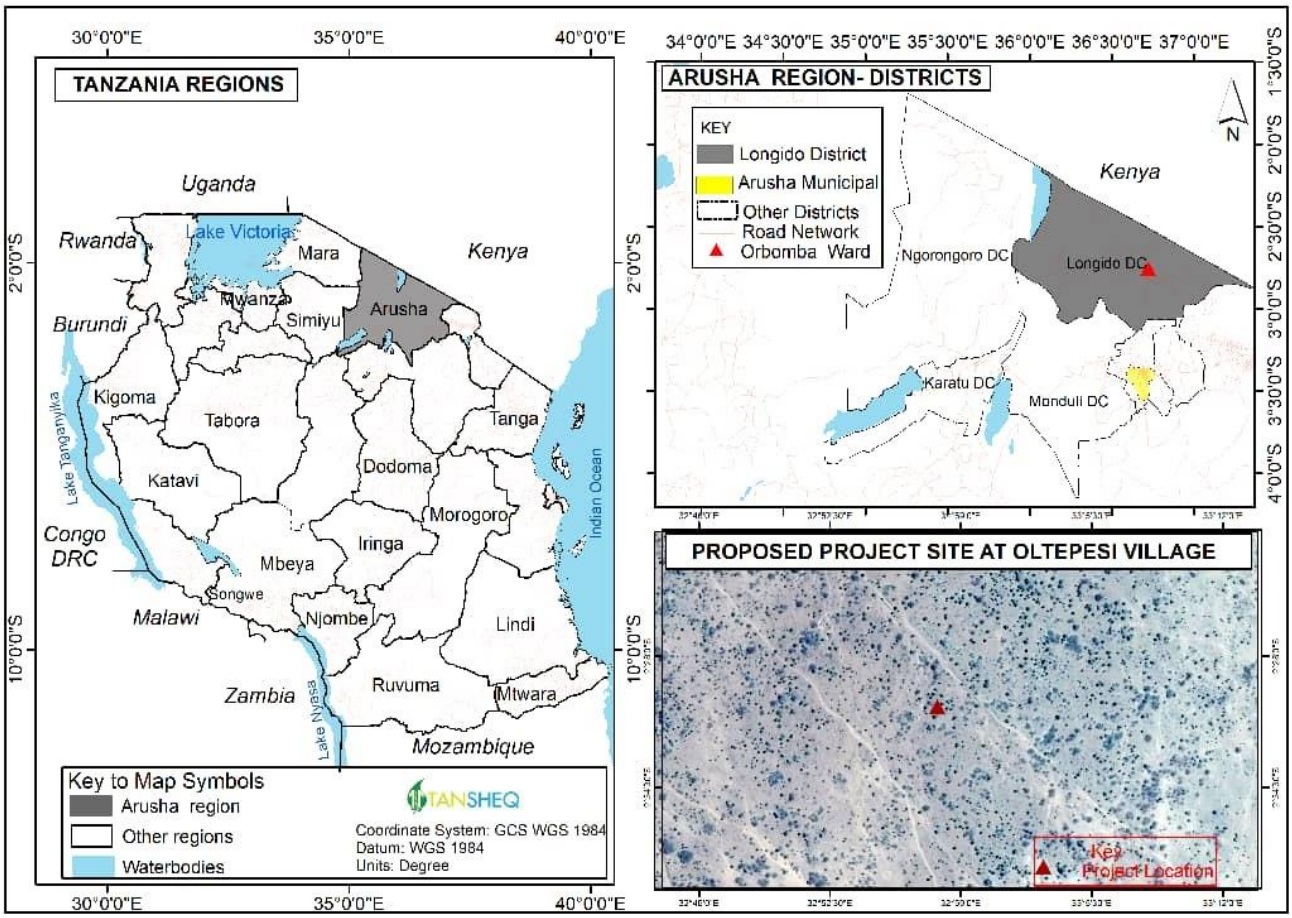

Figure 2-1: Map of the proposed project area

2.2.2 Project Accessibility

The proposed site will be accessed by using the Arusha-Namanga road from the Arusha Regional Commissioners office, which takes about 75km. And the proposed site is found on the right-hand side of the Arusha-Namanga road, about 1.5km

2.2.3 Current Situation in vicinity proposed site.

2.2.3.1 Proposed site

The proposed site for school development is characterized by scattered trees, which are Acacia trees, whereas only 100 trees will be cut down during the construction phase, and there are no endangered species found on the proposed site. On the proposed site, there is no wildlife, but around the project site, there are antelopes. Figure 2-2 shows the proposed site

Figure 2-2: Current situation on the project site

2.2.3.2 Surroundings

The proposed school site is surrounded by the following components in different positions as shown in the Table 2-1

Table 2-1: Project surrounding components

Direction	Resource availability	Distance
North	Primary school	M 200
South	Grazing land	M 300
West	Rain water valley	0.5km
East	Settlement	400m

2.3 Project Planning and Design

2.3.1 Overview

Project planning and all designs are prepared as per SEQUIP design and the overall objective for the development is specified in the Environmental and Social Management Framework (ESMF). The design of the Girls' Regional School consists of required infrastructure package based on the school construction and maintenance strategy (e.g., number of classrooms/students, adequate WASH facilities, multi-purpose science labs, electricity, etc.).

The proposed construction of the school will be having both ordinary and advanced level with capacity of accommodating students between 1000 and 1100 students. The construction package will involve the following facilities:

The Education Global Practice Africa Region report prepared by World Bank provides the following directives; Student classroom ratios of 50:1 or less, student to functioning latrine ratio of 25:1 for girls and 30:1 for boys, at least one multipurpose science laboratory, student textbook ratios in mathematics and science subjects of 1:1, teacher: teacher guide availability of 2:1.

2.3.2 Laboratories

Education Bulletin number 1 of 2007 explain the capacity and set up of laboratory building for each level is 40 students. The scheduling of materials for project construction will adhere the bulletin as required the following laboratory rooms will be constructed

- Physics and geography lab
- Chemistry and biology lab,

2.3.3 Administration blocks

The bulletin indicates for the school having capacity of 1000 student plus need to have not less than 40 teachers excluding other staffs such as school bursar, secretary etc.

2.3.4 Toilets

The proposed toilet facility will comprise of one block with 16 holes to be constructed standalone as scheduling shows, nevertheless, some of classrooms will be having sanitary rooms as designed, dormitory, and dining hall will be having sanitary also.

2.3.5 Generator room

This room will be used for putting Generator. This generator will be an alternative source of power at school and the incorporated premises such as staff quarters. One generator room will be constructed.

2.3.6 Dining hall

The Dining Hall is a pivotal gathering space on School's campus and is emblematic of The Family Boarding School ideal. The school will be having enough dinning space to all students since it is boarding school, meal will be served. According to the designs of the dining hall, it has the capacity of 2000 students.

2.3.7 Teachers' house

The teachers' houses were designed to attract teachers out to the countryside, as well as to increase teachers' morally to perform their duties unlike if they are coming far from the school. The design considers the staff house to have one (1) master bedroom, two (2) bedrooms with public toilet, Sitting room/dining, Kitchen and Store.

2.3.8 Dormitories

These dormitories are the place where students stay. The student housing must also aim to provide healthy and acoustically pleasant environments for the protection, comfort, and productivity of the students. The dormitories will be designed as per provided to meeting the SEQUIP objectives. Each Dormitory will have capacity of caring 120 students.

2.3.9 Library

The library is important because it affects cultures, it affects innovation, and it affects individuals. Because of all this, library architecture has the responsibility to enhance these effects by providing a knowledge center that is inspirational and conducive to good communication and teaching interactions.

According to designs, the library to be constructed will accommodate 52 students for reading and the computer learning room will accommodate eight students.

Other components that will be constructed within school compounds area Water tunnel, Waste incinerators,

2.4 Project Activities

The envisaged project activities can be broadly categorized in three phases as listed in Table 2-2

- Mobilization and Construction
- Operational phase
- Decommissioning phase

Table 2-2 Project activities

Project Phase	Activities
Mobilization Phase	• Bush clearing. • Site levelling • Site marking • Temporary camp/shed for office
Construction phase	• Excavation of trenches for foundation • Alignment of blocks for Foundation • Concrete mixing • Setting up main door frame and other room door frames • Wall construction until window frame base • Setup ventilators for exhaust fans, bathroom ventilators if needed • Slabs formworks for Floors • Bar bending work for beams and roof • Electric pipes setup inside roof • Clear any blockage in the roof pipes • Laying electric pipes in the walls and setup electric boxes • Tiles laying on the floors and bathroom walls • Plastering of roof and walls indoors and outdoors • Finishing outside and plumbing work and tank • Painting • Electric wiring and switches setup • Compound wall/fence • Firefighting system installation • Water drainage system • Air cooling system installation
Operation phase	• Teaching services • Movement within dormitories, classrooms, dinning, laboratory, offices and washrooms • Meeting and Conferences • Health. Safety and security as well as social issues.
Decommissioning phase	• Expansion and maintenance

2.4.1 Mobilization phase

The mobilization phase of the project, which is estimated to take average of one month and maximum three months, will entail the following activities:

- Establishment of construction of camps, material and equipment storage areas, materials processing yards, including sanitation facilities. The following activities will be involved during

establishment of the camp.

- ✓ Bush clearing.
- ✓ Construction of Material and equipment storage areas
- ✓ Construction of sanitation facilities
- ✓ Installation of electrical infrastructure
- ✓ Installation of water and wastewater infrastructure

- Identification of sources of construction material (borrow pits and quarry sites),
- Identification of sources of water for domestic and construction works

2.4.2 Pre-Construction Activities

The mobilization phase of the project, which is estimated to take average of maximum three months, will entail the following activities:

- Establishment of construction of camps, material and equipment storage areas, materials processing yards, including sanitation facilities. The following activities will be involved during establishment of the camp.
  - ✓ Bush clearing.
  - ✓ Construction of Material and equipment storage areas
  - ✓ Construction of sanitation facilities
  - ✓ Installation of electrical infrastructure
  - ✓ Installation of water and wastewater infrastructure
- Identification of naturally-occurring material borrow sites (sand, fill, gravel borrow and quarry sites),
- Identification of sources of water for domestic and construction works

2.4.2.1 Materials required during Mobilization Phase

The following materials will be required during mobilization phase of the project:

- Cement, sand, and aggregates for block and concrete works
- Water for general construction works and dust abatement
- Timber, galvanized iron sheets, paints, nails, etc. for roofing.
- Electrical works: conduits, cables, fittings
- Cement, galvanized iron sheets, nails, fence wire, electrical and plumbing utilities will mainly be obtained from either Arusha, while sand, aggregates, and timber will be obtained locally.

2.4.2.2 Equipment Required During Mobilization Phase

The major equipment that will be required during mobilization phase of the project will include:

- Bull dozers/motor graders, excavators for site clearing, excavation, and grading of the storage facilities construction at site
- Light duty vehicles and trucks for the transport of construction materials, small machines and staff
- Water pumps, block making machines, stationery concrete mixers and Trans mixers, etc. for making of blocks and concrete mixes for concrete works
- Electric power generator(s)

2.4.2.3 Waste Generated During Mobilization Phase

Mobilization phase of the project will generate the Waste shown in Table 2-3

Table 2-3: Waste likely to be generated During Mobilization Phase

Aspect	Solid Waste	Liquid Waste	Gaseous Waste
Site clearing and Excavation	Earth, green cutting	None	Generation of air pollutants (dust)
Construction of foundation(s): block/concrete works	Concrete, blocks, hessian cement bags	Water slurry, wash-down water	None
Construction of the main Storage room	Cement bags, mortar, steel reinforcements, nails, timber, iron sheet Waste, etc.	Concrete slurry	Paint
Installation of electrical Infrastructure	conduit pipes, cables	None	None
Installation of water Infrastructure	PVC and GS pipes	None	None
Labour force	Plastic bottles/ bags, food Waste	Sanitary Waste	None
Servicing of construction Equipment	Used batteries, used tires, used metals parts, used oil and fuel filters, empty oil drums	Waste oil	None

2.4.2.4 Treatment and Disposal of Waste Generated

The treatment methods for the Waste generated during mobilization phase shall be based on re- using, re-cycling, burying, or burning, and on-site treatment.

- During site clearing, topsoil and green cutting shall disposed of in old borrow pits or other areas approved by the Engineer
- Concrete and cement blocks Waste shall be disposed of in borrow pits during their reinstatement as approved by the Engineer.
- Metal Waste such as GS pipes, nails, reinforcement bars, and used equipment parts shall be disposed of by recycling. They will be collected and stored; until enough quantities are obtained before being disposed of by the Contractor. The Engineer shall approve the metal scraps disposing companies.
- Degradable materials such as paper cement bags and paper boxes shall be treated on site by either controlled burning.
- Non-degradable Waste such as plastic, PVC pipes, and plastic bottles shall be collected, transported, and given freely to plastic factories where they will be recycled.
- Used batteries, empty metals drums, used oil filters shall be disposed of through approved disposing companies.
- Temporary pit latrines shall be constructed at active mobilization sites (campsites) for the disposal of sanitary Waste.

2.4.3 Construction Phase

The construction phase of the project, which is estimates to take 12 month for each of the phase one and will encompass following major activities:

- Earth works to facilitate widening and re-alignment of the road. Earth works will entail the following activities: clearing and grubbing (clearing of vegetation, including trees).
- Extraction of naturally occurring construction materials. This will include:

- ✓ Excavation and transport of natural sand, gravel, and sub-base materials to construction sites
- ✓ Stone quarrying (including blasting), crushing and transport of crushed aggregates to construction sites
- ✓ Transport and handling of fuel, lubricants etc. from their sources to the project site
- ✓ Transport of construction materials from source to site such as roof, steel, woods, nails, rope,

2.4.3.1 Materials Required During Construction Phase

During the project construction, the following materials in Table 2-4 will be required:

Table 2-4: Materials required During Construction Phase

No	Material	Usage	Possible Source
1.	Ordinary Portland Cement (OPC) and Pozollana Portland Cement (PPC)	For construction purposes.	Twiga cement (Dar es salaam), Tanga cement (Tanga), and Mbeya cement (Mbeya)
2.	Sand	Production of mortar and general concrete works	Stone crusher dust and sand pits (to be established by Contractors)
3.	Crushed aggregate	Concrete works (Structural works) and construction	Local available
4.	Steel reinforcement bars	Reinforced concrete works construction of structures,	Dar /imported
5.	Steel shutters and form works	Concrete works	Dar
6.	Soft timber	Production of timber formworks and shutters	Locally
7.	Nails	Nails for fixing timber form	Dar es salaam
8	Water	Drinking, concrete works, dust suppression	Rivers, streams, AUWASA and boreholes

2.4.3.2 Labour recruited during construction phase

Both skilled and unskilled labor recruited in the construction phase of the project, which will include:

- Civil Engineer for construction activities
- Manual workers are needed for caring sand, gravels, cement, bricks and other related activities at

Gender will be considered in this phase regarding the nature of the activity taking place on site. And working hours will be 8 hours; the specific time will depend on the starting point.

2.4.3.3 Occupational health and safety issues

During this phase, there will be an open space near the working area where people can gather when there is an incident on the site during construction activities. A first aid kits and a fire extinguishers will be provided during the construction site.

Carbon Dioxide (CO2) Fire Extinguishers (Class B and C) will be used during the construction phase and will be two in number.

2.4.3.4 Waste Generated During Construction Phase

The Waste generated during construction phase of the project will result from operation of construction and equipment maintenance. The Waste which will be generated during construction phase of the project are shown in Table 2-5

Table 2-5: Waste likely to be generated during Construction Phase

Aspect	Solid Waste	Liquid Waste	Gaseous Waste	Hazardous Waste
Operations of Campsite				
	Paper	Sanitary waste	-	-
	Litter	-	-	-
	Toner, cartridges	-	-	-
	Paper litter	Sanitary waste	-	-
	Plastic bottles/bags	-	-	-
	Aluminum cans	-	-	-
	Food Waste	-		
				Biohazard Waste (medical Waste)
Machinery and equipment Maintenance				
	Plastic and glass (containers), used tyre, metal (used parts), plastic and cable parts, used lead-acid batteries,	Waste oil and grease, battery acid (dilute sulphuric acid)	-	Gases that are compressed, liquefied, or dissolved under pressure may be hazardous. Flammable liquids including oil, grease and petroleum compounds are also hazardous. Used lead-acid batteries, plastic containers Electrical and Electronic equipment waste

2.4.3.5 Treatment and Disposal of Waste Generated During Construction Phase

The treatment methods for the Waste generated during construction phase will depend on whether they are degradable, non-degradable, hazardous, or non-hazardous. Depending on the nature of the Waste, the Waste will either be re-used, re-cycles, buried, or burnt.

The electrical and electronic equipment waste will be collected by registered electrical waste dealers in Longido District Council for proper disposal.

2.4.4 Operation phase

The operation activities of the Overall, SEQUIP will contribute to increasing total enrolment in secondary school by 1.8 million students and increase the number of girls graduating from both secondary schools and alternative secondary education pathways.

2.4.4.1 Material required during operation phase

Material required during the operation phase will include books, chalk, a printing and photocopy machine, laboratory equipment and specimens, and water.

2.4.4.2 Labour requirement during operation phase

Both skilled and unskilled labor are required in the operation phase of the project, which will include:

- Teachers
- Librarians
- Laboratory technician
- Security officer

2.4.4.3 Wastes generated during operation phase

The waste generated during the operation phase of the project is a result of different activities taking place during the operational phase of the project. The waste generated during the project's operation phase are

- solid waste from the dining hall, kitchen, classroom, office,
- liquid waste from sanitary facilities, canteens, and kitchens
- Hazardous waste such as sanitary pads, Electrical and electronic equipment

2.4.5 Decommissioning Phase

After completion of construction, all the utilities, which were used, shall be reverted to the Municipal Director who will decide on their future use. The main activities during demobilization phase will engross the following:

- Collection and disposal of storage facilities such as pallets, packing, boxes
- Collection and disposal of construction materials and Waste such as waste oil, sewage, solid Waste (plastics, wood, metal, papers, etc.) at the workshop, site office etc. to authorized dumpsite
- Restoration of material borrows areas to safer condition.

2.4.5.1 Materials required During Demobilization Phase

Materials required during demobilization phase will include fuel for the operation of equipment, soils and tree seedlings for reinstatement of borrow pits. During this phase, labour, water, and energy will also be required.

2.4.5.2 Equipment Required During Demobilization Phase

The equipment required during demobilization phase will include vehicles and trucks for transport of Waste and remaining materials to be transported,

2.4.5.3 Waste Generated During Demobilization Phase

The following Waste will be generated during demobilization phase of the project:

- Hazardous waste such as used lubricants (oil and grease), used lead-acid batteries, empty plastic bottles, etc.
- Plastic and paper packing
- Used equipment parts

2.4.5.4 Treatment and Disposal of Waste Generated During Demobilization Phase

The treatment methods for the Waste generated during construction phase will depend on whether they are degradable, non-degradable, hazardous, or non-hazardous. Depending on the nature of the Waste, the Waste will either be re-used, re-cycles, buried, or burnt.

2.4.5.5 Lifespan of the project

The project lifecycle is the series of phases that a project goes through as it progresses. It includes initiation, planning, execution, and closure; thus, this project will take 12 months; however, the project life will be 50 years, followed by maintenance, based on the construction schedule and material life span of steel bricks throughout the project's operations

2.4.5.6 Decommissioning of Individual Components of the Project

Individual components of the project may be rendered redundant due to wear and tear or become obsolete due to technological advancement.

These shall be removed after an environmental audit is conducted and a device appropriate environmentally friendly way (Environmental Management Plan, EMP) to deal with them. Emphasis shall be on repairing so that parts can be reused or recycled of materials from defunct components to salvage important metals.

2.5 Project Associated Facilities

Associated facilities are defined by the International Finance Corporation (IFC) as facilities that are not funded as part of the project and that would not have been constructed or expanded if the project did not exist and without which the project would not be viable (IFC 2012).

ESIA studies vary in scope and type of analysis, depending on the characteristics of the proposed project. In doing so, each element of a project should be analyzed for its potential to affect the environment and/or society during each phase of the project (including construction, operation, and decommissioning). ESIAs address a project's environmental and social costs and benefits, including an appraisal of the economic implications of the proposed project.

The ESIA should consider the project as designed and potential alternative options (including that of no action). In addition to the direct effects outlined above, the possible interactions between different environmental components (indirect effects) should also be considered, together with the impacts that could occur in conjunction with other activities taking place in the near vicinity at the same time (cumulative effects).

The construction of school in Arusha region has identified the following activities in the category of associated facilities;

- Energy
- Water Supply System
- Store rooms
- Personal Protective Equipment

2.5.1 Access Roads

The development of access roads is necessary to provide access to workers during construction phase to materials and equipment from one place to another within the project area, staff and students within the school during operation due to the nature of the area (farm).

Access route design must consider several factors, including existing ground strength, expected weather conditions and the nature of the area.

2.5.2 Energy

The development of any school needs energy utilities, either electricity or gas. The presence of energy is unobserved but crucial to the functioning of a school for different purposes such as lighting, printing, and other related activities that need energy within a school compound.

The project will adopt the existing utility system available in the specific region and district, whereas the developer will attain electricity from TANESCO.

2.5.3 Water supply system

The project will require water for different activities for the project Water will be required for construction activities such as concrete works, earthworks, lying of some of the pavement layers, dust suppression, as well as for domestic purposes at the camps. The amount of water required during construction of the project estimated to be 40,000 litres per day.

During operation phase, Water will be used for domestic uses, cleaning and for sanitation which which will depend on the number of the student to be admitted to school at the specific time. . The project will adopt the existing water system available in the specific district, whereas the project owner will obtain water from Arusha Water Supply and Sanitation Authority (AUWSA).

2.5.4 Parking area

Parking area development is crucial to the project, however it is not funded. The availability of a quality parking space in this project will improve the local landscape while reducing traffic and vehicle theft. The project owner must reserve an area for vehicle parking.

2.6 Health and Safety

As the ESMF directives, the campaign has been conducted with the utmost regards for occupational health and safety requirements of local authorities, management system, and of recognized industry standards. As a rule, all activities that present a risk to employees, contractors, and or neighboring communities are planned, and controls are implemented to limit exposure.

In addition, a Permit to Work system is in effect for risk-specific activities that is working at height. All EHS incidents, observations, near misses, etc. will be reported and investigated to prevent recurrence during construction phase and the proper way of reporting and registration during the operation phase will be employed as well. Regular emergency evacuation drills will be connected to test the training and response capacity of the workforce at the site during all phases of the project.

Occupational health and safety issues for further consideration in multi-storey office building construction and operation phases includes Fire and collapse and Slippery

2.6.1 Fire

The project shall be designed, constructed, and operated according to standards for the prevention and control of fire hazards.

The most effective way of preventing fires is to avoid any source of fires in inside the building, store reasonable weight of equipment and instruments at the top floor of the building such as water storage tanks should designed according to the construction standards and considering building materials fire detector alarms should be placed in all buildings

2.6.2 Collapse.

The result analysis showed that the major factors responsible for building collapse are usage of substandard building materials, non-involvement of relevant and qualified professionals, defective design, and poor maintenance culture Poor Workmanship/Supervision Natural Occurrences.

The remedies to mitigate the problems are but not limited to the professional bodies through their government regulatory bodies need to ensure effective monitoring to control quackery and ensure violators are punished, building and construction permit should be adhered, ensure the use of professional people during construction etc.

2.7 Project Cost

Total Project Cost is four billion Tanzanian shillings

3 POLICY, LEGAL, AND ADMINISTRATIVE FRAMEWORK

3.1 Introduction

The objective of this chapter is to describe the policy, legal and administrative framework within which the project takes place and identify any laws and regulations that pertain to environmental and social matters relevant to the project.

This includes regulations about environmental and/or social impact assessments to which the project must adhere as well as laws implementing host country obligations under international law. Explain the requirements of any co-financing partners, if applicable. Where pertinent, take into account legal frameworks for promoting gender equality. Flag any areas where the project might fall short on compliance.

3.2 The Constitution of Tanzania, 1977-1995 (as revised)

The Constitution of the United Republic of Tanzania 1977 – 1995 (revised 1997) recognizes the basic rights and equality entitled, without any discrimination, protection, and equality of all persons before the law. The United Republic of Tanzania is committed to the conservation of the country's natural environment as is evident through the Constitution and various Mission Statements.

Article 11 (2): Every person has the right to access education, and every citizen shall be free to pursue education in a field of his choice up to the highest level according to his merits and ability.

Article 11 (3): The Government shall make efforts to ensure that all persons are afforded equal and sufficient opportunity to pursue education and vocational training in all levels of schools and other institutions of learning.

According to this statements the government of the United Republic of Tanzania has put more effort to ensure every citizen of Tanzania has a right to education by constructing girl's secondary school in Longido district Arusha region.

3.3 National Development Vision 2025

A Tanzanian who is born today will be fully grown up, will have joined the working population and will probably be a young parent by the year 2025. Similarly, a Tanzanian who has just joined the labour force will be preparing to retire by the year 2025.
What kind of society will have been created by such Tanzanians in the year 2025? What is envisioned is that the society these Tanzanians will be living in by then will be a substantially developed one with a high quality livelihood.
Abject poverty will be a thing of the past. In other words, it is envisioned that Tanzanians will have graduated from a least developed country to a middle income country by the year 2025 with a high level of human development. The economy will have been transformed from a low productivity agricultural economy to a semi-industrialized one led by modernized and highly productive agricultural activities which are effectively integrated and buttressed by supportive industrial and service activities in the rural and urban areas. A solid foundation for a competitive and dynamic economy with high productivity will have been laid. Consistent with this vision, Tanzania of 2025 should be a nation imbued with five main attributes;

- High quality livelihood. • Peace, stability and unity.
- Good governance,
- A well-educated and learning society;
- A competitive economy capable of producing sustainable growth and shared benefits.

3.4 National Five-Year Development Plan 2021/22–2025/26

This third national five-year development plan (FYDP III) for the period 2021/2026 is a nationwide multisector document aiming at achieving the goals set in the national development vision 2025.

To increase the resilience of livelihoods to disasters, main interventions shall be:

(i) strengthen environmental conservation and protection to mitigate adverse effects of climate change
(ii) social development, including health and education, human settlements, clean and safe water, and environment, paying attention to equitable access, gender and people with disabilities
(iii) strengthen sustainable use and management of oil and natural gas
(iv) develop renewable energy sources for cooking to mitigate climate change
(v) conserve marine and freshwater fisheries protected areas
(vi) develop and implement strategies to combat poaching, illegal trade and illegal harvesting of wildlife, forest, bee and antiquities resources in the country
(vii) promote biodiversity conservation;
(viii) develop climate change adaptation and impacts mitigation measures and reduce land degradation;
(ix) minimize environmental pollution and resultant adverse effects on the environment and human health;
(x) establish programs and mechanisms for management, monitoring and assessment of water and wastewater quality
(xi) Strengthen conservation and protection programs of water resources and water sources.

3.5 Relevant Policies

3.5.1 National Environmental Policy (2021)

The overarching governing Tanzania's environmental management are the National Environmental Policy (NEP) of 2021 and the Environmental Management Act (EMA) of 2004.

The NEP enables sectoral and cross-sectoral policy analysis to mainstream environmental considerations into all aspects of planning and development. The proponent will adhere to the policy.

3.5.2 Cultural Policy, 1997

Section of the 3.2.1 of the Cultural Policy stipulates that "all land development shall be preceded by Cultural Resource Impact studies. Furthermore, Section 3.1.5 states that "mechanisms shall be established to enable the nation to identify, own and preserve national treasurers e.g. art, objects, natural resources minerals as well as archaeological, paleontological and botanical remains".

3.5.3 Antiquities Policy of 2008

Antiquities Policy 2008 section defines Physical Cultural Resources as any tangible material that represent contemporary, historic, and pre-historic human life ways. Section 2. 1 of the Antiquities Policy points out that already discovered Physical Cultural Resources shall be preserved and conserved in the National Museum of Tanzania as stipulated in Museum Act of 1980. Furthermore, the Antiquities Policy of 2008 sections 4.2.1 to 6 elaborates on how stakeholders including government institutions, private sectors and the public should be involved in all activities of conservation and management of Physical Cultural Resources.

3.5.4 National Forest Policy, 1998

The overall goal of the National Forest Policy (1998) is to enhance the contribution of the forest sector to the sustainable development of Tanzania and the conservation and management of her natural resources for the benefit of present and future generations.

The Policy, among other aspects, recognizes the high value of forests due to the high potential for royalty collection, export, and tourism earnings as well as the recycling and sequestering of carbon and conservation of globally important biodiversity.

Furthermore, the policy emphasizes on biodiversity conservation; describes the importance of forest ecosystems for maintaining biodiversity and the threats to biodiversity. One of the main objectives envisaged in the policy focuses on ensured ecosystem stability through conservation of forest biodiversity, water catchments, and soil fertility.

3.5.5 National Water Policy, 2002

The main objective of the Policy is to develop a comprehensive framework for sustainable development and management of the nation's water resources. Specifically, on the environment the objective is to have a water management system that protects the environment, ecological system, and biodiversity. The policy emphasizes that water related activities will have to be planned to enhance or to cause least detrimental effects on the environment.

To protect ecological systems and biodiversity which, together, are important part of sustainable water resources system the policy provides a guide for determining water for the environment, in terms of quantity and quality, and levels, for both surface and groundwater resource.

The policy emphasizes the use of best available scientific information for both temporal and spatial water requirements to maintain the health and viability of riverine and estuary ecosystems, and associated flora and fauna. Public awareness on good land-use practices is insisted to contain the erosion problem.

3.5.6 National Energy Policy, 2015

The Policy, among others, focuses on utilization of various energy resources in a sustainable and environmentally friendly manner. The Policy recognizes that energy is a prerequisite for the proper functioning of all sub-sectors of the economy.

The Policy stresses the use of renewable and alternative energy sources such as wind, solar, mini hydropower generators and use of liquefied petroleum gas (LPG) as well as natural gas.

The use of alternative energy sources such as biogas, briquettes both for domestic and industrial uses is encouraged to minimize the use of charcoal and firewood to prevent massive deforestation.

3.5.7 National Health Policy, 2007

The overall objective of the National Health Policy, 2007 is to improve the health and well-being of all Tanzanians. In line with environmental health, Policy seeks to protect community health by enhancing sustainable environmental health.

The Policy emphasizes on community adherence to environmental health standards; Improvement of waste management systems including disposal of hospital wastes; educating health service providers on the importance of environmental health in their working areas; and putting in place laws and procedures for conservation and protection of the environment in the health sector.

3.5.8 Occupational Health and Safety Policy 2009

The main objectives of OHS Policy are to reduce the number of work-related accidents and diseases in Tanzania. This required the adoption and implementation of a culture to prevent OHS hazards by Government, Employers and Employees. The effective prevention of work – related accidents and ill- health will have enormous social and economic benefits.

These include improvements in productivity and competitiveness and the quality of life of the working population. The effective management of many safety hazards will contribute to improved levels of public health and safety.

The effective control at source in workplaces of hazardous substances will improve levels of public health and minimize environmental pollution the policy emphasizes on Sustainable safe and healthy working conditions and environment at all workplaces for the entire diversity of the workforce contributing to broad based economic growth.

3.5.9 National Water Policy, 2002

The main objective of the Policy is to develop a comprehensive framework for sustainable development and management of the nation's water resources. Specifically, on the environment the objective is to have a water management system that protects the environment, ecological system, and biodiversity. The policy emphasizes that water related activities would have to be planned to enhance or to cause least detrimental effects on the environment. To protect ecological systems and biodiversity which, together, are important part of sustainable water resources system the policy provides a guide for determining water for the environment, in terms of quantity and quality, and levels, for both surface and groundwater resource. The policy emphasizes the use of best available scientific information for both temporal and spatial water requirements to maintain the health and viability of riverine and estuary ecosystems, and associated flora and fauna. Public awareness on good land-use practices is insisted to contain the erosion problem.

3.5.10 National Land Policy, 1995

The National Land Policy of 1995 aims at developing a coherent and comprehensive framework that defines land tenure and enables proper management and allocation of land in urban and rural areas. Among other things, the Policy advocates the protection of land resources from degradation, for sustainable development.

The policy addresses several environmental issues such as land use planning, which take into consideration the land capability, ensures proper management of land resources, promotes resource sharing and multiple land use techniques in areas of conflicting land use, and involve community in resource management, land use and conflict resolution.

3.5.11 National Human Settlements Development Policy, 2000

The Policy stresses on the need for ensuring that human settlements are kept clean and pollution effects of solid and liquid wastes do not endanger the health of residents. The policy advocates for a set of environmental quality standards of gaseous emissions from industries and vehicles

3.5.12 The Construction Industry Policy (2003)

This policy promotes among other things, application of cost effective and innovative technologies and practices to support socio-economic development including utilities and ensure application of practices, technologies and products which are not harmful to both the environment and human health.

Longido District Council must use technologies and products not harmful to both the environmental and human health by providing feasible alternatives and appropriate mitigation measures.

3.5.13 The National HIV/AIDS Policy (2001)

The overall goal of this policy is to provide for a framework for leadership and coordination of the national multi-sectoral response to the HIV/AIDS pandemic.

This includes the formulation by all sectors of appropriate interventions which will be effective in preventing transmission of HIV/AIDS and other sexually transmitted infections, protecting and supporting vulnerable groups, and mitigating the social and economic impacts of HIV/AIDS. For project sustainability the project proponent will have to closely observe the above policy.

3.5.14 The National Employment Policy, 2008

The major aim of this policy is to promote employment mainly of Tanzania Nationals. Relevant sections of this policy are (i) 10, which lays down strategies for promoting employment and section 10.1 is particularly focusing on industry and trade sectors (ii) 10.6 which deals with employment of special groups i.e. women, youth, persons with disabilities and (iii) 10.8 which deals with the tendencies of private industries to employ expatriates even where there are equally competent nationals.

3.5.15 National Population Policy, 2006

The Policy recognizes the impacts of population growth on natural resources and environment. The policy goal is to prepare and implement coordinated urban, rural and regional development plans for rapid development in the country and to reduce the rate of rural-urban migration.

3.5.16 National Transport Policy, 2003

The main objective of this Policy is to enhance transport systems and promote environmental protection. The mission is to develop safe, reliable, effective, efficient and fully integrated transport infrastructure and operations that was to meet the needs of travel and transport by improving levels of services at lower costs. Ultimately, the development of a reliable transport network should drive human development in a manner that is economically and environmentally sustainable.

3.5.17 National Women and Gender Policy, 2000

The key objective of the Policy is to provide guidelines that will ensure that gender sensitive plans and strategies in all sectors and institutions are developed. While the Policy aims at establishing strategies to eradicate poverty, it emphasizes gender equality and equal opportunity for both men and women to participate in development undertakings and to value the role played by each member of society.

Specifically, this Policy advocates for opportunities for both men and women in projects including construction works and related activities, and for women to be involved at all levels of the project from planning to implementation.

On employment strategies for women, Section 30 of the Policy requires presence of equal employment opportunities between men and women depending on required qualifications at all level. In addition, there should be records of exact number of women and men at levels in order to assist monitoring and follow-ups, less bureaucratic special system in the provision of business licences especially to women working in the informal sector.

The Client must adopt such an approach during all stages of the implementation of this project that is in line with the aims of this Policy.

3.5.18 The National Research and Development Policy, 2010

These policies focused on the promotion of the private sector as a major contributor to the national economy, singly or through public-private partnership. The increasingly globalized world requires nations to create an enabling environment that will facilitate active participation of the private sector in improving their respective economies.

3.5.19 Education and Training Policy 2014

This Education and Training Policy of 2014 is the result of the revitalization and finally the cancellation of the Education and Training Policy (1995), Policy on Vocational Education and Training (1996), Policy on National Higher Education (1999) and Information Technology Policy and Communication for Primary Education (2007).

The vision of this policy is having an educated Tanzanian with knowledge, skills, competencies, abilities and positive attitudes to be able to contribute in bringing about the development of the Nation.

The specific objectives of the Policy are to have:

- System, structures and flexible procedures to enable Tanzanians develop themselves in various ways in academic and professional streams;
- Education and training with quality standards recognized nationally, regionally and internationally;
- Availability of various educational opportunities and training in the country;
- Increase of human resources according to priorities of the Nation;
- Effective management and operation of education and training in the country;
- Sustainable education funding system and training in the country; and
- Education and training system based on issues cross

3.5.20 National Biotechnology Policy, 2020

The general objective of this policy is to ensure that Tanzania has the capacity and capability to capture the proven benefits arising from health, agriculture, industry and environmental applications of biotechnology while protecting and sustaining the safety of the community and the environment

3.6 Legal Framework

3.6.1 Environmental Management Act, Cap.191;

The Environmental Management Act No. 20 of 2004 is the principal legislation governing environmental management in the country. The Environmental Management Act (EMA) recognizes "…the right of every citizen to a clean, safe and healthy environment, and the right of access to environmental resources for recreational, educational, health, spiritual, cultural and economic purposes."

Thus, the EMA "provides a legal framework for coordinating harmonious and conflicting activities by integrating those activities into overall sustainable environmental management systems by providing key technical support to Sector Ministries."

Section 81, subsection 1 in Part VI of the EMA requires a project proponent or developer to undertake an Environmental Impact Assessment (EIA) at his/her own cost prior to commencement or financing of a project or undertaking.

The EMA prohibits any development to be initiated without an Environmental Impact Assessment (EIA) Certificate. PO-RALG through undertaking this study complies with the requirement of the law.

3.6.2 The Education Act, Cap. 353

The act aims to provide a legal framework for the development, management, and regulation of education in Tanzania, with a focus on promoting quality education, inclusivity and equitable access for all.

The project complies with the act as it has ensured the designs and construction of the school facilities meet the standards and requirements specified for educational institutions such as providing adequate classrooms, laboratories, libraries and other necessary infrastructure to support the educational needs of the students.

Furthermore, the project aligns with the objectives of the act of "promoting gender equality" by constructing a girls secondary school thereby addressing gender differences in access to education and creating supportive and inclusive environment for girls to pursue their education.

3.6.3 Water Resource Management Act, Cap.331;

The Water Resource Management Act 2009 is a new principal legislation dealing with the protection of water resources and control of water extraction for different uses.

According to section 39 (1) of this Act, owner or occupier of land on which any activity or process is or was performed or undertaken, or any other situation exists which causes has caused or is likely to cause pollution of a water source, shall take all reasonable measures to prevent any such pollution from occurring, continuing or recurring.

It is stated under section 39 (2) that a Basin Water Board may direct any person who fails to take the measures required under subsection (1) to:

- Commence taking measures before a given date;
- Diligently continue with those measures; and
- Complete the measures before a given date.

3.6.4 The Land Act, [Cap. 113 R. E. 2019].

The Land Act, provides basic legal requirements in relation to land other than village land (see Village Land Act, 1999 below), the management of land, settlement of disputes and related matters.

The following are some of the main principals of the Land Act:

- To recognize that all land in Tanzania is public land vested in the President as trustee on behalf of all citizens;
- To ensure that existing rights in and recognized long standing occupation or use of land are clarified and secured by the law;
- To facilitate an equitable distribution of and access to land by all citizens;
- To regulate the amount of land that any one person or corporate body may occupy or use;
- To ensure that land is used productively and that any such use complies with the principles of sustainable development;
- To consider that an interest in land has value and that value is taken into consideration in any transaction affecting that interest; and
- To pay full, fair and prompt compensation to any person whose right of occupancy or recognized long-standing occupation or customary use of land is revoked or otherwise interfered with to their detriment by the state under this Act or is acquired under the Land Acquisition Act;

It is the duty of the Government Department or the Ministry, local or public authority or corporate body that applied for the way leave to pay the compensation.

3.6.5 The Village Land Act, [Cap 114 R. E. 2019]

The Village Land Act, of 2019 provides for the management and administration of land and matters related thereto in specifically villages. The Village Land Act (in addition to the Land Act) have set clear procedures for compensation while acquiring Land from citizens.

3.6.6 Forest Act, (Cap.323 R.E.2022)

The Act provides for management of forests and requires carrying out of Environmental Impact Assessment (EIA) for certain development projects.

The Act obliges establishment of forest management plan for all types of forest to ensure sustainable management in the long-term. The Act provides for designation of Community Forest Reserves, Mangrove Forest Reserves and encourages community based management.

3.6.7 The Land Acquisition Act [Cap 118 R. E.2019]

The Land Acquisition Act, of 1967 (as amended in 1968) stipulates matters pertaining to compensation under part two division b, Section 11 and Section 12. Section 13 address disputes that might arise due to land acquisition.

3.6.8 The Electricity Act, Cap.131;

This Act main objective is to provide for the facilitation and regulation of generation, transmission, transformation, distribution, supply and use of electric energy, to provide for cross-border trade in electricity and the planning and regulation of rural electrification and to provide for related matters.

3.6.9 The Local Government (District Authorities) Act, Cap.287

The Local Government Acts of 2002 form an important legal basis for rural councils and rural authorities, which were reintroduced in the early 1980 and consist of Act No. 7 relating to District Authorities and Act No.8 relating to Urban Authorities.

These Acts establish and regulate district councils, township authorities and village authorities. Important provisions are the subdivision of districts into divisions and wards and the establishment of ward development committees along with procedures for implementation of schemes and programs at ward level.

Section 118 deals with protection and management of the environment in addition to the First Schedule (Section 118 (4)) of Act No. 7. The District Councils are hereby required to take necessary measures to control soil erosion and desertification; to regulate the use of poisonous and noxious plants, drugs or poisons, regulate and control the number of livestock; maintain forests, manage wildlife, ensure public health, and provide effective solid and liquid refuse management.

If construction commences it will be the Developers responsibility to obtain permission from the District Councils for the disposal of solid and liquid waste. In addition, District council will also oversee and regulate the use and prevent the misuse or waste of, or any interference with, water.

3.6.10 Occupational Health and Safety Act, Cap.297

The Occupational Health and Safety Act of 2003 deals with the regulation of health, safety, and welfare of workers. Some of the provisions of this Act are relevant to the project. The Act covers economic activities in constructions, agriculture, commerce, and offices. In case of occupational accidents/illness, it is the

responsibility of the labour department in the ministry to ensure the victim get compensated by the insurer of the employer. Moreover, the victim may also claim for work-injury benefit should he/she be a member of a social security scheme.

The OSHA is of particular importance for contractors that construct the proposed facility, and they should be aware of their obligations regarding the workforce health and safety measures stipulated in this Act.

There are specific Safety procedures and guidelines to be followed by both workers and their respective employers to ensure a Safe and conducive working environment.

3.6.11 The Public Health Act, Cap.242;

The Act provides for the promotion, conservation, and maintenance of public health with a view of ensuring comprehensive functional and sustainable public health services. The Act also prohibits discharges into a sewer or into drain that may cause malfunctioning of the drainage systems.

3.6.12 The Industrial and Consumer Chemicals (Management and Control) Act, Cap.182;

Comprehensive legislation on management and control of industrial and consumer chemicals. Divided into 6 parts. Part 1 contains preliminary provisions. Part 2 deals with administration. Part 3 regulates control of production, importation, exportation, transportation, storage and dealing in chemicals. Part 4 provides for management of industrial and consumer chemicals. Part 5 contains financial, and Part 6 miscellaneous provisions.

Provisions for management of industrial and consumer chemicals which are of relevance to APT include

- Labelling and safe handling
- Chemical and chemical waste
- Disposal of chemical wastes
- Prevention and management of accidents
- Decommissioning of plants

3.6.13 The Employment and Labour Relation Act, (Cap.366 R.E 2019)

The act mandates that employers:

- Promote equal opportunity in employment and strive to eliminate discrimination in any employment policy or practice”
- Prohibits direct or indirect discrimination by employers, trade unions and employers’ associations on several grounds, including gender, pregnancy, marital status or family responsibility, disability, HIV and AIDS, and age
- Requires employers to take “positive steps” to guarantee women and men the right to a safe and healthy environment.

The project will employ skilled and unskilled labour

3.6.14 The Fire and Rescue Force Act, Cap 427

An Act to provide for the better organization, administration, discipline and operation of Fire and Rescue Force, the project will be subjected to fire and rescue act compliance

3.6.15 Water Supply and Sanitation Act, Cap.272

It has provisions to ensure water quality by protecting water works and storage facilities against pollution. It gives mandate to LGA to enact by-laws of water supply and sanitation.

3.6.16 Disaster Management Act No. 7 of 2015

The Act establishes the Disaster Management Department (DMD), disaster risk management, and coordination mechanism for disaster prevention, mitigation, preparedness, response and recovery.

The primary function of DMD is to coordinate of disaster management activities in the country. It seeks to ensure that appropriate response systems, procedures and resources are in place to assist those afflicted in times of disaster.

DMD is also in charge to coordinate disaster preparedness efforts and activities in order to minimize the adverse effects of hazards through effective precautionary measures and to ensure timely appropriate and efficient organization and delivery of emergency.

3.6.17 The HIV and AIDS (Prevention and Control) Act, Cap 431

The HIV/AIDS prevention and control Act (Act No. 28/08) Cap 431, calls for prevention, treatment, care, support and control of HIV and AIDS for promotion of public health in general. It also calls for appropriate treatment, care and support by using available resources to people living with or at risk of HIV and AIDS and to provide for related matters.

3.6.18 The Land Use Planning Act, Cap. 116;

The Act provides for the procedures for preparation, administration and enforcement of land use plans; to repeal the National Land Use Planning Commission and to provide for related matters. Clearly the Act has distinctive authorities of land use planning in Tanzania laid down with their functions and powers. The power vested to authorities which give them teeth to bite is to enforce approved land use plans including taking defaulters to court of law.

Appropriate local Community Societies will plan the project surrounding areas as per the requirement of the Act and regulations.

3.6.19 The Contractors Registration Act, Cap.235;

This Act requires Contractors at any site to abide by labour laws, and occupational health and safety regulations in construction industries. Furthermore, in the execution of the work, the Contractors are obliged to supply materials necessary for the work, and are authorized to exercise control over the type, quality and material used during Construction

3.6.20 The Law of the child act, cap 13 R.E 2019

This act aims to protect and promote the rights and welfare of children in Tanzania. By establishing a girls' secondary school, the project contributes directly to the realization of the Act's objectives.

The National Child Act recognizes the importance of education in the development of children. The construction of a girls' secondary school aligns with this principle by providing a safe and conducive learning environment specifically tailored to the needs of girls. It ensures that girls in the Arusha region have access to quality education, empowering them to achieve their full potential.

Furthermore, the act emphasizes the elimination of gender disparities and discrimination against girls. The project addresses this objective by focusing on girls' education, bridging the gender gap and promoting gender equality. By providing equal opportunities for education, the construction of the school contributes to breaking down barriers and creating a more inclusive society.

Additionally, the National Child Act emphasizes the protection of children's rights, including their right to safety, health, and well-being. The construction of a dedicated girls' secondary school ensures that girls have a secure and protected learning environment. It takes into account the specific needs and vulnerabilities of girls, creating a space where they can thrive academically, socially, and emotionally.

The project involving the construction of a girls' secondary school in the Arusha region aligns with the National Child Act, Cap. 13 R.E of 2019. It promotes the rights and welfare of children by providing quality education, addressing gender disparities, and ensuring the safety and well-being of girls. By implementing this project, Tanzania takes a significant step towards realizing the objectives set forth in the National Child Act.

3.6.21 Engineers Registration Act, Cap 63;

The Act oversees the process of registration of engineers in Tanzania. The engineering registration Act is overseen by the Engineers Registration Board. The Board has been given the responsibility of monitoring and regulating engineering activities and the conduct of the engineers and engineering consulting firms in Tanzania through registration of engineers and engineering consulting firms. Under the law, it is illegal for an engineer or an engineering firm to practice the profession if not registered with the Board.

The Board has also been given legal powers and has the obligation to withdraw the right to practice from registered engineers if found guilty of professional misconduct or professional incompetence. Registration with the Board is, thus, a license to practice engineering in Tanzania.

Engineering is among the noble professions that have the privilege and responsibility of self-regulation. The Board has worked out a Code of Ethics which aims at regulating the engineering activities and conduct of engineers and engineering consulting firms. The Code thus forms the basis and framework for responsible professional practice as it prescribes standards of conduct to be observed by engineers and engineering consulting firms. The Code is based on broad tenets of truth, honesty and trustworthiness, respect for human life and welfare, fairness, openness, competence and accountability; engineering excellence, protection of the environment and sustainable development.
The Proponent and its Contractors and subcontractors will make use of engineers during construction and operation phases so as to meet the requirement of the law.

3.6.22 The Architects and Quantity Surveyors Act, Cap.267;

Similarly require architects and quantity surveyors (QS) to be registered with the Board before practicing. Institutions shall make sure that this law is obeyed.

3.6.23 Workers' Compensation Act, Cap.263

This is an Act which emphasis compensation to employees for disablement of death caused by or resulting from injuries or diseases sustained or contracted in the course of employment; to establish the Fund for administration and regulation of workers compensation and to provide for related matter.

The PO-RALG must ensure that this Act come into force during the operation of the project since promotes job security by helping employees recover and return to work, while emphasizing the importance of workplace safety and prevention measures.

3.6.24 The Persons with Disabilities Act, Cap 183

This legislation aims to promote inclusivity and equal opportunities for individuals with disabilities in Tanzania, in implementing this project it becomes crucial to consider the accessibility and accommodation needs of students and staff with disabilities.

The Act ensures that the school's design and infrastructure comply with accessibility standards, providing features like ramps, handrails, wheelchair-accessible entrances, and appropriate restroom facilities. Moreover, the Act mandates the provision of special educational services, assistive devices, and reasonable accommodations for students with disabilities, allowing them to fully participate in the educational experience.

The project should comply with the principles of the Persons with Disabilities Act into the construction of the girls' secondary school in order to promote inclusivity, enables equal access to education, and fosters a supportive environment for all students, including those with disabilities.

3.6.25 The Standards Act, Cap 130

This Act aims at the promotion of specifications of commodities and services, re-establish the Tanzania Bureau of Standards (TBS), the designated national standards authority established under the TBS Act 1975 and repealed by this act. TBS is responsible for developing all kinds of national standards, including environmental standards.

The Standards Act has established National Environmental Standards Compendium (NESC) which is a collection of various standards prepared at different times and recognized by EMA 2004. NESC is divided into three parts. Part 1 comprises of standards that require compulsory compliance. Compulsory standards are categorized as generic or specific. Specific standards cover those industries with peculiar effects to the environment while other industries without a specific standard for Tolerance Limits of Emissions discharge including water quality, discharge of effluent into water, air quality, control of noise and vibration pollution, sub-sonic vibrations, soil quality, control of noxious smells, light pollution, and electromagnetic waves and microwaves

Part 2 of NESC contains those standards that may be implemented on voluntary basis. These include guideline standards, codes of practice, and other such standards that may not necessarily be directly enforced, but whose results are implied in some legal requirements. One of such standards include the Environmental Management Systems (EMS) standards, like TZS 701/ISO 14001 whose compliance specifications include the relevant legal requirements. Part 2 thus has important requirements for companies and developers who wish to demonstrate their commitment to sustainable development by way of self-regulation mechanism. On the other hand, some companies or developers may be compelled to follow these standards because of requirements from mother companies and for other various reasons like certification requirements by environment friendly banks or tenders. Part 2 also includes standards used in evaluating environmental performance.

Part 3 has the requisite test methods that should be followed when testing for compliance. The test methods included are referred to in at least one of the specification standards appearing under Part 1. Although it is not stated in the Act, in the absence of national standards, project proponents are encouraged to use international standards such as those of the World Health Organisation (WHO), World Bank, British Standards (BS), European Union (EU), American Public Health Association (APHA), United States Environmental Protection Agency (US EPA) etc. Standards set by the relevant sectors, which also make use of the international standards, are also applicable. Such standards include the environmental standards set under the Mining (Environmental Management and Control) Regulations, 1999. Relevant national environmental standards include:

- TZS 860: 2005 Municipal and Industrial Wastewaters – General Tolerance Limits for Municipal and Industrial Wastewaters: This standard provides permissible limits of important environmental parameters such as BOD, COD, Ph, colour, temperature range, total suspended solids and turbidity. It also gives permissible limits of a range of inorganic and organic components. All effluents discharged from the project will need to comply with these specifications.

- TZS 845:2005 Air Quality – Specification: This standard gives permissible emission limits of sulphur oxides, carbon monoxide, hydrocarbons (as total organic carbon), dust, nitrogen oxides and lead. The emissions from earth moving equipment, power generation plant and other will include SO_2, CO, dust and NO_X; as such the project will have to observe these limits.

- TZS 983:2007 Air Quality – Vehicular Exhaust Emissions Limits: This standard is mainly derived from EU Directives 96/69/EC, 91/542/EEC and 97/24/EC. This Tanzania Standard gives permissible limits of some common substances found in exhaust emissions of motor vehicles, namely carbon monoxides, suspended particulate matter (PM), oxides of nitrogen, and hydrocarbons. The standard covers all types of vehicles namely, passenger cars, light commercial vehicles, heavy-duty vehicles, and two and four strokes motorcycles and scooters. In order to carry out quarrying activities and processing operations, the project will operate a fleet of heavy duty and light vehicles in addition to hiring other vehicular equipment. As such, the project will need to observe the provisions of these standards.

- TZS 932:2006: Acoustics – General Tolerance Limits for Environmental Noise: This standard focuses on urban environmental noise, and does not cover occupation environment. In the absence of other standards, it may be used to give indication of permissible noise levels in factory/workshop environment.

- TZS 789:2003 – Drinking (potable) water – Specification: This standard prescribes the quality requirements for drinking water other than packaged drinking water. It does not cover the requirements for natural mineral water. It prescribes the quality requirements for drinking water distributed in the food industry, domestic and catering purposes. It applies to bacteriological, biological, virological, physical, chemical and radiological quality criteria. It is intended also to community piped water supplies i.e. those water systems serving cities, municipalities and townships, community standpipes and wells and drinking water distributed by tankers.

3.6.26 The Occupier Liability Act, Cap 64

The Occupier Liability Act establishes the legal framework for determining the duty of care that an occupier owes to individuals who enter their premises. In the context of the school construction project, the act would be relevant in establishing the liability and responsibility of the parties involved in ensuring the safety of the premises.

Under the Occupier Liability Act, the organization or individuals responsible for the construction project would be considered occupiers of the premises during the construction phase. As occupiers, they have a legal duty to ensure that the construction site is reasonably safe for anyone who enters or may be affected by it. This includes the duty to take appropriate measures to prevent potential hazards, provide warnings where necessary, and maintain proper safety standards.

SEQUIP aligns with the Occupier Liability Act, Cap 64, as it emphasizes the legal responsibility of the occupiers to ensure the safety of the premises during construction and operation. Adhering to the provisions of the act will help mitigate risks and safeguard the well-being of all individuals associated with the school

Once the project is completed and operational, the Act will continue to be applicable. The school administration will become the occupiers of the premises, and they will have a duty of care towards the students, staff, and visitors. This duty involves maintaining the premises in a safe condition, addressing any potential hazards promptly, and implementing necessary safety protocols.

3.7 National Regulations

3.7.1 The Environmental Impact Assessment and Audit Regulations 2005 as amended 2018

The EMA outlines principles for management, impact and risk assessments, prevention and control of pollution, waste management, environmental quality standards, public participation, compliance, and enforcement. It assigns environmental management responsibilities to sector ministries and their departments and agencies, including regional and local authorities.

A National Environmental Advisory Committee advises all sectoral ministries, while the Minister of Environment has the power to approve or disapprove projects on environmental grounds. The key administrative responsibilities for environmental management in Tanzania rest with the Minister of Environment under the Vice President's Office.
However, environmental performance—that is, setting environmental standards and quality levels—also depends directly on the devolved responsibilities to key sector ministries in charge such as mining, transportation, agriculture, water, energy, natural resources, and tourism.

The National Environmental Management Council (NEMC), under the Vice President's Office, is the command-and-control agency in charge of environmental compliance, while the President's Office Regional Administration and Local Government (PO-RALG) is responsible for coordinating the implementation of all governing policies, acts, and regulations regarding environmental conservation at the local government authorities (LGAs) and monitoring the performance of LGAs. Sector ministries are responsible for ensuring that all activities are carried out in an environmentally sustainable manner

3.7.2 Other Environmental Regulations

Other environmental regulations, which are enshrining environmental standards and crucial for implementation of environmental management plans, include:

3.7.2.1 Environmental Management (Air Quality Standards) Regulation, 2007:

Gives permissible emission limits of sulphur oxides, carbon monoxide, hydrocarbons (as total organic carbon), dust, nitrogen oxides and lead. The standard is used as criteria in the evaluation of impact significance

3.7.2.2 Environmental Management (Soil Quality Standards) Regulation, 2007;

The objectives of the Soil Quality Standards Regulations are to set baseline parameters on soil limits for soil contaminations; enforce minimum soil quality standards prescribed by the National Environmental Standards Committee; prescribe measures designed to maintain, restore and enhance the sustainable productivity of the soil; prescribe minimum soil quality standards to maintain, restore and enhance the inherent productivity of the soil in the long term; enforce minimum soil standards prescribed by the National Environmental Standards Committee for such purposes as agricultural practices.

3.7.2.3 Environmental Management (Water Quality Standards) Regulation, 2007;

The objectives of the Water Quality Standards Regulations are to protect human health and conserve the environment; enforce minimum water quality standards prescribed by the National Environmental Standards Committee; enable the National Environmental Standards Committee to determine water usage for purposes of establishing environmental quality standards and values for each usage; and ensure all discharges of pollutants take account of the ability of the receiving waters to accommodate contaminants without detriment to the uses specified for the waters concerned.

3.7.2.4 Environmental Management (Control of Ozone Depleting Substances) Regulation, 2007;

The objectives of the Regulations for Control of Ozone Depleting Substances are to eliminate the production and consumption of ozone depleting substances in accordance with the phase out schedule of the Montreal

Protocol; to regulate the production, import, export, trade, disposal and use of ozone depleting substances and its products; to control and monitor the amount of ozone depleting substances entering or leaving the United Republic of Tanzania; to provide a system of data collection that will facilitate compliance with relevant reporting requirements under the protocol;

- To promote measures, strategies, programmes, incentives, equipment and technologies in favour of the use of ozone friendly substances,
- Products and equipment in line with national obligation specified by the Montreal Protocol; and to facilitate the link between the National Ozone Unit and the Ozone Secretariat of the Protocol.

3.7.2.5 Environmental Management (Biosafety) (Amendment) Regulations, 2015 (G.N. No. 41 of 2015);

These Regulations, made under sections 69 and 230(2)(o)) of the Environmental Management, concern the import, export, deliberate release, confined use, contained use, transit and placing on the market of Genetically Modified Organisms (GMOs) and their products.

The Regulations implement in Tanzania provisions of the Cartagena Protocol of Biosafety. They designate the Ministry responsible for environment as the National Biosafety Focal Point for purposes of the Protocol and define its functions.

3.7.2.6 The Environmental Management (Hazardous Waste Control and Management) Regulation, 2021;

These regulations are specifically designed to control and manage hazardous waste to protect human health and the environment, The regulations require adherence to proper handling, storage, transportation, treatment, and disposal methods for hazardous materials such as chemicals, paints, solvents, and other potentially harmful substances.

The regulations promotes the responsible management of hazardous waste, including the use of eco-friendly alternatives, proper labeling and storage, and appropriate training for staff involved in handling these materials.

Contractor should comply with the regulations to ensure the implementation of appropriate measures to prevent pollution, minimize risks to human health, and safeguard the local ecosystem which will contributes to a safe and sustainable educational environment.

3.7.2.7 Environmental Management (Solid Waste Management) Regulation, 2009 as amended in 2016.

These regulations aim to establish guidelines for the effective management and disposal of solid waste to protect public health and the environment.

The regulations emphasize the adoption of sustainable waste management practices, including waste reduction, recycling, and proper disposal methods. The project should incorporate waste management infrastructure such as waste bins, recycling facilities, and composting areas within the school premises.

It also necessitates raising awareness among students, staff, and the community about the importance of responsible waste disposal and the benefits of recycling.

The contractor and PIT must comply with the regulations so as to promote a clean and healthy environment, reduces environmental pollution, and encourages a culture of waste reduction and recycling.

3.7.2.8 Environmental Management (Quality Standards for Controlling Noise and Vibrations Pollution) Regulation, 2007:

Focuses on urban environmental noise, and does not cover occupation environment. In the absence of other standards it may be used to give indication of permissible noise levels in factory/workshop environment.

3.7.2.9 The Environmental Management (Control and Management of Electrical and Electronic Equipment Waste) Regulations, 2021

These regulations are put in place to address the proper handling, disposal, and management of electrical and electronic waste (e-waste) to protect the environment and public health.

The regulations require adherence to environmentally responsible practices, including the proper disposal and recycling of electrical and electronic equipment. This ensures that any obsolete or damaged equipment, such as computers, printers, and other electronic devices, is managed in an environmentally friendly manner, minimizing the negative impact on the ecosystem.

Contractor should comply with regulations to ensure that the project promotes sustainable practices, reduces e-waste pollution, and contributes to the overall environmental well-being.

3.7.3 The Fire and Rescue Force (Fire Precautions in Buildings) Regulations, 2015

These regulations are designed to ensure the safety of occupants in buildings by establishing fire safety measures and standards. In the context of the school project, adherence to these regulations becomes imperative to create a secure learning environment.

The construction process must incorporate fire safety features such as fire-resistant materials, adequate emergency exits, fire alarm systems, and fire extinguishers in strategic locations throughout the school building, also the regulations emphasize the need for proper fire escape routes, clear signage, and training on evacuation procedures for students and staff.

Contractor should comply with the requirements and be equipped with the necessary fire safety measures, reducing the risk of fire-related incidents and safeguarding the well-being of all occupants.

3.7.4 The Fire and Rescue Force (Safety Inspection and Certificates) Regulations, 2008 As Amended In 2017

These regulations establish the legal framework for ensuring fire safety standards in buildings, including educational institutions, According to the regulations, a safety inspection must be conducted during the construction phase to assess compliance with fire safety standards.

This inspection verifies that the building materials, electrical systems, fire protection measures, and emergency exits meet the required safety codes. The project management team and contractors must ensure that all construction activities adhere to these regulations to minimize the risk of fire incidents.

Upon completion of the construction, the school will need to obtain a fire safety certificate, which is issued after a final inspection by the Fire and Rescue Force. This certificate serves as confirmation that the school's premises comply with the necessary fire safety standards and have adequate fire prevention and protection measures in place. It signifies that the building is safe for occupancy and that appropriate fire safety protocols have been implemented.

The regulations also require periodic inspections and renewal of the fire safety certificate to ensure ongoing compliance with fire safety standards. The school administration will be responsible for regularly reviewing and updating their fire safety measures to maintain a safe environment for students, staff, and visitors.

Contractor and PIT should comply with these regulations ensures that the construction and operation of the school prioritize fire safety and provide a secure environment for all occupants.

3.7.5 The Land (Compensation Claims) Regulations 2001

The Land Regulations 2001 were promulgated in terms of the Land Act, Act No. 4 of 1999 sections 12 & 179. The form of compensation is stipulated in Section 10 (1) of the Land Regulations 2001. Furthermore, the Regulations list the entities that are eligible for compensation and/or resettlement. If the person does not agree with the amount or method of payment or is dissatisfied with the time taken to pay compensation, he /she may apply to the High Court.

The High Court shall determine the amount and method of payment and determine any additional costs for inconveniences incurred

3.8 World Bank Environmental and Social Framework

3.8.1 World Bank Environmental and Social Standards

The World Bank's Environmental and Social Framework sets out the Bank's commitment to sustainable development, through a Bank Policy and a set of Environmental and Social standards that are designed to support Borrowers' projects, with the aim of ending extreme poverty and promoting shared prosperity.

The E&S Framework comprises of: (1) Vision for Sustainable Development, which sets out the Bank's aspirations regarding environmental and social sustainability; (2) The World Bank Environmental and Social Policy for Investment Project Financing, which sets out the mandatory requirements that apply to the Bank; and (3) The Environmental and Social Standards, together with their Annexes, which set out the mandatory requirements that apply to the Borrower and projects.

The World Bank Environmental and Social Policy for Investment Project Financing sets out the requirements that the Bank must follow regarding projects it supports through Investment Project Financing. The Environmental and Social Standards set out the requirements for Borrowers relating to the identification and assessment of environmental and social risks and impacts and mitigation measures associated with projects supported by the Bank through Investment Project Financing.

The E&S standards are expected to: (a) support Borrowers in achieving good international practice relating to environmental and social sustainability, (b) assist Borrowers in fulfilling their national and international environmental and social obligations; (c) enhance non-discrimination, transparency, participation, accountability and governance; and (d) enhance the sustainable development outcomes of projects through ongoing stakeholder engagement.

The ten ESSs as per the WB ESF are: ESS 1: Assessment and Management of Environmental and Social Risks and Impacts; ESS 2: Labor and Working Conditions; ESS 3: Resource Efficiency and Pollution Prevention and Management; ESS 4: Community Health and Safety; ESS 5: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement; ESS 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources; ESS 7: Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities; ESS 8: Cultural Heritage; ESS 9: Financial Intermediaries; and ESS 10: Stakeholder Engagement and Information Disclosure. Given the nature of activities of this project, with the exception of ESS 9: Financial Intermediaries almost all the ESSs will be relevant.

3.8.2 Project Classification According to the World Bank ESF

According to the WB ESF, The Bank will classify all projects (including projects involving Financial Intermediaries (Fis)) into one of four classifications: **High Risk, Substantial Risk, Moderate Risk or Low Risk.**

In determining the appropriate risk classification, the Bank takes into account relevant issues, such as the type, location, sensitivity, and scale of the project; the nature and magnitude of the potential environmental and social risks and impacts; and the capacity and commitment of the Borrower (including any other entity responsible for the implementation of the project) to manage the environmental and social risks and impacts in a manner consistent with the ESSs.

Other areas of risk may also be relevant to the delivery of environmental and social mitigation measures and outcomes, depending on the specific project and the context in which it is being developed. These could include legal and institutional considerations; the nature of the mitigation and technology being proposed; governance structures and legislation; and considerations relating to stability, conflict or security.

The Bank will disclose the project's classification and the basis for that classification on the Bank's website and in project documents. The Bank will review the risk classification assigned to the project on a regular basis, including during implementation, and will change the classification where necessary, to ensure that it continues to be appropriate. Any change to the classification will be disclosed on the Bank's website.

3.8.3 Other World Bank Instruments

Table 3-1 summarizes the Environmental and Social Standards (ESSs) that project entities responsible for the project implementation will apply during entire project cycle.

Table 3-1**:** The World Bank Environmental and Social Standards (ESS) Applicable to Project and Associated Instruments

S/N	The Environmental and Social Standards (ESS)	Purpose/Objectives	Reason for its Application in the Project
1.	**ESS1**: Assessment and Management of Environmental and Social Risks and Impacts	Identification of adverse impacts and respective mitigation measures Enable screen and follow-up of remedies achieved through application of prevention, mitigation and compensation measures Enable allocation of responsibilities and resources to implement required mitigation measures	Sets out the Region's responsibilities for assessing, managing and monitoring environmental and social risks and impacts associated with each stage of a project supported by the Bank through Investment Project Financing (IPF), in order to achieve environmental and social outcomes consistent with the Environmental and Social Standards (ESSs).
	ESS2: Labour and Working Conditions	Ensure the healthy and safe working environment during projects implementation. Ensure the provision of fair working conditions.	Recognizes the importance of employment creation and income generation in the pursuit of poverty reduction and inclusive economic growth. Developer can promote sound worker-management relationships and enhance the development benefits of a project by treating workers in the project fairly and providing safe and healthy working conditions.
	ESS3: Resource Efficiency and Pollution Prevention and Management	To promote the sustainable use of resources including energy, water and raw materials. To avoid or minimize generation of hazardous and non-hazardous wastes.	Recognizes that economic activity and urbanization often generate pollution to air, water, and land, and consume finite resources that may threaten people, ecosystem services and the environment at the local, regional, and global levels. This ESS sets out the requirements to address resource efficiency and pollution prevention and management throughout the project life cycle.
	ESS4: Community Health and Safety	To manage potential risks to the community during construction and operation of school infrastructures.	Addresses the health, safety, and security risks and impacts on project-affected communities and the corresponding responsibility of the developer to avoid or minimize such risks and impacts, with particular attention to people who, because of their circumstances, may be vulnerable

S/N	The Environmental and Social Standards (ESS)	Purpose/Objectives	Reason for its Application in the Project
	ESS5: Land Acquisition, Restriction on Land Use	To avoid or minimize involuntary resettlement and to avoid forced eviction	Involuntary resettlement should be avoided. Where involuntary resettlement is unavoidable, it was minimized and appropriate measures to mitigate adverse impacts on displaced persons (and on host communities receiving displaced persons) was carefully planned and implemented.
	ESS6: Biodiversity Conservation and Sustainable Management of Living Resources	The SEQUIP project will avoid adverse impacts on biodiversity, habitats and ecosystem services. When avoidance of adverse impacts is not possible, the Borrower will implement measures to minimize adverse impacts and restore biodiversity in accordance with the mitigation hierarchy provided in ESS1 and with the requirements of the ESS6.	Recognizes that protecting and conserving biodiversity and sustainably managing living natural resources are fundamental to sustainable development and it recognizes the importance of maintaining core ecological functions of habitats, including forests, and the biodiversity they support. ESS6 also addresses sustainable management of primary production and harvesting of living natural resources and recognizes the need to consider the livelihood of project-affected parties, including Indigenous Peoples, who's access to, or use of, biodiversity or living natural resources may be affected by implementation of the project.
	ESS 7: Sub-Saharan Historically Underserved Traditional Local Communities	To enable VGs to participate in project activities while taking care of their sociocultural interests and hindrances	Ensures that the development process fosters full respect for the human rights, dignity, aspirations, identity, culture, and natural resource-based livelihoods of Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities. ESS7 is also meant to avoid adverse impacts of projects on Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities, or when avoidance is not possible, to minimize, mitigate and/or compensate for such impacts.
	ESS8: Cultural Heritage	To enhance conservation of cultural heritage in both forms; tangible and intangible cultural heritage.	Recognizes that cultural heritage provides continuity in tangible and intangible forms between the past, present and future. ESS8 sets out measures designed to protect cultural heritage throughout the project life cycle.

S/N	The Environmental and Social Standards (ESS)	Purpose/Objectives	Reason for its Application in the Project
		To conserve ecological and socially sensitive places from possible impacts of project implementation.	
	ESS9: Financial Intermediaries	To set out how the FI will assess and manage environmental and social risks and impacts associated with the subprojects it finances To promote good environmental and social management practices in the subprojects the FI finances.	Recognizes that strong domestic capital and financial markets and access to finance are important for economic development, growth and poverty reduction. Fis are required to monitor and manage the environmental and social risks and impacts of their portfolio and FI subprojects, and monitor portfolio risk, as appropriate to the nature of intermediated financing. The way in which the FI will manage its portfolio will take various forms, depending on a number of considerations, including the capacity of the FI and the nature and scope of the funding to be provided by the FI.
	ESS10: Stakeholder Engagement and Information Disclosure	To develop a systematic approach to stakeholder engagement to develop good relationships and gather their views on issues that could affect them. To provide stakeholders with a mechanisms through which to raise grievances.	Recognizes the importance of open and transparent engagement between developer and project stakeholders as an essential element of good international practice. Effective stakeholder engagement can improve the environmental and social sustainability of projects, enhance project acceptance, and make a significant contribution to successful project design and implementation.

3.9 Other World Bank Instruments Applicable for SEQUIP

Environmental and Social Framework – Guidance Notes for Borrowers11; The World Bank has developed several Guidance Notes to ensure the governments (borrowers) comply with the World Bank Environmental and Social Standards. This guidance are public documents that be accessed in the World Bank website12. Among the applicable guidance notes for SEQUIP are:

3.9.1 International Agreements, Conventions and Treaties

Tanzania has ratified or acceded to a large number of international treaties and conventions. Among those the following are relevant to the project.

3.9.1.1 UNFCCC/Kyoto Protocol

The Kyoto Protocol is an international treaty, which extends the 1992 United Nations Framework Convention on Climate Change (UNFCCC) that commits parties to reduce greenhouse gases emissions, based on the premise that
(a) Global warming exists; and
(b) Man-made CO_2 emissions have caused it.
Tanzania has implemented the UNFCCC since 1996 and has been undertaking climate change studies (implemented by the Division of Environment under the Vice President's Office) since 1992. Tanzania recognized the need for greater awareness of climate change and stated that a comprehensive awareness programme was planned.

The main challenge facing the country is a need to balance accelerated economic growth with a more efficient management of the environment and use of natural resources to ensure sustainability and address the climate change issue. In 2007 the Tanzania Vice President's Office, Division of Environment, produced the National Adaptation Programme of Action (NAPA).

3.9.1.2 The 1991 Bamako Convention

On the ban of the Import in Africa and Control of Trans boundary Movement and Management of Hazardous wastes within Africa was ratified in 1993.

3.9.1.3 The 1989 Basel Convention

On Control of Trans-Boundary Movements of Hazardous Wastes and their Disposal. The project shall adhere to both Bamako and Basel conventions to ensure that the ships do not bring into the country hazardous wastes by strictly abiding to the cargo declaration formalities.

3.9.1.4 1996 Convention on Biological Diversity,

Developer must cooperate with other related contracting parties for the conservation and sustainable use of biological diversity. Article 14 of the Convention concerns impact assessments and minimizing adverse impacts.

3.9.1.5 ILO Minimum Age Convention (C138), 1973.

The Convention is concerned with minimum age for admission to employment. The minimum age stated in Article 2 (3) of the Convention is not less than 15 years or 18 years' dependent on the nature of the work.

The Convention prohibits child labor with a view to achieving the total abolition of child labour worldwide. Members of the Convention are committed to pursuing national policies that have been designed to ensure effective abolition of child labour and to increase progressively the minimum age for admission to employment or work to a level consistent with the fullest physical and mental development of young persons.

During construction and implementation of SEQUIP project the Contractor will abide by the provisions of this Convention.

3.9.1.6 Convention against Discrimination in Education (1960) ratified by United Republic of Tanzania in 1978-12-08

Article 2 (a) of convention stated the establishment or maintenance of separate educational systems or institutions for pupils of the two sexes, if these systems or institutions offer equivalent access to education, provide a teaching staff with qualifications of the same standard as well as school premises and equipment of the same quality, and afford the opportunity to take the same or equivalent courses of study.

3.9.1.7 International Covenant on Economic, Social and Cultural Rights, 1966

Article 13 (2)(a) of this convention emphasizes that "Primary education shall be compulsory and available free to all; and Article (2)(b) Secondary education in its different forms, including technical and vocational secondary education, shall be made generally available and accessible to all by every appropriate means, and in particular by the progressive introduction of free education".

3.9.1.8 Universal Declaration of Human Rights, 1948

Article 26 of this declaration states that "Everyone has the right to education. Education shall be free, at least in the elementary and fundamental stages. Elementary education shall be compulsory. Technical and professional education shall be made generally available and higher education shall be equally accessible to all on the basis of merit".

3.9.1.9 Convention on the Rights of the Child, 1989

The Convention recognize the right of the child to education and with a view to achieving this right progressively and on the basis of equal opportunity. Where in Article 28(1) (a) of the convention stated that "Make primary education compulsory and available free to all".

Also this convention emphasizes in international cooperation in education sector stated in Article 28 (3) promote and encourage international cooperation in matters relating to education, in particular with a view to contributing to the elimination of ignorance and illiteracy throughout the world and facilitating access to scientific and technical knowledge and modern teaching methods.

3.9.1.10 Convention on the Rights of Persons with Disabilities, 2006

Article 28 (2) (a) of the convention emphasizes the right of persons with disabilities to education which stated "Persons with disabilities are not excluded from the general education system on the basis of disability, and that children with disabilities are not excluded from free and compulsory primary education, or from secondary education, on the basis of disability".

3.10 Sustainable Development Goals (SDGs)

The Sustainable Development Goals (SDGs) are a set of global goals for fair and sustainable health at every level from planetary biosphere to local community. The aim is to end poverty, protect the planet and ensure that all people enjoy peace and prosperity, now and in the future. The **Table 3-2** below shows the Sustainable development goals that are relevant to this project

Table 3-2: Sustainable Development Goals (SDGs)

Goal	Target
Goal 1: End poverty in all its form everywhere	Target 1.1 By 2030, eradicate extremely poverty to all people everywhere, currently measured as people living on less than $ 1.25 a day Target 1.4 By 2030, ensure that all women and men, in a particular the poor and the vulnerable have equal rights to economic resources, as well as access to basic services, ownership and

Goal	Target
	control over land and other form of property, inheritance natural resources, appropriate new technology and financial services include microfinance
Goal 3: Ensure health lives and promote for all at all stage	Target 3.5. Strengthen the prevention and treatment of substance abuse, including narcotic drug abuse and harmful use of alcohol.
Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunity for all	Target 4.1 By 2030, ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and Goal-4 effective learning outcomes Target 4.5 By 2030, eliminate gender disparities in education and ensure equal access to all levels of education and vocational training for the vulnerable, including persons with disabilities, indigenous peoples and children in vulnerable situations
Goal 5 : Achieve gender equality and empower all women and girls	Target 5.1 End all forms of discrimination against all women and girls everywhere Target 5.2 Eliminate all forms of violence against all women and girls in the public and private spheres, including trafficking and sexual and other types of exploitation
Goal 6: Ensure access to water and sanitation to all	Target 6.1 By 2030, achieve universal and equitable access to safe and affordable drinking water for all Target 6.2 By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations
Goal 7: Ensure access to affordable, reliable, sustainable and modern energy for all.	Target 7.1 By 2030, ensure universal access to affordable, reliable and modern energy services
Goal 13: Take urgent to combat climate change and its impact	Target 13.1 Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries Target 13.3 Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning
Goal 14: Conserve and sustainably use of oceans, seas and marine resources	Target 14.1 By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution
Goal 15: Sustainable manage forest, combat, desertification, halt reserve land degradation, halt biodiversity loss	Target 15.2 By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally Target 15.3 By 2030, combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land degradation-neutral world

3.11 Institutional Framework

Authorities, institutions and sectors directly or indirectly related to the project development have been identified geographically by political boundaries as well as through regulations, institutional mandates and structures. These entities are adequately consulted in the ESIA process as prescribed through the institutional framework for environmental management.

The relevant institution for handling EIA requirements is the NEMC with input from the District Environment Management Committees; Ward Committees and Street Committees.

According to the EMA of 2004 the institutional set-up for environmental management from a national level to village level includes:

- Minister Responsible for Environment;
- Director of Environment (DOE);
- National Environmental Management Council (NEMC);

- Sector Ministries;
- Regional Secretariats;
- Local Government Authorities, District, and Town Councils;
- Township, Village, Ward; Neighbourhood (Kitongoji); and Street (Mtaa).

The DOE and NEMC are the main regulatory bodies for environmental management in Tanzania whilst the other sector ministries and agencies, play an important role in implementing and enforcing environmental decree. The environmental management functions of each institution are outlined in the Environmental Management Act.

3.11.1 Minister Responsible for Environment

The Minister is overall responsible for matters relating to environment and in that respect be responsible for articulation of policy guidelines necessary for the promotion, protection and sustainable management of environment in Tanzania.

The Minister may issue general guidelines to the Sector Ministries, Government Departments, the Council, National Environment Advisory Committee, City, Municipal or District Environmental Management Committee, agency or any other public or private institution necessary for the purposes of implementation of or giving effect to the provisions of EMA.

The Minister may designate and shall, where appropriate, direct any of the before mentioned institutions and within specified time, to perform any function or do any activity or desist from performing any function or doing any activity as a result of which the environment or part of it is or may be seriously endangered or detrimentally affected.

3.11.2 Director of Environment (DOE)

The DOE heads the Office of the Division (Directorate) of Environment under the Office of the Vice President and is responsible for coordination, monitoring and assessment of various environmental activities. The DOE is responsible to coordinate various environment management activities being undertaken by other agencies and promote the integration of environment considerations into development policies, plans, programmes, strategies, projects and undertake strategic environmental assessment with a view to ensuring the proper management and rational utilization of environmental resources on a sustainable basis for the improvement of the quality of human life in Tanzania.

3.10.3National Environment Management Council (NEMC)

The object and purpose for which the Council is established is to undertake enforcement, compliance, review and monitoring of environmental impact assessment and in that regard, shall facilitate public participation in environmental decision making, exercise general supervision and coordination over all matters relating to the environment assigned to the Council, under the EMA or any other written law.
The Director General of NEMC is appointed by the President. The Council and the Board of Directors consist of:

- A Chairperson appointed by the President;
- The Director of Environment;
- Seven members appointed by the Minister; and
- The Secretary to the Council (Director General).

3.11.3 Sector Ministries

An environmental sector sits within each Ministry. The duties of the sector include:

- Responsibility for ensuring compliance by the sector Ministry with the requirements of this Act;
- Responsibility for ensuring all environmental matters contained in other written law falling under sector ministry are implemented and report of their implementation is submitted to the Director of Environment; and
- Liaising with the Director of Environment and the Council on matters involving environment and all matters with respect to which cooperation or shared responsibility is desirable or required under this Act.

3.11.4 Regional Secretariats

The Regional Secretariat is responsible for co-ordination of all advice on environmental management in their respective regions and liaison with the Director of Environment and the Director- General on the implementation and enforcement of this Act.

The Regional Secretariats are headed by a Regional Environment Management Expert. The expert is responsible for advising the local authorities on matters related to the implementation and enforcement of the EMA. Furthermore, the expert links the region with the Director of Environment and Director General of NEMC.

3.11.5 Local Government Authorities

A local government Environmental Management Officers are designated or appointed at each City, Municipal, District and Town Council. The responsibilities of the Environmental Management Officers among others include:

- Ensuring enforcement of EMA;
- Advising the Environment Management Committee on all matters relating to environment;
- Promoting environmental awareness relating to protection of the environment and the conservation of natural resources;
- Gathering and managing information on the environment and the utilization of natural resources;
- Preparing periodic reports on the state of the environment;
- The preparation, review and approval of environmental impact assessments for local investment by-laws on environmental management and on sector specific activities related to environment; and reporting to the Director of Environment and the Director General on the implementation of the EMA.
- The Environment Management Committee is responsible for functions set out under the Local Government Act. In addition, they perform functions as prescribed by the EMA and they may be assigned by the Minister to carry out directives related to the promotion and enhancement of sustainable management of the environment.

The Township Environment Management Committees are responsible for:

The proper management of the environment in respect of the area in which they are established;

- Performing duties as assigned under EMA or by the Minister or Council;
- Carrying out directives given by the Minister to promote and enhance sustainable management of the environment; and
- Performing any functions as set out under the Local Government (District) Authorities Act.

3.10.7Ward/Mtaa/Kitongoji Level

The District Council designates an Environment Management Officer for each administrative area of a township, ward, village, Kitongoji (neighborhood/hamlet) and Mtaa (street).

The Environmental Management Officers are responsible for coordinating all functions and activities related to the protection of environment within their designated areas.

4 BASELINE OR EXISTING CONDITIONS

4.1 Introduction

The purpose of this Chapter is to provide a brief description of the environment in the project site which could potentially be affected by positive and negative impacts of the project discussed in Chapter 2. Impacts of lesser importance were screened out during scoping phase to ensure that the ESIA is focused on the potentially significant impacts.

The process of environmental baseline investigations included the combination of some/all the following tasks:

- An appropriate combination and balance of desktop studies, field surveys, site information collection and technical consultation.
- Consideration of all available documentary records, research papers and other relevant information.
- Use of recognized survey and analysis techniques.
- Identification and provision of appropriate (preferably quantitative) descriptions of the baseline environmental conditions.
- Identification of key environmental features that may enhance, constrain, or limit the direction and rate of environmental change.
- Explanation of links, interactions, and dependencies between environmental components.
- Verification of desktop and other information by systematic field surveys.
- Acknowledgement of the implications of gaps and limitations in information and data.

4.2 Project Core Area and Accessibility

This project will be implemented in Arusha region, Longido District, Orbomba ward, Oltepes village. Arusha Region is one of Tanzania's 31 administrative regions and is located in the north of the country. The region's capital and largest city is the city of Arusha.

The region is bordered by Kajiado County and Narok County in Kenya to the north, the Kilimanjaro Region to the east, the Manyara and Singida Regions to the south, and the Mara and Simiyu regions to the west. Arusha Region is home to Ngorongoro Conservation Area, a UNESCO World Heritage Site

Longido District is located in the Northern part of Arusha Region. The District is easily accessible from all the countries of East African Community. Consequently and naturally, Longido District is developing as One Stop Boarder of the East African Community.

It lies below the equator between latitudes 2 20' to 3 10' South of equator. Longitudinally, the LD is situated between 36 00' East of Greenwich. It has a common border with Republic of Kenya in the North; Monduli district to South; Siha district to the East; Rombo district to North – west and Arumeru district to South – east. It also shares border with Ngorongoro district in the West.

The proposed project area can be easily accessed from Arusha Town by using Arusha-Namanga road with a distance of 75 Km.

4.3 General Conditions

4.3.1 Current Land Uses and Activities at the Proposed Project Site

The proposed land site in Oltepes village is 10.4 hectares in size, and it is currently a bush area with no any development activities in the proposed project site.

Figure 4-1: Current situation in the proposed project Site

4.3.2 Displacement and Relocation

No people relocation is envisaged for this location,

4.3.3 Neighboring Residences (Location and Distance from the Proposed Project)

The proposed school site is surrounded by the following components in different positions as shown in Table 4-1

Table 4-1: Project surrounding components

Direction	Resource availability	Distance
North	Primary school	M 200
South	Grazing land	M 300
West	Rain water valley	0.5km
East	Settlement	400m

4.4 Socio-Economic Baseline

4.4.1 Background

A development envelope (Area of Interest – AOI) is situated at Oltepes Village, Orbomba Ward, Longido District, and Arusha Region. Details of the study area for the Environmental Social Impact Assessment (ESIA) is in Table 4-2: Study Areas for the ESIA

Table 4-2: Study Areas for the ESIA

Study Area	Explanation	Area of concern
Site-specific study area	Area likely to experience impacts associated with project infrastructure and activities	The project footprint, excluding the access roads, etc. (to be defined at the conclusion of the scoping phase)
Local study area	Areas likely to experience impacts related to population influx, etc.	The neighboring settlements in Orbomba ward
Regional study area	Area likely to experience economic impacts of the project	Longido (since most of the development envelope falls within this district). This is set against the backdrop of Arusha Region and Tanzania as a whole

4.4.2 Administrative Set up

The Longido District is divided into four divisions which are Longido, Ketumbeine, Engarenaibior and Enduimet, 18 Wards, 41 Villages and 136 sub villages. Seven wards out of 16 and 9 villages out of 41 are new formed in year 2010. It has a total of 21 Councillors of which 16 of them are elected and 5 are appointed to special seats. The district has one Constituency of election and one Member of Parliament.

4.4.3 Land area and Land Use Pattern

Longido district has a total land area of 7,782sq.kms, most of which forms part of Great East Africa Rift Valley and is characterized by a number of isolated mountains in the generally flat and rolling plains. Steep escarpments extend along the West border of the district with the pint being 2,900 meters from the sea level and the lowest near Lake Natron, 600 meters above sea level.In the total land area of 7,782 Sq.Kms, 6,392.35 Sq.Km is grazing land, 731.64 Sq.Km is arable land, 292.23 Sq. Km is land under cultivation and 365.78 Sq. Km is under forest. The arable land available for agricultural production is only 731.64 Sq.Kms. The remaining 7050.36 sq.kms out of the arable land in the district, are either used for grazing and/or wildlife

4.4.4 Climate, Topography and Soil

4.4.4.1 Climate

Longido district is recorded as one of the driest areas in Tanzania, the temperature ranges from 20- 35 degree centigrade. Rainfall ranges from less than 500mm in low lands to 900mm in high lands. From year 2007 the district experience prolonged dry season. During that period, rainfall ranges dropped from 500mm-900mm to 179mm-79.3mm. The district normally gets short rain season, usually start in November and ends December/January and long rain season starts from February to April but very rarely.

4.4.4.2 Topography and vegetation.

There are several isolated mountains that are found in Longido district, these include Ketumbeine, Gelai, Oldonyolengai and Longido Mountains. Altitude ranges from 600m the low elevation to 2,900m at high elevations. The vegetation so found is mixed forest, bush lands and grass land. Major economics activities found in high land zones include mixed crop farming (maize, wheat and beans) and livestock keeping.

4.4.4.3 Soil.

There are three types of soil found in Longido district. This includes shallow soils which are poor and not suitable for agriculture, deep freely soil which is in rich in natural humours but poor infiltration rate and deep freely drained soils which are suitable for crop production.

4.4.5 Agro-Ecological Zones.

The district has two Agro-ecological zones that highlands and low lands zones.

4.4.5.1 High Lands Zone

This zone is characterized by a number of isolated mountains with an average altitude of 200m above sea level. It has mainly deep, freely drained loamy soils with natural fertility status. It is occupied by forests on top of hills. Major economic activities are livestock keeping and agro – pastoralist. Livestock keeping is practiced on a moderately large scale.

4.4.5.2 Low Lands Zone

This zone is characterized by flat and rolling plains with altitude ranging from 600m to 1,200m above sea level. It has mainly deep, freely drained loamy soils with natural fertility status. It is occupied by

thick bushes, long and short grasses. Major economic activities are extensive livestock keeping and tourism. Food crops and cash sunflower are produced in Enduiment division.

4.4.6 Demographic Condition

Population Distribution by Sex, Sex Ratio, Number of Households and Average Household Size by Ward, Longido District Council; 2022 PHC

	Ward	Both Sexes	Male	Female	Sex Ratio	Number of Households	Average Household Size
Longido District Council		175,915	82,887	93,026	89	42,477	4.1
1.	Matale A	8,340	4,189	4,151	101	1,796	4.6
2.	Engarenaibor	15,227	7,298	7,929	92	3,322	4.6
3.	Mundarara	11,442	5,757	5,685	101	2,852	4.0
4.	Ketumbeine	10,203	5,024	5,179	97	2,230	4.6
5.	Elang'atadapash	6,528	2,987	3,541	84	1,468	4.4
6.	Ilorienito	6,932	3,031	3,901	78	1,615	4.3
7.	Gelai Meirugoi	12,474	5,720	6,754	85	3,051	4.1
8.	Gelai Lumbwa	9,932	4,621	5,311	87	2,190	4.5
9.	Noondoto	5,808	2,738	3,070	89	1,342	4.3
10.	Engikaret	8,298	3,722	4,576	81	1,958	4.2
11.	Kimokouwa	14,435	6,933	7,502	92	3,548	4.1
12.	Namanga	12,340	5,922	6,418	92	4,299	2.9
13.	Orbomba	11,060	5,202	5,858	89	2,523	4.4
14.	Longido	3,948	1,836	2,112	87	1,181	3.3
15.	Tingatinga	8,262	3,629	4,633	78	1,946	4.2
16.	Olmolog	12,536	5,913	6,623	89	2,906	4.3
17.	Kamwanga	13,053	6,190	6,863	90	3,060	4.3
18.	Sinya	5,097	2,175	2,922	74	1,190	4.3

Source: National Bureau of Statistics, 2022

4.4.7 Ethnic Composition

Maasai is the major ethnic group in Longido District constituting 49% of the total population. Their main activity is Livestock keeping. The second is Waarusha constituting 21% of the entire population. Their main activities are Livestock keeping and farming. The rest 30% ethnic groups found in Longido District are from different places within the regions of Tanzania.

4.4.8 Health Status

The status of public health services in any district can be easily be visualized through the health infrastructure, availability and commitments of health practitioners, implementation of preventive and curative measures and availability of medicine.

This part of social services covers sector development in terms of health facilities available in the district, morbidity, mortality and reportable communicable diseases. It also covers HIV/AIDs prevalence, tuberculosis and mother and child health.

4.4.9 Education Sector Services

Education sector covers pre-primary, Primary, Secondary, Educational colleges/vocational education. Therefore, the development of the sector in Longido district involves improving in all the above mentioned areas.

4.4.9.1 Pre-Primary Education

The condition set by the Ministry of Education and Vocational Training that enrolment in primary education should be for those who would have graduated from pre-primary education has influenced the expansion of nursery schools in Longido district (Table 48). In 2009 district had only 333 classrooms for pre-primary schools, of which 324 classrooms are publicly owned. The number of classrooms for pre-primary schools had increased significantly 353, equivalent to 6% in 2011. The increase in the number of classrooms for pre-primary schools has led to the increase of enrolment of pupils in the district.

4.4.9.2 Primary Education

The goal of LDC is to enroll all children old enough to go to primary school. In 2007 the District had 33 Primary schools which increased slightly to 34 in 2009, an increase of% compared to 2007. Among other factors, lack of private sector participation has slowed the development of Primary Education in the District. In 2009 there were 34 Primary schools of which 2 are owned by FBO and 32 are publically owned. All the above schools have a total of 15,873 pupils; including 8,930 male and 6,943 female.

4.4.9.3 Secondary education

The development of secondary education in Longido district is at the embryonic stage due to its historical context and the poor nature of the economy. The district is dominated by the pastoralists communities were most of their time are used to migrate with their herds to different parts of the regions were pastures and water for their animals was available.

Other factors include the remoteness of the district, being a game reserve area, and lack of economic infrastructures. As a result, until 2005, the district had only one public secondary school in Longido ward. The number of public secondary schools increased from one to five in 2006 and then reached seven in 2011, all located at Longido, Namanga, Engerenaibor, Tingatinga, Gilai Lumbwa, Olmolog and Ketumbeine wards.

4.4.10 Economic Activities

4.4.10.1 Agriculture.

As was reported in various reports of the district, agriculture is the second source of livelihoods for the residents of Longido district, the first being livestock keeping as it employs about 84 percent of the district workforce. Moreover, most agricultural households ranked annual crop farming as an activity that provided most of their cash income in East Longido after livestock and natural resources/forestry. The district produces maize, paddy, round potatoes and beans as food crops.

However, Longido people also sometimes use food crops as cash crops in order to enhance their incomes and ensure food availability throughout the year. But crop production levels in Longido district are still very low mainly due to small available area for crop production, inferior agricultural implements, and the usage of out-dated agricultural methods, pest problems, soil exhaustion and increasingly soil infertility.

4.4.10.2 Livestock

Livestock keeping is the first most important economic activity for the residents of Longido district. However, to large extent, livestock keeping is traditional and involves mostly indigenous cattle. Other livestock kept are goats, pigs, sheep, donkeys, camel and poultry. The livestock sub sector makes a big contribution to food security and poverty eradication and contribute to about 7 percent of the total livestock population in the regional. Besides, the sub sector is an important source of protein food through meat, milk and poultry products. Thus, its proper development could greatly contribute to poverty reduction.

4.4.10.3 Forestry

Longido district has three catchments forest reserve with estimated area of 10,780 Ha or 13.7 percent of the district's total land area of 78820 Ha, which are local government forest reserves. These include

Ketumbeine Forest Reserve (6441 Ha); Longido Forest Reserve (2015Ha) and Gelai Forest Reserve (2338Ha).The forest reserves are of great important to both local community and to the national and international communities.

4.4.10.4 Wildlife

Longido District is a game controlled area (about 95% of the district is a game controlled area) with a coverage area of 7000 sq. kilometres. The district has five hunting blocks of which tourism comes for sport and trophy hunting. There are about 40 species of wildlife and high variety of bird life including the migratory flamingos of which Lake Natron is their only breeding zone in the world. Wildlife animals are estimated at 100,000 in the district with the population density of 6.7 per sq. kilometers. There is no wildlife animals present in the proposed project area.

4.4.10.5 Beekeeping

Beekeeping is carried out in different area of the district. The potential areas for beekeeping are found at the feet of Longido, Ketumbeine and Matale Mountains. Beekeeping in the district, as reported previous, is not common and undertaken as a part – time economic activity. The number of people involved in beekeeping is about 460 in the district.

Thus, the contribution to the peoples' livelihood is insignificant though the district is potential for beekeeping. However the number of beekeeper is increasing as sensitization and capacity building are increasing. Production of honey and beeswax has for a long time been practiced by traditional beekeepers in some parts of the district. In these days, modern practices have been introduced and modern beehives are being used.

4.4.10.6 Nature and Tourism

Tourism is very important industry in Tanzania, particularly in the northern circuit of Arusha region of which Longido is within the centre –point. The role of tourism in the economy includes job creations, foreign currency exchange, tax generation which is important source of revenue for the government, and small and medium size enterprises creation. The presence of Oldonyo Lengai famous for its live volcano activities, Lake Natron famous for producing soda ash water and home for Flamingo birds' production, establishment of WMAs with unique animals' corridors and plants, the district has attraction for tourists which can enable it to increase its income and that of its people.

4.4.10.7 Mining Sector

The district has yet to play a significant role in mineral production, though as reported earlier, there are a number of mineral deposits. The district is endowed with more than five types of minerals of which the mining activities is done at a very small scale attributed by the use of poor/weak mining tools as well as lack of financial resources and technology. As a result this mineral wealth has not contributed significantly to the district economic growth.

Table 4-3: Mining Occurrence by Type in Longido District

Type of Mineral	Area of Occurrence	Remarks
Ruby	Mundarara	Mining activities are carried out by small scale miners
Sodium Carbonate	Lake Natron	Estimated at 168 million tonnes of total salts
Amethyst	Lake Natron	Deposit yet to be quantified
Meerschaum	Amboseli	Low potential and mining activities has been suspended
Mennonite	Gelai and Lake Natron	Medium potential- some production is carried out
Magnetite	Gelai	Medium potential – minor production is carried out.

4.4.10.8 Industry Sector

Longido district, unlike Arusha Municipal, Arusha and Meru districts, does not have many industries. The existing ones are small scale and scattered throughout the district. The district has neither medium scale nor larger scale industries.

4.4.10.9 Economic Infrastructure

The ongoing site can be easily accessed by using Arusha-Namanga road

4.4.11 Energy Sector Development

4.4.11.1 Electricity

TANESCO is continuing to be the principle supplier of electricity in the district, and two wards Longido of which it is the District's Headquarter, and Namanga is already served by electricity power though there has been a tremendous increase in the utilization of solar and generators. A total of two ward households were supplied with electricity in 2011 compared to previously in 2010 and in 2013 we expect that all villages will be supplied up to 2017 households will be supplied with electricity by TANESCO.

4.4.11.2 Fuel Wood

Fuel wood is the dominant source of energy for the households, since most of them have no electricity. The main uses of fuel wood are cooking and heating and this has led a high wood consumption in the district. Although Longido district has enormous reserves of fuel wood, the current consumption has created an alarm as it threatens the survival of the forests. Alternative to fuel wood had better be found soon if the district forests are to be saved from depletion.

4.4.11.3 Fossil Fuels

Longido district shares with the rest of the districts in the region consumption of large quantities of kerosene for lighting both in urban and rural areas. Diesel and petrol fuels continue to be used to run the district economy, particularly commercial, transport and service sectors.

4.4.11.4 Biogas and Solar Energy

The use of biogas has not yet been fully exploited in the district, but can be used as an alternative source of energy in order to reduce the excessive use of fuel wood for heating purposes. On other hand, solar energy is now used as alternative source of energy in most parts of the district. To date,

although, there is no accurate data on the number of solar and generator users, it is estimated that there was at least a solar panel and two generators privately owned in each ward of Longido district in 2010. Nevertheless, the district authorities should continue encouraging people to use these sources of energy as an alternative to fuel wood in order to reduce the pressure being exerted on forests by local people

4.4.12 Water supply

Water Supply Due to the topography and climatic condition of Longido district, the reliable availability of water source is a serious problem to the people residing in the district. Most of water sources available in the district are not reliable since they only provide water during rainy season and during dry season tend to dry completely. Therefore the availability of water is a major challenging issue in the district now especially by considering the high population growth experienced in the district.

4.4.12.1 Rural Water Supply

Water supply in Longido district consists of piped water, springs, shallow wells, rain water, bore holes, dams and charco dams. The data from the Water Department shows that in 2007 the rural population was supplied water by using different types of water technologies. About 48 percent of total population of Longido district obtain their water through 32 gravity piped water system, 2.4 percent through 18 water sources pumped with diesel generators, 0.2 percent supplied with 2 hand pumped water sources and 0.8 obtain water through source power by 2 Wind Mills. Other 16.6 percent of the population depend mostly on other sources of water such as shallow wells, charco dams and unprotected springs.

4.4.12.2 Water Supply Personnel

Unlike health and education sectors, all personnel for the water sector (rural and urban) are located at the district headquarters. This is a new setup, different from the previous setup where all technical staff was posted at ward headquarters. In 2007 there were only one personnel in Water Department, and in 2009, the number increases to six making the department at least active in the provision of water services. Therefore, in 2011, there was no attrition of water personnel thus making the department to be contained with 6 (5 male and 1 female) personnel.

4.4.12.3 Sanitation

Longido district does not have a waste disposal system. Therefore, there are no proper ways of disposing solid waste and waste water. Very few households have septic tanks and the most common way of disposing human waste is through pit latrines. Moreover, with the lack of cesspit emptier and solid waste dump trucks, over-flooding sewage and uncollected garbage pollutes the environment of Longido and Namanga towns.

4.4.13 Waste management

Refuse disposal is the discharging or destroying of garbage, sewage, or other waste matter or its transformation into something useful or innocuous. The disposal of human excreta and household refuse are of prime importance in rendering the environment around household compounds safe from contamination.

With respect to availability of toilets, the National Sample Census of Agriculture 2003/2004 indicates that almost all households in Longido district (46per cent) use traditional pit latrines followed by flush toilets (18percent) and improve pit latrines (25percent). The percentage of households without toilets was significant accounting for only 11percent of the households

The idea of indigenous people (IP) is created in accordance with the recommendations of ESS 7, which only apply to a particular social and cultural group. IP are self-identification as members of a distinct indigenous social and cultural group with a collective attachment to a distinct geographical habitat, ancestral territories, language, or areas of seasonal use or occupation, as well as to the natural resources in these areas; customary cultural, economic, social, or political institutions that are different or apart from those of the mainstream society or culture. The Environmental and Social Framework outlines the IP engagement process and the necessity of doing stakeholder analysis and engagement

planning, disclosure of information, and meaningful consultation, in a way that is culturally appropriate and gender and intergenerational inclusive.

4.5 Indigenous People

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4.5.1 Methodology

The ESIA study team utilized the baseline literature as well as interview with official and historical individual to identify and ensure that key information pertaining to Indigenous Pastoralist and livestock keepers are collected in a manner that is culturally appropriate. The consideration of culturally appropriateness was paramount in the entire process; specific methodologies utilized are detailed in the following sections.

4.5.1.1 Indigenous Methodologies

The ESIA team conducted meaningful consultations by applying an indigenous innovative methodology of storytelling (Kimasai=Lomon) with key traditional leaders. The approach utilised, it involved easy dialogue with cultural/ traditional leaders hence facilitating the team to build trust between the ESIA team and indigenous communities involved in consultation. The discussion utilised open dialogue popularly known as “Ingigwanat”. The consultations were open to the entire community however it was left to the community leader to guide how they should be conducted considering their cultural arrangements. The communities shared their views of mitigation measures that are informed by their knowledge of the area and embedding environment of cultural and spiritual significance.

4.5.1.2 Focus group Discussions.

The undertaking directed the ESIA team to utilised FGD among the tools for the study; this involved consulting diverse IP groups including village leaders, traditional leaders, traditional religious leaders, youth, women, and the elderly. Understanding that in most cases IP communities are very much attached to tradition and customs that are male-dominated, ESIA study did not assume that men contribution in discussions represent all interest in the community. Instead, the team conducted separate women and youth discussions.

4.5.1.3 Key Informant Interviews

Key informants were held with individuals and ward leaders from different backgrounds including Community Based Organizations (CBOs) representatives present and local government officials (Ward Executive Officers, Ward Councilors, Village Leaders). Discussions with key informants were guided by a checklist with key questions covering IP and Livestock related matters in a culturally appropriate manner were administered.

4.5.1.4 Document Reviews

A review of relevant documents, including project documents such as Environmental and Social Management Framework, the Arusha region Social Economic Profile, the Longido district Social

Economic Profile as well as Vulnerable Group Framework (VGF), Stakeholder Engagement Plan (SEP), which is available on the PORALG website where there are SEQUIP guidelines.

4.5.1.5 Observations and site visits

The ESIA team visited the site as part of the methodology for assessing and collecting baseline data for the presence of IP at the various sites. The site visit confirmed the presence of Masaai in Longido district, who are Indigenous people; they were engaged and consulted about the project, as shown in Figure 5-1, where the team was in their local office with their leaders and few community members.

4.5.2 Confirming the presence of Indigenous People in the project area

The methodologies used confirm that the selected project site in Longido involves indigenous people (Masai). The IP was engaged, and their community enthusiastically accepted the project, so there will be interaction between the project activities and the IP. This study assessed all IP-related issues.

Based on the existence of IP on the proposed school project area, the WB Environmental Standard (ESS) 7 applies as the available situation meets the required criteria.

The response received from focus group discussion and key informants' interviews during ESIA study, there are concerns from communities that project will potentially overstep their rights to access grazing areas, access to water points, rights to movement of people to attend traditional ceremonies in both side of the line, rights to take part in cultural life including access to sacred sites as these sites might be demolished and economic rights especially access to livestock markets.

4.6 Air Quality within the Project Area

4.6.1 Ambient air quality data

The consulting team conducted the actual monitoring of air quality at the project site using an Aeroqual Outdoor Air Quality Test Kit. This is a complete outdoor air monitoring kit for the measurement of criteria air pollutants and VOCs.

Features Aeroqual's proven Series 500 portable monitor with interchangeable sensor heads, measuring particulate matter ($PM_{2.5}$, PM_{10}), four gas pollutant gas sensors (NO_2, O_3, CO, VOCs), and a combined temperature and relative humidity sensor.

Suitable for use during wide area air quality surveys, personal exposure monitoring, and as part of a short-term fixed monitoring network. The equipment and collected data are shown respectively.

Figure 4-2: Ambient Air Quality Monitoring equipment used at the project

4.6.2 Description of Sources and levels of project emission

Heavy construction is a source of dust emissions that may have substantial temporary impact on local air quality. Emissions during the construction of a building are associated with land clearing, ground excavation, cut and fill operations (i.e., earth moving), and construction of a particular facility itself. Table 4-4 shows the emission generating activities

Table 4-4: Emission Generating Activities

Activity	Emission
Site Clearance	Dust ($PM_{2.5}$, PM_{10}), CO_2 , NO_2
Vehicle movement	Dust ($PM_{2.5}$, PM_{10}), CO_2 , NO_2
Construction activities	Dust ($PM_{2.5}$, PM_{10}),
Waste (liquid and solid)	CH_4, CO_2,

The current concentration of gases measured within the proposed project site is tabulated in Table 4-5

Table 4-5: Ambient Air Quality data measured from different station in the vicinity of the project site

Location	CO ppm	NO_2 ppm	O3 ppm	VOC ppm	SO_2 ppm	$PM_{2.5}$ ppm	PM_{10} ppm
Project Area	0.00	0.032	0.00	0.00	0	0.001	0.001
Section A	0.00	0.016	0	0.00	0	0.009	0.010
Section B	0.00	0.010	0	0.06	0	0.011	0.001
Section C	0.00	0.09	0	0.00	0	0.000	0.011
Section D	0.00	0.08	0	0.00	0	0.005	0.003
Tanzania Standard [TZS 845:2005]	**20**	**0.1**	**0.0**	**10**	**0.05**	**0.05-0.08**	**0.05-0.116**

All data monitored were below standards with low detectable level so are of no significant. However, the data measured will be used for monitoring project intrusion during project implementation to trace how the project has affected the air quality.

4.7 Noise and Vibration

The noise and vibration survey were conducted in terms of the provisions of International Finance Corporate Guidelines of 2007 (The measurement and rating of environmental noise with respect to annoyance and to speech communication) as well as Environmental Management (Noise and Vibration Standards) Regulations of 2015.

The following instruments were used in the noise and vibration survey as they are displayed in Figure 4-3.

- Sound Level meter – Lutron SL 4023SD;
- Free field microphone – Electric Condenser Microphone; and
- Sound Calibrator (94/114Db) – SC – 942.
- Vibration meter – VB8206SD

On taking measurements, the meter was set to the "A" weighed measurement scale, which enables the meter to respond in the same manner as the human ear. The "A" scale is applicable for workplace compliance testing, environmental measurement, and workplace design and law enforcement.

For, noise measurement the meter was held approximately 1.5 m above the ground surface and at least 0.5 m away from hard reflecting surfaces such as walls. A set of four readings were taken per point for averaging. The equipment used and data collected are shown in Figure 4-3

Figure 4-3: Noise and vibration level meters were used to collect data on the project site

Table 4-6: Noise and Vibration data

Location	Noise Level [Dba]	Vibration [mm/s]
Project Area	39	1.8
Section A	44	1.9
Section B	36	0.5
Section C	43	0.7
Section D	32	1.3
Tanzanian Standards	**60-70**	**5**

The noise and vibration level survey was executed during the day on 6 October 2022 at 1300hrs. In this survey, 12:00 to 14:00 represented the daytime period.

The Noise level was measured over a representative sampling period, exceeding 30 minutes at a point for different location within the proposed site as the result is presented in Table 4-6

5 STAKEHOLDERS IDENTIFICATION AND INVOLVEMENT

5.1 Introduction

This chapter describes the main stakeholders that have been identified and contacted to date as well as their main concerns regarding the proposed development. ESS10: Stakeholder Engagement and Information Disclosure pinpoint the involvement of stakeholder in the project sustainability

Stakeholder engagement is an inclusive process conducted throughout the project life cycle. Where properly designed and implemented, it supports the development of strong, constructive, and responsive relationships that are important for successful management of a project's environmental and social risks. Stakeholder engagement is most effective when initiated at an early stage of the project development process, and is an integral part of early project decisions and the assessment, management, and monitoring of the project's environmental and social risks and impacts

Stakeholders are identified as "those people and institutions that have an interest in the successful design, implementation and sustainability of the project and will either be negatively, positively or not at all impacted by the proposed development". Section 89 of the Environmental Management Act (EMA, 2004) provides directives on public participation and its importance to ESIA. Furthermore, section 17 of the EIA Regulations provides details and procedures for public participation in the ESIA process.

Stakeholder participation aims to involve processes whereby all those with a stake in the outcome of a project actively participate in decisions on planning and management. Stakeholders may share information and knowledge, and contribute to the project, to enhance the success of the project and hence ultimately their own interest.

5.2 Stakeholder Engagement Process

The Constitution of United Republic of Tanzania recognizes the sovereignty of the people and that people possess the power to guide development within their areas either directly or indirectly. The public should therefore be involved in the evaluation process because the Environment Management Act (2004) demands it to be so.
The main objectives of the stakeholder engagement process are to:

- Inform the stakeholders about the proposed project and provide opportunities for influencing/amending the plans;
- Collect stakeholders' views on the proposed project including potential positive/negative impacts the stakeholders may associate with the project
- Get an idea of Stakeholders' preferred approaches to implementation of the project;
- Get local knowledge on any sensitive areas within the project area of influence (physical, environmental, cultural or proposed facilities); and
- Get expert advice on land use/ area zoning, water availability and supply, power and road infrastructure

Stakeholder consultation is initiated mainly during the scoping phase as various stakeholders are identified and then proceed throughout the EIA process. There are different levels of public participation. Table 5-1**Error! Reference source not found.** shows the categories of public participation according to the goals.

Table 5-1: Levels of Public Participation

LEVELS OF PUBLIC PARTICIPATION GOALS	
Inform	To provide the public with balanced and objective information to assist them in understanding the problem, alternatives, opportunities and/or solutions.
Consult	To obtain public feedback for decision-makers on analysis, alternatives and/or decisions.
Involve	To work, directly with the public throughout the process to ensure that public concerns and aspirations are consistently understood and considered in decision-making processes.

LEVELS OF PUBLIC PARTICIPATION GOALS	
Collaborate	To partner with the public in each aspect of the decision including the development of alternatives and the identification of the preferred solution.
Empower	Inclusion of the public in the decision-making processes.

The team put in place a stakeholder engagement process, which helps to:

- Identify and involve all potentially affected stakeholders
- Generate a good understanding of the project amongst those that was affected
- Identify issues early in the project cycle that may pose a risk to the environment, project or its stakeholders
- Ensure that mitigation measures are appropriate (implementable, effective, and efficient)
- Establish a system for long-term communication between the project and communities that is of benefit to all parties.

The primary goal of the Stakeholder Engagement Process is to ensure **transparency and involvement** of individuals, groups and organizations affected by and/or interested in the project (to be called as stakeholders) in assessing and managing the potential environmental and social impacts of the project, and to provide relevant, timely and accessible information in an appropriate and understandable format (e.g., Project Information Document).

We discuss the different steps to be taken in the next sections. The process was reported in the stakeholder engagement plan.

The **Stakeholder Engagement Plan** is the public document, which presents plans for stakeholder engagement, consultation, and disclosure, and is to be updated for each phase of the project. Parts of the report need to be published through ESIA (public involvement and disclosure). The main purpose of this document is to:

- Define the consultation approach for stakeholders,
- set up a process to address public views and/or concerns,
- Identify resources and responsibilities for implementation and monitoring of the consultation program, and
- Set up a grievance mechanism for local stakeholders.

It consists of the following information:

- Introduction (project information, project program, summary of potential environmental and social impacts);
- National and international requirements;
- Consultation undertaken to date;
- Stakeholders;
- Disclosure of information and public consultation;
- Grievance management;
- Resources and responsibilities;
- Reporting; and
- Annexes: comment/complaint form; complaint action form

The purpose of the **SEP** is to engage with organisations and people who may be affected by the project(s) or who may be interested in the Project, as mentioned above. Each stakeholder will need a different level of engagement. Throughout the process, we will make clear the level for the respective stakeholder and take the necessary steps.

5.3 Stakeholder

Stakeholders are individuals or groups who are affected or likely to be affected by the project (project-affected parties PAP) and who may have an interest in the project and/or the ability to influence its outcome, positively or negatively (other interested parties OIPs).

The identification of stakeholders under project will be based on (a) their roles and responsibilities; (b) possible influence/interest on the project; and (c) their particular circumstances they may be disadvantaged or vulnerable in different ways from each other. Stakeholders' analysis involves

identifying the stakeholder groups that are likely to affect or be affected by proposed project components and sorting them according to the potential impact, the activities will have on them. The preliminary stakeholder analysis has identified the various interests of stakeholder groups and the influence these groups may have on the project.

The analysis also shaped the design of stakeholder consultation events and how to engage them. Stakeholders' interest is determined based on the extent to which they may be involved in implementing elements of the project, likelihood in being impacted (positively or negatively) or in which they may benefit from components

5.4 Stakeholder Identification and Consultation

Tansheq team started with stakeholder consultations in October 2022. The below bullets capture the process undertaken to date:

- Introductory meeting with Region Academic Officer, (RAO),
- District Executive Director (DED) in Longido District and District Environmental Officer (DEMO), DSEO, As DE
- Initial meeting with village government, Ward officials including WEO at Oltepes village, Orbomba ward
- Meeting with villagers around in the proposed project area.

Each representative had an opportunity to state their understanding of what is proposed, and they fully support the project and said that they welcomed the team to undertake the requisite study.

5.4.1 Institutional Stakeholders

Institutional stakeholders were identified based on their involvement in decisions that might affect the proposed development or the stakeholder.
The Institutional stakeholders include:

- Ministry of Home Affairs (Tanzania Fire and Rescue Force- Arusha Office)
- Ministry of Labour and Employment (Occupational Safety and Health Authority, OSHA- Arusha Office)
- Regional Government Regional Commissioner Region Academic Officer, (RAO).
- Local Government Authority District Executive Director (DED), District Secondary Educational Officer (DSEO, DEMO and (Orbomba Ward/ Oltepes Village).

5.4.2 Other Stakeholders

Individual stakeholders refer to those occupying, owning, living, or working within the AOI and surroundings that may be impacted upon resulting from project implementation. They include:

- Landowners
- Farm owners
- Residents/house owners affected village.

5.4.3 Vulnerable group

Means a group of people who, due to their characteristics and circumstances, are likely to suffer more adverse impacts of natural disasters than other groups in the community.

Vulnerable Person means any person who due to age, infirmity, illness, disability, or any other circumstance is in need of care or attention. Vulnerable groups associated to SEQUIP area:

- Age group (children & elders)
- Indigenous
- Physical challenged group
- Women/Sexuality (Gender issue)

5.5 Main Concerns and Comments of Stakeholders

The comprehensive list of all stakeholders consulted. Main concerns and comments from the consultation process raised by stakeholder to date are in Table 5-2

Table 5-2: Stakeholder Consultation Views

Name of Stakeholders	Place	Comments, views and concerns from the stakeholders
Mr.Musa **RAS**	Arusha	• He is aware of the project • The project will help to increase educated people to the region • Employment opportunities
Abel A. Ntupwa **REO**	Arusha	• With interest, they look forward to the project's execution • The project will help to increase education level of the country • Will reduce early marriage • Number of educated people will increase
Shirley Swai **RAO**	Arusha	• With interest, they look forward to the project's execution • The project will help to increase education level of the region
Elimeleki Ukway **DEMO**	Longido District	• He is aware of the proposed project • Environmental and Social Impact assessment will help in decision making • Closed supervision during project going on in the issue of environment, example site clearance • Reduce illiteracy of the people • Increase income to the community within the district • Increase beautification of the district • Negative impacts: Noise pollution, soil erosion and remove of shrub and trees. • Environmental issues should be well considered before and after construction. • To have budget for tree plantation and land escaping should be well considered.
Stephen Ulaya **DED**	Longido District	• With interest, they look forward to the project's execution • The project will increase number of educated people in the district and national at large • Reduce number of early marriage and street children
INS.Maposa Kilavo	Fire and Rescue	• Longido District Council is required to submit architectural and fire protection layout to the fire and rescue office for the proposed project so as fire safety recommendation can be provided regarding to the uses of a particular building before the construction activities.
Salum Mwendapole **OHI**	OSHA-	• Proponent must ensure safety and health of workers during the project implementation • The project will ensure the provision of better education for the children • To comply with safety and health Act No.5 of 2003
Monica Wambura **WEO**	Orbomba Ward	• She is aware about the project. • Through meeting with district council • It will help to reduce environmental hazard • The project is good since will increase number of educated girls • Employment Opportunities to the local community
Rose Kipuyo **VEO**	Oltepes Village	• She is aware about the project • Does not affected by project • Will increase employment opportunities and number of educated • Environmental and social issues should be well considered in all phases of the project

Name of Stakeholders	Place	Comments, views and concerns from the stakeholders
Oltepes Villagers	Oltepes Village	• They are aware of the project. • The project will help reduce the number of uneducated people in the village and the region at large. • The school will reduce the number of street children and early marriages. • The presence of schools can accelerate community development.

Figure 5-1: Stakeholder Engagement

5.6 Way Forward

Issues raised by stakeholders shall be assessed on their veracity and included in environmental and social impacts assessment.

During the Environmental and Social Impact Assessment process, all stakeholders including public and community participated accordingly. All issues raised during consultation will be detailed responded in the stakeholder engagement plan.

From the consultations, it can be concluded that people are positive about the project, as it will generate more employment, enhance business opportunities, education development and social development. Stakeholder Engagement Plan shall be prepared and implemented through all phases of the project

6 ASSESSMENT OF IMPACTS AND IDENTIFICATION OF ALTERNATIVES

6.1 Introduction

This section includes expected environmental and social impact assessment during the entire lifecycle of the school construction project. Methods used for impact assessment, as well as quantitative and qualitative criteria were developed to unify and standardize the assessment system, which ensures the objectivity of the assessment.

Impact assessment methodology preparation was based on the recommendations of the World Bank and other International Financial Institutions (EBRD, IFC, and ADB). The following scheme will be used for environmental and social impact assessment of the planned activities:

Step I: Determination of basic impact types
Determination of the impact is based on general analysis of activities, which may be important for these types of projects. This is incorporated in Chapter 2 in Page.

Step II: Study of the environmental baseline – search and analysis of the existing information
Analysis of the socioeconomic and environmental status quo of the project affected. This shall also involve identification of the receptors, which are expected to be affected by the planned activities, determination of sensitivity of the receptors

Step III: Characterization and assessment of the impact
Impact character, probability, significance other characteristic determination by considering the sensitive receptors, description of the expected changes in the environment and assessment of their significance. This is covered in this Chapter.

Step IV: Determination of the mitigation measures
Significant impact mitigation, prevention, or compensating measure determination. This is detailed in subsequent Chapter 7.

Step V: Residual impact assessment
Determination of the expected value of change in the environment after implementation of the mitigation measures

Step VI: Monitoring and management strategy development
Monitoring the effectiveness of the mitigation measures is needed to ensure, that the impact must not exceed the predetermined values, effectiveness of the mitigation measures must be confirmed, or the necessity of the corrective measures must be identified.

Table 6-1: Sources, Receptors and Magnitude of Environmental Impact all Planned Phases

Phase / Receptor	Construction	Operation	Maintenance	Decommissioning
Air				
Soil				
Water				
Flora				
Fauna				
Protected area				
Landscape & visual impact				
Land ownership				
Infrastructure				
Traffic flow				
Cultural heritage				
Socioeconomic				

Key

Negative	Positive

Table 6-1 gives information about sources, receptors and magnitude of environmental impact for construction and operation phase of the proposed school structures.

6.2 Impact Receptors and their Sensitivity

Implementation of the works may cause such qualitative and quantitative characteristic changes of socioeconomic, physical and biological resources in the impact area, such as:

- Socioeconomic baseline
- Air quality and acoustic background of the environment.
- Soil stability and quality.
- Capacity and quality of surface and groundwater.
- Visual changes of the landscapes.
- Flora and fauna baseline.

The population, which may be impacted by the planned activity, includes people living, working, or involved in other activities (e.g., vocation, travel) nearby the designed facility. Facility staff is considered as a potential sensitive receptor.

Receptor sensitivity is related to the impact volume and ability of the receptor to counteract the change or restore after the change, as well as with its relative ecological, social, or economic value.

6.2.1 Impact Characterization

To estimate environmental impact major impact factors are identified for mobilization, commissioning, decommissioning, and demobilization phases. Anticipated impact is assessed according to the following classification:

- **Character** – positive or negative, direct, or indirect.
- **Magnitude** - insignificant, low, medium, high or very high.
- **Likelihood** – low, medium, or high risk.
- **Impact area** – working site, project area or region.
- **Duration** – short, mid, or long-term.
- **Reversibility** – reversible or irreversible.

That is, for both project phases and for each potential impact has been determined anticipated alteration of environment and its character, area and duration of impact, reversibility, and likelihood of occurrence; based on this information has been defined significance.

Some impact types were estimated quantitatively. Assessment of impact on environmental elements is based on relevant environmental quality standards, whenever appropriate. If qualitative assessment was impossible impact was estimated based on its characteristics and elaborated criteria. The criteria applied for environmental and social impact assessment is given below. They are developed only for those receptors, which may experience significant changes.

6.3 Impact Assessment Methodology

The purpose of conducting an environmental impact assessment is to identify and assess the significant effects that are expected to happen compared to the current baseline conditions (as shown in Figure 6.1). This evaluation concentrates on the most important issues that are likely to have an impact, while disregarding concerns that are considered insignificant. The effects can be either beneficial or detrimental to the environment.

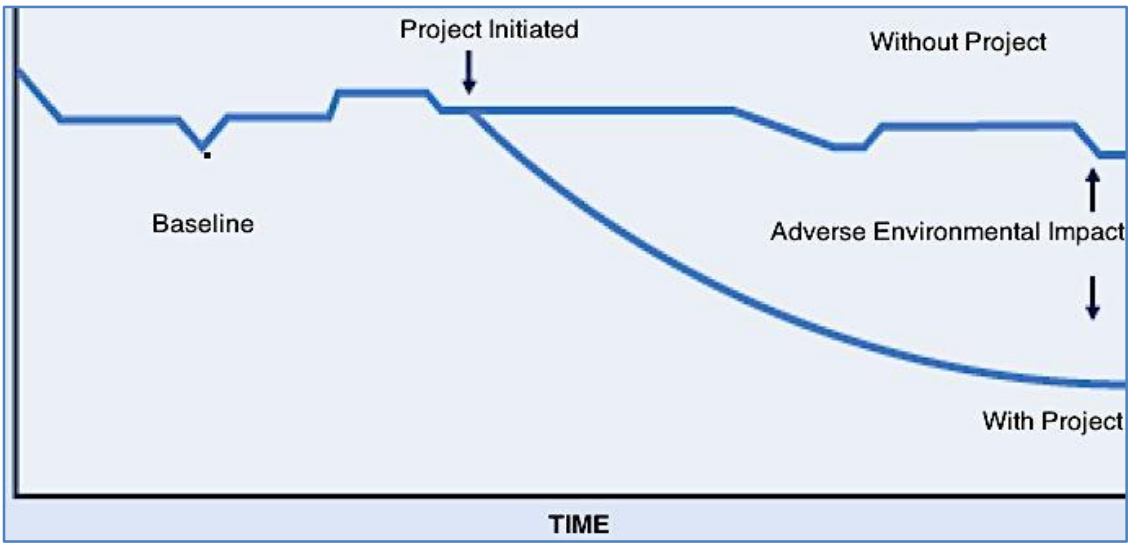

Figure 6-1: An Environmental Impact

The general method for assessing environmental impacts shall be developed based on the criteria in of the **Annex III of EU-EIA Directive (2014/52/EU).** The primary goal of using this method is to ensure that assessments are conducted using precise and well-defined terms, and to enhance transparency in the process. The aim is to suggest potential measures to mitigate the impacts and determine any remaining effects to assist in decision-making. **Error! Reference source not found.** describes when mitigation measures are expected with a view to reducing a given environmental impact.

Table 6-2: Degree of Remedial Measures (Annex III of EU-EIA Directive, 2014/52/EU)

Magnitude of impact	Mitigation Measure
Major impact	Impact considered of sufficient importance to consider whether the project should be changed or whether mitigation measures should be made to reduce this impact
Moderate impact	Impact of a magnitude where mitigation measures are considered
Minor impact	Impact of a magnitude where it is not likely that mitigation initiatives are necessary.
Negligible impact and no impact	Impacts considered so negligible that they are not relevant to take into consideration when implementing the project

A few criteria forms parts of the assessment of environmental impacts. Table below lists the most significant criteria. The likelihood of occurrence or the risk of an environmental impact-taking place has been divided into three groupings in the **Error! Reference source not found.**; however, as is most often the case in respect of impacts on the natural environment, this division will be more varied and detailed.

Table 6-3: List of Criteria for Assessment of Environmental Impacts (Annex III of EU-EIA Directive (2014/52/EU)

Criteria	Factor
Importance of the issue	• Importance to international interests • Importance to national interests • Importance to regional interests

	● Importance to local interests ● Importance in respect of the area with direct impact ● Negligible or not important
Persistence	● Permanent impact (non-reversible) in the life of the project ● Temporary for >5 years ● Temporary for 1-5 years ● Temporary for <1 year
Likelihood of occurrence	● High (>75 %) ● Medium (25-75 %) ● Low (<25 %)

Furthermore, it is important to consider whether the impact is caused directly by the project or indirectly as a derived effect of a direct impact. **Cumulative impacts** must also be assessed; determining the impact from combined activities or other projects locally or regionally. **Error! Reference source not found.**,**Error! Reference source not found.** and **Error! Reference source not found.** indicate the process of assessing the magnitude of individual environmental impacts relating to a project. The following is a description of the Table:
Column 1 states the degree of disturbance: The extent of the disturbance is assessed as high, medium or low. The determination of this is based on the potentially severity of the impact, looking at the impact on some specific issues (e.g. a species), not considering the Importance of the issue, the likelihood of occurrence, or the persistence.

Column 2 assesses whether the issues (e.g. species, habitat, etc.) is important to international, national/regional or entirely local nature conservation interests.

Column 3 indicates the likelihood that the assessed disturbance occurs.

Column 4 shows the persistence of the impact. By combining these four factors the magnitude of impact is found in **Column 5**.

Table 6-4: Assessment of Degree of Impact (High Degree of Disturbance) (Based on Annex III of EU-EIA Directive, 2014/52/EU)

Degree of Disturbance	Importance	Likelihood of Occurrence	Persistence	Magnitude of Impact
High	International Interest	High (>75%)	Permanent (>5 years)	Major
			Temporary (1-5 years)	Major
			Short Term (0-1 years)	Moderate
		Medium (25-75%)	Permanent (>5 years)	Major
			Temporary (1-5 years)	Major
			Short Term (0-1 years)	Moderate
		Low (<25%)	Permanent (>5 years)	Moderate
			Temporary (1-5 years)	Moderate
			Short Term (0-1 years)	Minor
	National or Regional Interest	High (>75%)	Permanent (>5 years)	Major
			Temporary (1-5 years)	Moderate
			Short Term (0-1 years)	Moderate
		Medium (25-75%)	Permanent (>5 years)	Moderate
			Temporary (1-5 years)	Moderate
			Short Term (0-1 years)	Minor
		Low (<25%)	Permanent (>5 years)	Moderate
			Temporary (1-5 years)	Minor
			Short Term (0-1 years)	Minor
	Local Interest (important for the area directly affected or for the immediate surrounding)	High (>75%)	Permanent (>5 years)	Moderate
			Temporary (1-5 years)	Moderate
			Short Term (0-1 years)	Minor
		Medium (25-75%)	Permanent (>5 years)	Moderate
			Temporary (1-5 years)	Minor
			Short Term (0-1 years)	Negligible
		Low (<25%)	Permanent (>5 years)	Minor
			Temporary (1-5 years)	Negligible
			Short Term (0-1 years)	Negligible
	Negligible/Not Important	High (>75%)	Permanent (>5 years)	Negligible or none
			Temporary (1-5 years)	Negligible or none
			Short Term (0-1 years)	Negligible or none
		Medium (25-75%)	Permanent (>5 years)	Negligible or none
			Temporary (1-5 years)	Negligible or none
			Short Term (0-1 years)	Negligible or none
		Low (<25%)	Permanent (>5 years)	Negligible or none
			Temporary (1-5 years)	Negligible or none
			Short Term (0-1 years)	Negligible or none

Table 6-5: Assessment of Degree of Impact (Medium Degree of Disturbance) (Based on Annex III of EU-EIA Directive, 2014/52/EU)

Degree of Disturbance	Importance	Likelihood of Occurrence	Persistence	Magnitude of Impact
Medium	International Interest	High (>75%)	Permanent (>5 years)	Major
			Temporary (1-5 years)	Moderate
			Short Term (0-1 years)	Moderate
		Medium (25-75%)	Permanent (>5 years)	Moderate
			Temporary (1-5 years)	Moderate
			Short Term (0-1 years)	Minor
		Low (<25%)	Permanent (>5 years)	Moderate
			Temporary (1-5 years)	Minor
			Short Term (0-1 years)	Minor
	National or Regional Interest	High (>75%)	Permanent (>5 years)	Moderate
			Temporary (1-5 years)	Moderate
			Short Term (0-1 years)	Minor
		Medium (25-75%)	Permanent (>5 years)	Moderate
			Temporary (1-5 years)	Minor
			Short Term (0-1 years)	Minor
		Low (<25%)	Permanent (>5 years)	Minor
			Temporary (1-5 years)	Minor
			Short Term (0-1 years)	Negligible
	Local Interest (important for the area directly affected or for the immediate surrounding)	High (>75%)	Permanent (>5 years)	Moderate
			Temporary (1-5 years)	Minor
			Short Term (0-1 years)	Minor
		Medium (25-75%)	Permanent (>5 years)	Moderate
			Temporary (1-5 years)	Minor
			Short Term (0-1 years)	Negligible or none
		Low (<25%)	Permanent (>5 years)	Minor
			Temporary (1-5 years)	Minor
			Short Term (0-1 years)	Negligible or none
	Negligible/Not Important	High (>75%)	Permanent (>5 years)	Negligible or none
			Temporary (1-5 years)	Negligible or none
			Short Term (0-1 years)	Negligible or none
		Medium (25-75%)	Permanent (>5 years)	Negligible or none
			Temporary (1-5 years)	Negligible or none
			Short Term (0-1 years)	Negligible or none
		Low (<25%)	Permanent (>5 years)	Negligible or none
			Temporary (1-5 years)	Negligible or none
			Short Term (0-1 years)	Negligible or none

Table 6-6: Assessment of Degree of Impact (Low Degree of Disturbance) (Based on Annex III of EU-EIA Directive, 2014/52/EU)

Degree of Disturbance	Importance	Likelihood of Occurrence	Persistence	Magnitude of Impact
Low	International Interest	High (>75%)	Permanent (>5 years)	Moderate
			Temporary (1-5 years)	Minor
			Short Term (0-1 years)	Minor
		Medium (25-75%)	Permanent (>5 years)	Moderate
			Temporary (1-5 years)	Minor
			Short Term (0-1 years)	Negligible
		Low (<25%)	Permanent (>5 years)	Minor
			Temporary (1-5 years)	Minor
			Short Term (0-1 years)	Negligible
	National or Regional Interest	High (>75%)	Permanent (>5 years)	Moderate
			Temporary (1-5 years)	Minor
			Short Term (0-1 years)	Negligible
		Medium (25-75%)	Permanent (>5 years)	Minor
			Temporary (1-5 years)	Negligible or none
			Short Term (0-1 years)	Negligible or none
		Low (<25%)	Permanent (>5 years)	Minor
			Temporary (1-5 years)	Negligible or none
			Short Term (0-1 years)	Negligible or none
	Local Interest (important for the area directly affected or for the immediate surrounding)	High (>75%)	Permanent (>5 years)	Negligible or none
			Temporary (1-5 years)	Negligible or none
			Short Term (0-1 years)	Negligible or none
		Medium (25-75%)	Permanent (>5 years)	Negligible or none
			Temporary (1-5 years)	Negligible or none
			Short Term (0-1 years)	Negligible or none
		Low (<25%)	Permanent (>5 years)	Negligible or none
			Temporary (1-5 years)	Negligible or none
			Short Term (0-1 years)	Negligible or none
	Negligible/Not Important	High (>75%)	Permanent (>5 years)	Negligible or none
			Temporary (1-5 years)	Negligible or none
			Short Term (0-1 years)	Negligible or none
		Medium (25-75%)	Permanent (>5 years)	Negligible or none
			Temporary (1-5 years)	Negligible or none
			Short Term (0-1 years)	Negligible or none
		Low (<25%)	Permanent (>5 years)	Negligible or none
			Temporary (1-5 years)	Negligible or none
			Short Term (0-1 years)	Negligible or none

6.4 Potential Environmental and Social Impacts

6.4.1 Mobilization/ Pre Construction phase

6.4.1.1 Loss of biodiversity (Fauna and Flora)

During the mobilization phase of a girl's school construction project in the Londigo District, there can be potential impacts on biodiversity and the natural environment. The clearing of land, excavation, and construction activities may result in the direct loss or alteration of habitats for various plant and animal species.

The destruction or fragmentation of natural habitats can lead to the displacement or loss of indigenous flora and fauna. This can disrupt ecological processes and negatively impact the local biodiversity. Additionally, the use of heavy machinery, noise, and dust generated during construction activities can further disturb and displace species.

This is **major negative** impact High magnitude with a site-specific extent and long-term duration with significant risk.

6.4.1.2 Atmospheric air pollution due to emissions of exhaust and fugitive gases

Emissions from combustion of diesel in machineries and equipment during the mobilization/pre construction phase. The major pollutants will be CO, NOx, CH_4, NO_2, O_3 and SO_2 and these will be monitored accordingly for which various points will be identified and the measurement will be taken by S500 Aeroqual Air Quality Monitor.

The construction facilities and materials will be transported to the proposed project site using trucks from various places. Transportation of these facilities and materials have the potential to emit pollutants such as CO2, NOx, SOx, and particulate matters which may have an impact on the ambient air quality resulting to an impact on global warming and effect on human health to workers on duty. Considering the size of the project being small it is assumed that at least 3 trucks will be used to mobilize construction facilities and materials.

This is a **direct, moderately negative** impact of very low magnitude with a site-specific extent and long-term duration with low risk.

6.4.1.3 Climate change due to vehicle movement, bush clearance

When bushes and forests are cleared, the carbon stored in vegetation and soil is released into the atmosphere as carbon dioxide (CO2), a greenhouse gas. Trees and vegetation absorb CO2 during photosynthesis, helping to regulate atmospheric CO2 levels. Clearing large areas of bushes at the proposed site disrupts this natural carbon cycle and leads to increased CO2 concentrations, contributing to the greenhouse effect and global warming.

Also bushes act as carbon sinks by absorbing CO2 from the atmosphere and storing it in their biomass and soils. When they are cleared, these carbon sinks are diminished or lost entirely. This reduction in natural carbon storage capacity exacerbates the buildup of CO2 in the atmosphere, accelerating climate change.

This is an in**direct, minor negative** impact of very low magnitude with a site-specific extent and long-term duration with low risk

6.4.1.8 Employment Opportunity

During the mobilization phase of the project in the Londigo district, there are potential employment opportunities that can arise. Construction projects typically requires a diverse workforce, including skilled and unskilled labor, engineers, architects, and other professionals. The project can contribute to the local economy by creating employment opportunities for individuals in the surrounding communities.

By engaging local labor, the project can provide job opportunities and income generation for the local population. This can help alleviate unemployment rates and improve the economic well-being of individuals and families in the Londigo district. Additionally, the project can enhance skills and capacity development within the construction sector, empowering workers with valuable experience and expertise.

This is a **direct, major positive impact** of very high magnitude with long-term duration.

6.4.2 Construction phase

6.4.2.1 Atmospheric Air Pollution due to emissions of exhaust and fugitive gases

Emissions from combustion of diesel in machineries and equipment during the construction phase. The major pollutants will be CO, NOx, CH_4, NO_2, O_3 and SO_2 and these will be monitored accordingly for

which various points will be identified and the measurement will be taken by S500 Aeroqual Air Quality Monitor.

Construction facilities and materials will be transported to the proposed project site using trucks from various places. Transportation of these facilities and materials have the potential to emit pollutants such as CO2, NOx, SOx, and particulate matters which may have an impact on the ambient air quality resulting to an impact on global warming and effect on human health to workers on duty. Considering the size of the project being small it is assumed that at least 3 trucks will be used to mobilize construction facilities and materials.

This is a **direct, moderately negative** impact of very low magnitude with a site-specific extent and long-term duration with low risk.

6.4.2.2 Hearing impairment due to increased noise levels from construction vehicles and machinery

During the construction phase of a Regional girl's secondary school school construction project in the Londigo, there may be potential noise impacts. The activities involved in the construction process, such as excavation, foundation work, heavy machinery operation, and transportation of construction materials, can generate significant noise levels.

The mentioned noise impacts can affect both the immediate vicinity of the construction site and surrounding areas. Nearby residents may experience increased noise levels, leading to potential disturbances and inconvenience.

Any unwanted sound (“noise”) produced as a result of construction activities is expected to be intermittent and of relatively short duration, and will be limited to those periods during which construction activities are occurring. The contractor shall ensure that the vehicles and machinery undergo routine maintenance and outsourced vehicles and machinery shall be checked for compliance with applicable regulations. Vehicles shall be controlled by ensuring that they all have functioning mufflers.

This is a **direct, minor negative impact** of low magnitude with short-term duration and Low Risk

6.4.2.3 Public Health

During the construction phase of a Regional girl's school in the Londigo District Council, there may be potential public health impacts. These impacts can arise from various factors associated with the construction activities and the surrounding environment.

One of the primary concerns is the potential for air pollution. Construction activities often generate dust and emissions from machinery, vehicles, and construction materials. The release of particulate matter and harmful gases can contribute to poor air quality in the vicinity of the construction site. This can have negative health effects, particularly for vulnerable individuals such as children, the elderly, and those with respiratory conditions.

Additionally, noise pollution from the construction activities can also impact public health. Prolonged exposure to excessive noise levels can lead to stress, sleep disturbances, and other adverse health effects, including cardiovascular issues.

This is an **indirect, moderately negative** impact of very low magnitude with a site-specific extent and medium term duration with low risk.

6.4.2.4 Injuries and fatal accidents due to occupational health and safety issues

During the construction phase of the project in the Londigo District, there are potential occupational health and safety impacts that need to be considered. The construction industry carries inherent risks, and it is essential to prioritize the well-being and safety of the workers involved in the project.

Construction activities involve various tasks, such as excavation, heavy machinery operation, lifting and handling of materials, and working at heights. These activities can expose workers to hazards such as falls, accidents, electrical risks, and exposure to harmful substances. It is crucial for the project to adhere to occupational health and safety regulations and guidelines to minimize these risks and ensure a safe working environment.

This is a **direct, major negative impact** with high magnitude, long-term duration and significant risk.

6.4.2.5 Degradation of natural beauty, outbreak of diseases and injuries due to improper management of surrounding waste materials (Solid and Liquid Waste)

During construction phase of the project, there may be potential impacts related to solid and liquid waste. Construction activities often generate various types of waste, including construction debris, packaging materials, and wastewater.

Solid waste can accumulate from excavation, and general construction activities. Without proper waste management practices in place, this waste can contribute to environmental pollution and pose health and safety risks. It is important for the project to implement appropriate waste management strategies, such as segregating waste, recycling materials when feasible, and disposing of non-recyclable waste at authorized waste disposal facilities.

Liquid waste can be generated from activities such as concrete mixing, equipment cleaning, and site dewatering. If not properly managed, liquid waste can contaminate soil and water bodies, leading to adverse environmental and health effects. The project should establish measures to collect, treat, and dispose of liquid waste in accordance with local regulations and best practices.

This a **direct, major negative impact** with short term duration and significant risk

6.4.2.6 Road accidents from moving trucks

During the construction phase of a girl's school in Londigo District Council, there can be potential risks of road accidents. The increased movement of heavy construction vehicles, equipment, and materials can pose hazards to both construction workers and the general public.

The transportation of construction materials and equipment to the project site may involve the use of large trucks and other vehicles, which can increase traffic congestion and the likelihood of accidents. The presence of construction vehicles on the roads, combined with the disruption caused by ongoing construction activities, can create unsafe conditions for motorists, pedestrians, and workers.

This is an **indirect negative impact,** medium magnitude with short term duration and low risk

6.4.2.7 Employment Opportunity

During the construction phase of the project, there are potential employment opportunities that can arise. Construction projects typically requires a diverse workforce, including skilled and unskilled labor, engineers, architects, and other professionals. The project can contribute to the local economy by creating employment opportunities for individuals in the surrounding communities.

By engaging local labor, the project can provide job opportunities and income generation for the local population. This can help alleviate unemployment rates and improve the economic well-being of individuals and families in the Londigo District Council and national wise. Additionally, the project can enhance skills and capacity development within the construction sector, empowering workers with valuable experience and expertise.

This is a **direct, major positive impact** of very high magnitude with short-term duration.

6.4.3 Operation Phase

6.3.3.1 Atmospheric air pollution and effect on human health due to emissions of exhaust and fugitive gases

During the operation there can be potential air pollution impacts. These impacts are primarily associated with the transportation activities and energy consumption within the school premises.

Transportation-related air pollution can result from the daily commute of teachers, and staff to and from the school. Depending on the mode of transportation chosen, emissions from vehicles can contribute to air pollution and have adverse effects on air quality.

Another significant source of air pollution during the operation phase is the energy consumption within the school premises. Traditional energy sources, such as fossil fuels, can contribute to air pollution through the emission of greenhouse gases and particulate matter.

The impact of air pollution is considered to be minor indirect negative of long-term duration and of moderate significance

6.3.3.2 Disturbance of surrounding community due to increased noise levels

During the operation phase of the project in the Londigo District Council, there can be potential noise pollution impacts. These impacts are primarily associated with the activities and operations within the school premises.

The operation of a school involves various sources of noise, including student activities, teaching and learning activities, playgrounds, and transportation. The increased presence of students and staff within the school can contribute to an overall increase in noise levels, which can potentially disturb the surrounding community.

This impact is considered to be indirect negative of long term duration and of moderate significance.

6.3.3.3 Aesthetic degradation, environmental pollution and outbreak of diseases and injuries due to improper management of surrounding hazardous and non- hazardous solid waste materials

During the operation phase of a girl's school construction project in the Londigo District Council, there can be potential solid waste impacts. These impacts are primarily associated with the daily activities and operations within the school premises.

The operation of a school generates various types of solid waste, including food waste, paper and cardboard, plastic packaging, and other non-biodegradable materials such as sanitary pads. Improper management of these waste can lead to environmental pollution, health hazards, and aesthetic degradation.

Hazardous waste can include materials such as laboratory chemicals, electronic waste, batteries, fluorescent bulbs, and other substances that can pose a risk to human health to both the students, staff and surrounding community and the environment if not properly managed.

This impact is considered to be direct negative of long term duration and of high significance.

6.3.3.4 Aesthetic degradation, environmental pollution and outbreak of diseases and injuries due to improper management of surrounding liquid waste

During the operation phase of a girl's school construction project in the Londigo District Council, there can be significant impacts associated with liquid waste. Liquid waste includes wastewater generated from various sources such as kitchen, toilets, cleaning activities, and other daily operations within the school.

If not properly managed, liquid waste can have adverse effects on the environment and public health. Improper disposal or untreated wastewater can contaminate water bodies, including rivers, lakes, and groundwater sources, leading to pollution and the spread of waterborne diseases. It can also negatively impact aquatic ecosystems and the biodiversity they support such as the present in the project site area.

This impact is considered to be direct negative of long term duration and of high significance.

6.3.3.5 General health and safety impacts

During the operation phase of a girl's school construction project in the Londigo District Council, there can be significant impacts associated with general health and safety.

One significant health concern is indoor air quality, which can be affected by poor ventilation, the presence of dust and allergens. Inadequate ventilation and the accumulation of pollutants can lead to respiratory issues and allergies among students and staff. Another important aspect is sanitation and hygiene. Insufficient access to clean toilets, hand washing facilities, and proper waste management can contribute to the spread of diseases and compromise personal hygiene practices.

Accidents and injuries are also potential hazards in schools. Slippery floors, unsafe playground equipment, and inadequate safety measures can increase the risk of accidents, resulting in injuries among students. Fire safety is another crucial consideration, as the lack of proper fire prevention and emergency response plans can jeopardize the safety of individuals within the school premises.

Furthermore, the ergonomics of the learning environment should be addressed. Poorly designed furniture, improper workstation setups, and lack of ergonomic considerations can lead to musculoskeletal issues and discomfort among students and staff. Security is also a concern, with the potential for unauthorized access, bullying, or other safety threats that can affect the overall well-being of students.

This impact is considered to be indirect negative of long term duration and of high significance.

1.1.1.6 Loss of School Resources due to fire out break

When a fire happens while school is in operation, it can cause the school to lose important resources. These resources include things like textbooks, computers, science equipment, classroom supplies, library books, and even administrative documents. The fire can damage or destroy these items, making it difficult for students to continue their education and for teachers to carry out their lessons. It can also disrupt extracurricular activities like sports and arts programs. Replacing these resources can be expensive and take time, which can disrupt the normal operation of the school. It's important for schools to have fire safety measures in place to prevent these incidents and to have insurance to help cover the costs of recovery.
This impact is considered to be indirect negative of long term duration and of high significance.

1.1.1.7 Benefit to the Government

The operation of the school generates economic benefits for the government. The presence of a well-functioning educational institution attracts students from the local community and neighboring areas. This results in increased enrollment, which can lead to the generation of revenue through school fees and other related income sources. These financial resources can be utilized by the government to further improve the quality of education, invest in educational infrastructure, and enhance the overall educational system in the region.

Therefore, this impact is considered direct positive of long term duration and of high significance.

1.1.1.8 Employment Opportunities

During the operation phase of a girl's school project in the Londigo District Council, there can be significant employment opportunities. Once the school is completed and operational, it requires a diverse range of staff to facilitate its day-to-day functioning. These employment opportunities can benefit the local community by providing jobs and contributing to the local economy.

The operation of a girl's school involves various positions, including teaching staff, administrative personnel, support staff, security personnel, and maintenance workers. These roles offer employment opportunities for individuals with different skills and qualifications, including teachers, administrators, cleaners, and security personnel. By hiring local residents for these positions, the project can provide job opportunities and contribute to the livelihoods of individuals in the Londigo District Council.

Moreover, the school's operation can create indirect employment opportunities in related sectors. Local businesses may benefit from supplying goods and services to the school, such as food, stationery, uniforms, and maintenance materials. This can stimulate economic activity and foster the growth of small businesses within the community.

This impact of employment and training is considered direct positive of long term duration and of high significance.

1.1.1.9 Impacts associated with demographic change

During the operation phase of a girl's school construction project in the Londigo District Council, there are several impacts associated with demographic change. Firstly, the establishment of a new school attracts students from the surrounding areas, which can lead to an increase in the local population. Families may choose to move closer to the school to ensure easy access to education for their children. This influx of families can result in changes in the demographic composition of the region, such as increased population density and changes in age distribution.

Also, the presence of a girl's school can contribute to empowering young girls and women, leading to changes in their social and economic roles within the community. Education plays a crucial role in promoting gender equality and empowering women to participate actively in society. By providing access to education for girls, the school project can result in increased female participation in various sectors, including employment, leadership positions, and decision-making processes. This can lead to a more balanced and diverse demographic landscape, with improved gender representation and opportunities for women in the region.

Furthermore, the operation of the girl's school can have long-term impacts on the overall development and growth of the region. Access to quality education has the potential to enhance the skills and capabilities of individuals, leading to improved job prospects and economic opportunities. As a result, the region may experience positive demographic changes, such as a decrease in unemployment rates, an increase in income levels, and a more educated workforce. These changes can contribute to the overall development and prosperity of the community.

This impact is considered direct positive of long term duration and of high significance

1.1.4 Decommissioning Phase

In case of decommissioning the following impacts may happen;

6.4.4.1 Degradation of the urban landscape, health hazards and danger to the public as illegal activities are attracted as a result of abandoned infrastructures

During the demolition phase of a girl's school construction project in the Londigo District Council, there may be impacts associated with abandoned infrastructures. These abandoned infrastructures, if not properly managed and repurposed, can have negative consequences for the surrounding environment and community.

One of the main impacts is the visual blight caused by abandoned structures. These abandoned buildings can create an unsightly appearance in the area, affecting the aesthetic value of the surroundings.

Also, abandoned infrastructures can become safety hazards. Without proper maintenance and security measures, these structures may deteriorate over time, leading to structural instability and potential risks such as collapsing walls or roofs. These hazards pose a threat to public safety, especially if the abandoned infrastructures are accessible to unauthorized individuals, including children.

Furthermore, the presence of abandoned infrastructures can attract illegal activities and contribute to social issues. Such structures may become hotspots for vandalism, squatting, or illicit activities, which can further degrade the surrounding environment and pose risks to the community's well-being.

This impact is considered indirect negative of long term duration of high significance

6.4.4.2 Loss of revenue to the government

This phase can result in the temporary cessation of economic activities and revenue generation in the affected area.

Businesses operating in the demolished structures may experience disruptions or even closure during this phase, leading to a decline in their revenue. This, in turn, can result in a decrease in tax contributions to the government. Additionally, the demolition phase itself may involve the displacement of informal businesses or street vendors who rely on the affected area for their livelihoods. As a result, these individuals may experience income loss, which affects their ability to pay taxes and contribute to the government's revenue stream.

The impact is considered to be direct negative of long-term duration and of high significance.

1.1.4.3 Unemployment

During the demolition phase of a girl's school construction project in the Londigo District Council, there may be impacts associated with unemployment. The demolition process often leads to the displacement of workers who were employed in the buildings or structures being demolished. This displacement can result in temporary or even long-term unemployment for these individuals.

This is a direct minor negative impact with low magnitude, long-term duration and significant risk

1.1.4.4 Injuries and fatal accidents

During the demolition phase of a girl's school construction project in the Londigo District Council, there may be impacts associated with injuries and fatal accidents. Demolition work involves the dismantling, removal, and disposal of existing structures, which can be inherently hazardous if not managed

properly. The presence of heavy machinery, falling debris, and unstable structures can increase the risk of accidents and injuries for both workers and nearby individuals.

This is an **indirect moderately negative** i**mpac**t**, medium magnitude** with long term duration and significant risk of high significance

6.5 Cumulative Impact(s)

Cumulative residual environmental effects are defined as the sum of residual environmental and social effects from all past, current, and reasonably foreseeable projects and/or activities on the physical, biological, and socio-economic components of the environment. These include not only residua risks and impacts associated with this project but also arising from other projects implemented or planned to be implemented in the Project Area of Influence.

The Project will implement mitigation measures to limit incremental environmental effects that might occur however, as noted above, implementation of mitigation measures is expected to result in minor changes to the biophysical and socio-economic environments from the Project relative to baseline conditions.

Therefore, the Project implementation arrangement should consider collaboration with other projects in the area to reduce the effect of the residual impacts in ways that are possible and feasible. Focusing on the development of a site-specific mitigation measures that will result to further reduce the potential cumulative residual risks and impacts.

SEQUIP project is implemented under series of works and in phases therefore cumulative impacts will occur, these cumulative impacts include:

- Loss and creation of job opportunity
- Creating expectation in the community
- Generating tax revenue
- Increase of pressure on the provision of public services
- Changes in land value and increase in the collection of property taxes
- Changes in noise level,
- Changes in air quality

6.6 Ergonomics impacts

Ergonomics is the way you use your body to work and fitting the job or task to you to reduce your risk of injury. These musculoskeletal injuries develop slowly over time and occur in the soft tissues of your body like the nerves, tendons, muscles, ligaments and joints.

Generally, the greater the exposure to a single risk factor or combination of risk factors, the greater the probability of an ergonomic injury or illness, also called Work-Related Musculoskeletal Disorders (WMSD). The big three ergonomic risk factors are

- Force (how much you lift/push/pull),
- Repetition (how often you perform the task), and
- Posture (body position).

Other potential ergonomic risk factors include vibration, contact stress, sustained exertions, and cold temperatures Examples of these injuries are low back strain, carpal tunnel syndrome, and tendonitis. These injuries are called musculoskeletal disorders or MSDs.

This impact is likely to occur to all phases of the project cycle, mobilization, implementation and decommissioning phases

6.7 Activity Risk Assessment.

Risk Assessments are elaborated for all tasks performed at the work fronts, detailing the steps and frequency of the task, the known hazards and the appropriate precautionary measures, procedures/work releases, controls, environmental and industrial hygiene methods, collective and personal protective equipment to minimize or eliminate hazards.

The purpose of the Risk Assessment is to make it a routine to verify the safety items before the start of any activities, assisting with the detection and prevention of risks of accidents and with task planning. Table 6-7 shows the risk assessment criteria.

Table 6-7: Risk Assessment for school construction at Arusha Region

N	Impact &Aspect Description	Nature	Magnitude	Extension	Duration	Significance of Impact	Probability of Occurrence	Risk
	Mobilization/Construction phase							
1	Loss of biodiversity due to bush clearing	Direct	High	DIA	Long-term	Major	Definite	Significant Risk
2	Effect on human health due to change in ambient air quality caused by emissions from exhaust gases and dust from vehicles and earth works	Direct	Very low	IIA	Long-term	Moderate	Probable	Low Risk
4	Soil erosion due to bush clearance	Direct	Very low	RIIA	Short-term	Minor	Probable	Low Risk
5	Climate change (global warming) due to emissions from vehicle movement, bush clearance	Indirect	Very low	NIA	Long-term	Minor	Probable	Low Risk
6	Degradation of natural beauty, greenhouse emissions and outbreak of diseases due to mismanagement of waste generated (solid and liquid waste) from construction materials, bush clearance and sanitary facilities	Direct	High	DIA	Short-term	Major	Definite	Significant Risk
7	Employment Opportunities (activities will require man power)	Direct	High	NIA	Short-term	Major	Definite	Negligible Risk
8	Conflicts due to landownership as each region has to acquire land for school construction	Indirect	Very low	DIA	Short-term	Minor	Probable	Low Risk
9	Injuries and fatal accidents to workers due to heavy duties taking place	Direct	Medium	DIA	Long-term	Major	Probable	Significant Risk
10	Public health and hazard (due to emission of dust and performance of heavy duties	Direct	Medium	NIA	Long-term	Major	Probable	Significant Risk
11	Hearing impairment, stress, headaches, fatigue due to noise and vibration pollution from transportation of material and equipment	Direct	Low	DIA	Short-term	Minor	Probable	Low Risk
	Construction Phase							
1	Loss of biodiversity due to site clearing	Direct	Medium	IIA	Long-term	Major	Definite	Significant Risk
2	Effect on human health due to change in ambient air quality caused by emissions from exhaust gases and dust from vehicles and earth works	Direct	High	DIA	Short-term	Major	Probable	Low Risk
3	Hearing impairment, stress, headaches, fatigue due to noise and vibration from vehicle movement, equipment and material used during construction	Direct	Low	DIA	Short-term	Minor	Probable	Low Risk

N	Impact &Aspect Description	Nature	Magnitude	Extension	Duration	Significance of Impact	Probability of Occurrence	Risk
4	Injuries and fatal accidents to workers due to heavy duties	Direct	High	DIA	Long-term	Major	Definite	Significant Risk
5	Public health and hazard (due to emission of dust and performance of heavy duties)	Direct	Medium	IIA	Short-term	Moderate	Probable	Low Risk
6	Employment Opportunities (activities will require man power)	Direct	High	NIA	Long-term	Major	Definite	Negligible Risk
7	Degradation of natural beauty, greenhouse emissions and outbreak of diseases due to mismanagement of waste generated (solid and liquid waste) from construction materials, bush clearance and sanitary facilities	Direct	High	DIA	Short-term	Major	Definite	Significant Risk
8	Unemployment due to decommissioning of construction activities	Indirect	Medium	NIA	Short-term	Moderate	Definite	Low Risk
	Operation Phase							
1	Employment Opportunities due to recruiting of teachers and other staff for school operation	Direct	High	NIA	Long-term	Major	Definite	Negligible Risk
2	Degradation of natural beauty, greenhouse emissions and outbreak of diseases due to mismanagement of waste generated (solid and liquid waste) from sanitary facilities, classrooms, offices, Dormitories, dining area and other areas within the school compound	Direct	High	IIA	Long-term	Major	Definite	Significant Risk
3	Health and safety (due to fire outbreak and poor housekeeping within the school compounds)	Direct	Medium	DIA	Long-term	Moderate	Probable	Significant Risk
5	Benefit to the government through taxes from the employed staff (economically and man power)	Indirect	High	NIA	Long-term	Major	Very low	Negligible Risk
	Decommissioning Phase							
1	Degradation of the urban landscape and danger to the public as illegal activities are attracted due to abandoned infrastructure as a result of the project decommissioning	Indirect	Medium	DIA	Medium-term	Minor	Probable	Low Risk
2	Unemployment due to decommissioning of the project	Direct	High	NIA	Short-term	Minor	Definite	Negligible Risk
3	Degradation of natural beauty, injuries due to solid waste from dismantling of buildings	Direct	Low	DIA	Long-term	Minor	Very low	Low Risk

7 IDENTIFICATION OF ALTERNATIVES

7.1 Introduction

The EMA EIA regulations of 2005 requires that alternatives be identified during the scoping process. An important function of the Scoping Phase is to screen alternatives to derive a list of feasible alternatives that need to be assessed in further detail in the ESIA Phase. The environmental impact statement shall contain an assessment of impacts of the identified alternatives.

According to the EMA EIA regulations, analysis of alternatives includes project site, design and technologies and reasons for preferring the proposed site, design, and technologies. An alternative can be defined as a possible course of action, in place of another, that would meet the same purpose and need.

7.1.1 Project Site Alternative

The selection criteria for the location depends on the availability/ease access and ownership of the proposed land parcel for Arusha region. In that regards various economic considerations which include the feasibility of the project in terms of financial and technical perspectives have been considered to select the project location.

Furthermore, the location shall not require demolition of property (houses and other infrastructure) to pave way for the construction and accessibility of the project site. In that regards, alternative location shall not be further considered in the EIS. Alternatives analysis in this project considered the following:

f) No-Go alternative,
g) Design and technological considerations
h) Location
i) Energy and:
j) Water

7.1.1.1 Location No-Go alternative

The assessment of alternatives must always include the “no-go” option as a baseline against which all other alternatives must be measured. The option of not implementing the activity must always be assessed and to the same level of detail as the other feasible and reasonable alternatives.

The no-go will see the status quo activities persist without the construction on the proposed site. The “no-go” option is taken to be the existing rights on the property, and this includes all the duty of care and other legal responsibilities that apply to the owner of the property.

7.1.1.2 Design and technological consideration

The schools design will consider several aspects which were previously not part of the school design system. The current design which will be implemented will utilize the standardized updated design from the Ministry of Education which will be customized when implemented.

The designed prepared so far are prototypes to be utilized in specific site in this case the Secondary schools the utilization of prototype will involve the fit in exercise to include all experts in the respective district.

7.1.1.3 Location

The selection of project location was conducted prior to conducting ESIA this has been identified as a limitation in this study however the same was conducted utilizing a checklist developed the clients safeguard team in the same line for projects which were not developed the consulting has a chance of raising issues for alternation of the selected site.

The site selection was conducted while considering the following:

- Location of the site
- School character such as **Estimated number of students, estimated number of classrooms Estimated number of teachers needed, Will the school have**
- Environmental character such as water, vegetation, terrain fauna
- Social character Land Tenure, Land Use, who are the neighbors of this plot of land, Vulnerable Groups
- Type of community Urban
- Geographical location
- Demand of water per total estimated number of students: (l/s/day)
- Materials Use and Need
- The site is located within a protected area, designated by government (national park, natural reserve, world heritage site etc.).

7.1.1.4 Alternative Water Source

As a water source for the proposed school construction, the original plan was to obtain water from the Arusha Water Supply and Sanitation Authority. However, considering an alternative, the availability of water for the school will now be determined by rainwater harvesting, which has been identified as a viable water source for the construction project. The responsible authority will ensure the construction of rainwater harvesting infrastructure within the school compound.

7.1.1.5 Alternative Energy

As an energy source for the proposed school construction, the initial plan was to rely on TANESCO (Tanzania Electric Supply Company) and a standby generator. However, after considering alternatives, it has been determined that the school will utilize solar energy as its primary energy source during operation. The adoption of solar energy will result in reduced environmental impact, conservation of resources, and cost savings. The responsible authority will oversee the installation of solar energy infrastructure to ensure its successful implementation for the school's energy needs.

8 IMPACTS MANAGEMENT OR ENVIRONMENTAL MITIGATION MEASURES

8.1 Introduction

This chapter provides a summary of mitigation measures of those impacts which are considered of moderate to high significance, by matching the predicted impact, possible mitigation measure, the target levels, responsible entity and approximate cost. It also presents a detailed plan to monitor the implementation and success of the mitigation measures.

These mitigation measures will be incorporated into an Environmental Management Plan (EMP) to facilitate implementation during the mobilization, construction, operational and decommissioning phases.

The EMP forms part of the final ESIA report as its forms part of the authorization and thus its implementation will become binding on the project applicant and any contractors, should this project be authorized.

8.2 Pre-Construction phase

8.2.1 *Atmospheric air pollution* due to emissions of exhaust and fugitive gases

- Combustion of solid waste on the territories of site and camps is prohibited;
- A speed limit for trucks should be observed
- Bush clearance through burning should be avoided.

8.2.2 Loss of Biodiversity both Fauna and Flora

- Remove, without destroying, large Plants and ground cover where possible
- Replant recovered Plants and other flora from local ecosystem after construction
- The project proponent shall consult the experts for advice and for potential flora and stocks for re generation of disturbed vegetation in plant areas

8.2.3 Climate change due to vehicle movement, bush clearance

- **Transition to Low-Emission Vehicles**: Promote the adoption of low-emission vehicles, such as electric vehicles (EVs) or hybrid vehicles, which have lower or zero tailpipe emissions. Encourage incentives for purchasing EVs and develop charging infrastructure.
- **Improve Fuel Efficiency**: Encourage regular vehicle maintenance, proper tire inflation, and efficient driving practices to improve fuel efficiency and reduce emissions. Promote the use of cleaner fuels, such as biodiesel or renewable natural gas, where available.
- **Public Transportation and Carpooling**: Encourage the use of public transportation systems and carpooling to reduce the number of vehicles on the road. Develop and improve public transportation infrastructure to make it more accessible and convenient.
- **Restoration and Conservation:** Support initiatives for the restoration and conservation of natural habitats and ecosystems, as intact ecosystems contribute to carbon sequestration and climate regulation.

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8.3 Construction phase

8.3.1 *Atmospheric Air Pollution* due to emissions of exhaust and fugitive gases

- Combustion of solid waste on the territories of site and camps is prohibited;
- A speed limit for trucks should be observed
- Haul roads should be routinely maintained in good condition
- The project proponent shall plant indigenous trees and grasses over a period of time on area. This will prevent fine dust entering ambient area.
- The project proponent shall observe the standards for air quality throughout the operations and comply accordingly.
- Person Protective Equipment should be well observed

8.3.2 Hearing impairment due to increased noise levels from construction vehicles and machinery

- Machinery and equipment undergo regular inspection/maintenance; fitted with silencers and mufflers, use of noise insulation.
- Personal Protective Equipment: provide and enforce use by all personnel working in noisy zones;
- The contractor should adhere to relevant noise regulations and guidelines set by the authorities.
- Limiting the duration and intensity of noisy activities during sensitive hours.
- The contractor should also consider scheduling noisy activities during periods when they would cause the least disruption to nearby residents and businesses.

7.2.4 Public Health

i. Implementing dust control measures such as water spraying or covering loose materials to minimize dust emissions.
ii. Using low-emission equipment and vehicles can help reduce air pollution
iii. Scheduling and managing construction activities to minimize disruptions and noise levels during sensitive hours, particularly in close proximity to residential areas
iv. Furthermore, the contractor should prioritize regular monitoring and assessment of air quality and noise levels to ensure compliance with relevant standards and guidelines.

8.3.3 Injuries and fatal accidents due to occupational health and safety issues

i. The contractor should implement proper safety protocols, including providing personal protective equipment (PPE) to workers and ensuring its proper use.
ii. Regular inspections of the construction site should be conducted to identify and address any safety concerns promptly.
iii. Effective communication and engagement with workers and contractors are crucial to fostering a culture of safety.
iv. Furthermore, the contractor should have clear emergency response procedures in place to handle any accidents or incidents that may occur during the construction phase.

8.3.4 Waste generation

i. Prepare site waste management plan prior to commencement of construction works

ii. Designate appropriate waste storage areas,
iii. Develop collection and removal schedule, and
iv. Institute system for supervision and monitoring.
v. Unusable construction waste will be disposed of at an approved dumpsite.

8.3.5 Road accidents from moving trucks

i. Designation of proper access routes to the construction site, ensuring clear signage and road markings, and establishing appropriate speed limits.
ii. Construction vehicles should be operated by trained and licensed drivers who adhere to safe driving practices.
iii. The contractor should also consider implementing safety protocols such as regular vehicle maintenance, inspections, and monitoring to ensure that the construction vehicles are in good working condition and meet safety standards.
iv. Adequate lighting and visibility measures should be in place, especially during nighttime construction activities, to enhance road safety.

8.3.6 Employment Opportunities

- Employ locals for most of unspecialized labour
- Procure local for most consumables available within the district
- Manage local expectations by not overpromising
- Registering of discontent/complaints from the local community, if any, and proper response.

8.4 Operation Phase

8.4.1 Disruption of air quality and effect on human health due to emissions of exhaust and fugitive gases

i. The school can adopt renewable energy sources, such as solar panels and gas to meet the energy needs of the school such as lighting and cooking.
ii. The school should prioritize energy-efficient designs and equipment within the school. This can involve the use of energy-efficient lighting systems, insulation materials, and energy-saving appliances.
iii. The school can promote sustainable transportation options such as organizing carpooling initiatives for their staffs.
iv. Develop a comprehensive cleaning program that includes regular dusting, vacuuming, and cleaning of surfaces to minimize dust, allergens, and contaminants. Use environmentally friendly and non-toxic cleaning products.
v. Regular monitoring of air quality and implementation of appropriate air pollution control measures should also be undertaken.

8.4.2 Noise emissions

i. Installation of soundproofing materials in classrooms and common areas to reduce internal noise transmission.
ii. Strategic planning of school facilities, such as locating noisy areas away from residential areas or utilizing buffer zones, can help minimize the impact on nearby communities.

iii. Proper maintenance of equipment and facilities within the school premises can also contribute to noise reduction.
iv. Regular monitoring of noise levels and compliance with relevant noise regulations and standards should be prioritized. This can involve periodic assessments and inspections to ensure that noise pollution levels remain within acceptable limits.

8.4.3 Waste Generation

i. Establishment of waste segregation systems, encouraging composting initiatives for the kitchen waste, and providing sufficient waste bins and collection points throughout the school premises.
ii. The school should establish dedicated storage areas for hazardous waste such as laboratory chemicals, faulty electrical appliances, ensuring they are secure, properly labeled, and equipped with appropriate safety measures.
iii. The school should also establish partnerships with authorized entities to ensure the waste is handled and disposed of in compliance with environmental regulations.
iv. Designate bins specifically for the disposal of sanitary pads. These bins should be placed in female restrooms and other private areas, and they should have lids to maintain hygiene and provide privacy.
v. Construction of an incinerator for the management of the sanitary pads.

8.4.4 Wastewater Generation

i. Proper separation and segregation of different types of liquid waste should be implemented to ensure appropriate treatment and disposal. This can involve separate systems for black water (from toilets), greywater (from sinks and showers), and other liquid waste streams such as water from laboratories.
ii. Construction of water channels for the control of storm water within the school premises
iii. Regular analysis of waste water from laboratories and analysis of water from the wetland should also be undertaken.

8.4.5 General health and safety

i. Establishment of a comprehensive health and safety policy.
ii. Conducting regular inspections to identify and mitigate any potential hazards, such as faulty electrical systems, structural weaknesses, or unsafe equipment within the school premises.
iii. Adequate emergency preparedness plans should be in place, including fire safety measures, first aid provisions, and clear evacuation procedures.
iv. The school should prioritize maintaining a clean and hygienic environment to prevent the spread of diseases and ensure the availability of adequate sanitation facilities.
v. Promoting health and wellness among students should also be a focus, with initiatives like health education programs, access to clean drinking water, and appropriate waste management practices.
vi. Implement security measures such as fencing of the school premises. Establish anti-bullying policies and procedures to address and prevent bullying incidents.

8.4.6 Employment Opportunities

i. **Support Staff Expansion**: Increase the number of support staff positions within the school, such as administrative staff, maintenance personnel, custodians, cafeteria workers, and IT technicians. This expansion can create more job opportunities and improve the overall functioning of the school.

ii. **Professional Development Programs**: Offer professional development programs and training opportunities for existing staff to enhance their skills and qualifications. This can include workshops, certifications, and specialized training in areas like technology integration, special education, counseling, and classroom management. By investing in professional growth, employees can gain additional expertise and increase their employability within the school.

iii. **Expanded Extracurricular Activities:** Develop a diverse range of extracurricular activities and programs within the school, such as sports teams, arts clubs, debate societies, and music groups. These activities often require additional staff, including coaches, trainers, instructors, and mentors, thereby creating more employment opportunities.

iv. **Community Engagement Initiatives**: Establish partnerships with community organizations, local businesses, and nonprofits to create collaborative programs and projects that involve students and require additional staff. These initiatives can include community service programs, internships, apprenticeships, and career development activities, thereby expanding employment opportunities.

v. **School-Based Enterprises**: Explore the establishment of school-based enterprises, such as school stores, cafeterias, or small-scale production units, where students can gain hands-on experience and create employment opportunities for support staff. These enterprises can be managed in collaboration with local businesses or as social enterprises to provide valuable learning experiences while generating employment

8.5 Decommissioning

8.5.1 Unemployment

- Preparing the workers to be employed anywhere else in the different sectors through provision of extensive training.
- Preparing the workers for forced retirement by providing skills for self-employment, wise investment.
- Ensuring that all employees are members of the National Social Security Fund and the employees should ensure that the Proponent contributions are made.

8.5.2 Abandoned infrastructure

i. PO-RALG and other project stakeholders should develop a comprehensive demolition plan that includes proper disposal or recycling of materials, as well as strategies for repurposing or redeveloping the vacant spaces that will be created.

ii. Creating initiatives to transform the abandoned structures into community assets, such as recreational areas, community centers, or affordable housing projects.

8.5.3 Injuries and fatal accidents

i. Effective communication and coordination among project stakeholders, including contractors, workers, and relevant authorities, are vital for maintaining a safe working environment.

ii. It is crucial for the contractor to prioritize safety measures and adhere to strict guidelines and regulations by implementing comprehensive safety protocols, providing appropriate personal protective equipment (PPE), conducting thorough risk assessments, and ensuring proper training for workers to significantly reduce the likelihood of accidents and injuries during the demolition activities.

9 ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN

9.1 Introduction

The Environmental and Social Impact Assessment for the proposed project operation in has identified a number of impacts that are likely to arise during the site preparation and operation stage of the proposed project. The EIA has examined bio-physical, socio-economic and cultural effects of the proposed activity from mobilization, construction and operations/maintenance.

On evaluation of environmental impact, it is observed that the real benefits of proposed project can result only if the risks of the identified adverse impacts are minimized. This can be accomplished through implementation of adequate preventive and mitigation measures outlined in this report.

Where adverse impacts have been identified, the Environmental and Social Impact Assessment has examined the intensity, extent, duration and probability to which these impacts would be mitigated through the adoption of industry standard practice and guidelines and following local legislative requirements.

The Environmental and Social Management Plan (ESMP) presented in this report describes both generic good practice measures and site specific measures, the implementation of which is aimed at mitigating potential impacts associated with the proposed project activities.

The EMP provides the means of assessing the accuracy of the predicted project impacts and the monitoring of the effectiveness of the proposed mitigation measures contained in the EIA study report.

The ESMP should therefore indicate how the environmental concerns highlighted in the EIA would be managed. Proposed Project implementation team will monitor the implementation of key contractor parties and assess compliance with the provisions of the ESMP through its contractual mechanisms and management.

9.2 Objectives of the ESMP

The objectives of the ESMP are to:

- Adhere to and address necessary legal frameworks and other requirements;
- Promote environmental management and communicate the aims and goals of the project ESMP to all stakeholders;
- Incorporate environmental management into project design and operating procedures;
- Ensure all workers, contractors, sub-contractors and others involved in the project meet all legal and institutional requirements with regard to environmental management;
- Address issues and concerns raised in the project stakeholders' consultation process;
- Serve as an action plan for environmental management;
- Provide a framework for implementing commitments of the project (i.e. mitigation measures identified in the EIA);
- Prepare and maintain records of project environmental performance (i.e. monitoring, audits and compliance tracking); and
- Prepare an environmental monitoring plan whose aim is to ensure that the negative environmental impacts identified of this EIA are effectively mitigated by way of design, construction, operational and decommissioning stages of the project

The EMPs for port rehabilitation project consists of the following:

- Management Policies;
- Management Plans; and
- Decommissioning Plan

9.3 Management Policies

Project proponent shall develop and document management policies that guide operations of the Project. The policies are vital in that:

- They enable management to develop and maintain sound relations with stakeholders;
- They enable management to put in place measures and structures that care for the safety, health and welfare of all Proposed Project users;
- They ensure that management plan for, and put in place, monitoring programmes that ensure Project activities confirm to stipulated environmental standards; and
- They ensure that management assumes its corporate responsibility for its activities regarding conservation of the environment as well as for the wellbeing of the neighboring community.

The following policies are going to be in place:

- Environmental Management Policy;
- Occupational Health and Safety Policy; and
- Community Relations Policy.

9.4 Environmental Management Policy

The environmental policy developed should be one that enables the Project management and staffs to carry out their activities with the highest regard to the natural environment and sustainable utilization of environmental resources therein. The policy should therefore cover the following, among other issues:

- Ensure that all project activities operate within legal requirements of all relevant national legislation covered in Chapter Four;
- That there are continuous environmental improvement and performance through monitoring of Project activities;
- Ensure that utilization of natural resources is optimal with measures in place to ensure resource availability for future generation;
- Awareness creation to the surrounding community regarding sustainable utilization of natural resources, protection of sensitive ecosystems and bio-diversity maintenance for communal livelihood; and
- Balancing between natural resource use, environmental conservation and economic development.

9.5 Occupational Health and Safety Policy

The Occupational Safety and Health Policy developed should enable establishment of appropriate measures that ensure that the health, safety and welfare of all users is cared for as well as the health requirements of the local community in which the project is located. The policy should highlight on the following, among others:

- Medical examination of workers;
- Sanitation in the project area;
- Proper liquid and solid waste management and disposal;
- Emergency preparedness;
- Fire safety;
- Necessity and availability of personal protective equipment
- Safety measures for cold storage equipment;
- Appropriate safety and rescue equipment are availed to Project users;
- Risk minimization of accidental damage to the community and environment; and
- Training in safety.

Preventive and protective measures should be introduced according to the following order of priority:

- Eliminating the hazard by removing the activity from the work process. Examples include substitution with less hazardous chemicals, using different manufacturing processes, etc.;
- Controlling the hazard at its source through use of engineering controls. Examples include local exhaust ventilation, isolation rooms, machine guarding, acoustic insulating, etc.;
- Minimizing the hazard through design of safe work-systems and administrative or institutional control measures. Examples include job rotation, training safe work procedures, lock-out and tag-out, workplace monitoring, limiting exposure or work duration, etc.
- Providing appropriate personal protective equipment (PPE) in conjunction with training, use, and maintenance of the PPE.

9.6 Community Relations Policy

The Local Community Policy are developed by management to ensure that the management of the project develops and maintains sound relations with all stakeholders on mutual respect and active partnership. The policy should highlight on ways the management should:

- Work with the local community and relevant government departments and agencies to achieve sustainability of the project;
- Come up with ways of enhancing information flow from management to the community and stakeholders, and vice versa;
- Community capacity building; and
- Active engagement of the local community in all project activities that impact on the local community.

9.7 Organizational Structure and Responsibilities

The overall organizational structure for environmental management on the project identifies and defines the responsibilities and authority of the various organizations and individuals involved in the project. The project structure and associated personnel shall be sufficient to ensure the required standard of environmental performance.

For the purposes of this document there shall be no distinction between developer and contracted companies and they shall be referred to collectively as the project management team

With regard to environmental management during the mobilization, construction, operation and decommissioning phase of the project, the principal responsibilities of each party within this structure will be detailed in the ESIA

For certain aspects of the programme, assistance will be needed from the Local Government Authorities and the NEMC (mainly in the form of guidance and advice and in project monitoring).

9.8 Coordination and Review of the EMP

The ESMP forms the basis for environmental management on site. Based on the results of the performance assessment and review process, the ESMP may be modified as the project progresses. Modifications will only be permitted by the Project Environmental Manager Changes to the ESMP will only be allowed:

a) If alternative measures with equal or improved outcomes have been identified subsequent to the compilation of the report.
b) Prior to non-compliance, therefore requiring pro-active evaluation.

The Environmental Manager shall ensure that any modifications are communicated, explained to and

discussed with all affected parties (i.e. the authorities, subcontractors, Managers and any directly affected party who requests this information). All changes to the ESMP shall be submitted to NEMC for approval.

9.9 Reporting

In addition to all reporting requirements identified in the ESMP, records shall be kept by the Environmental Management office of all monitoring results, monitoring reports, incident records, audit reports and management reviews. Minutes of all environmental project meetings shall be submitted by the Contractors.

9.10 Stakeholders

The presence and involvement of several other stakeholders develop as the project begins and during implementation of the ESMP. Mindful that most project activities will take place at or around the project site, it will be the responsibility of Proponent to coordinate involvement of relevant government authorities and service providers to maintain the project schedules.

The roles and responsibilities of some of these key stakeholders are included in the ESMP, However the detailed and described responsibilities will be illustrated in the Environmental Impact Assessment Report

Table 9-1: Summary of Environmental and Socioeconomic Management Plan

Phase	Potential Impacts	Management/Mitigation Measures	Target Level/Standard	Responsibility	Estimated Costs [TZS]
Pre-Construction	*Atmospheric air pollution* due to emissions of exhaust and fugitive gases	• Combustion of solid waste on the territories of site and camps is prohibited; • A speed limit for trucks should be observed • Bush clearance through burning should be avoided	CO-4.5g/kWh NOx-1.1 g/kWh HC-8.0 g/kWh PM-0.612 g/kWh Smoke 0.15g/m	Longido District Council	1,000,000
	Loss of biodiversity (both Flora and Fauna)	• Remove, without destroying, large Plants and ground cover where possible • Replant recovered Plants and other flora from local ecosystem after construction • The project proponent shall consult the experts for advice and for potential flora and stocks for re generation of disturbed vegetation in plant areas	As minimum disturbance as possible	Longido District Council	
	Climate change due to vehicle movement, bush clearance	• **Transition to Low-Emission Vehicles**: Promote the adoption of low-emission vehicles, such as electric vehicles (EVs) or hybrid vehicles, which have lower or zero tailpipe emissions. Encourage incentives for purchasing EVs and develop charging infrastructure. • **Improve Fuel Efficiency**: Encourage regular vehicle maintenance, proper tire inflation, and efficient driving practices to improve fuel efficiency and reduce emissions. Promote the use of cleaner fuels, such as biodiesel or renewable natural gas, where available. • **Restoration and Conservation:** Support initiatives for the restoration and conservation of natural habitats and ecosystems, as intact ecosystems	As minimum emission of greenhouse gases into the atmosphere	Longido District Council	Parts of Project cost

Phase	Potential Impacts	Management/Mitigation Measures	Target Level/Standard	Responsibility	Estimated Costs [TZS]
		contribute to carbon sequestration and climate regulation			
Construction Phase	*Atmospheric Air Pollution* due to emissions of exhaust and fugitive gases	• Combustion of solid waste on the territories of site and camps is prohibited; • A speed limit for trucks should be observed • Haul roads should be routinely maintained in good condition • The project proponent shall plant indigenous trees and grasses over a period of time on area. This will prevent fine dust entering ambient area. • The project proponent shall observe the standards for air quality throughout the operations and comply accordingly. • Person Protective Equipment should be well observed •	CO-4.5g/kWh NOx-1.1 g/kWh HC-8.0 g/kWh PM-0.612 g/kWh Smoke 0.15g/m	Longido District Council	20,000,000
	Hearing impairment due to increased noise levels from construction vehicles and machinery	• Machinery and equipment undergo regular inspection/maintenance; fitted with silencers and mufflers, use of noise insulation. • Personal Protective Equipment: provide and enforce use by all personnel working in noisy zones; • The contractor should adhere to relevant noise regulations and guidelines set by the authorities. • Limiting the duration and intensity of noisy activities during sensitive hours.	As minimum emission as possible	Longido District Council	1,000,000

Phase	Potential Impacts	Management/Mitigation Measures	Target Level/Standard	Responsibility	Estimated Costs [TZS]
		• The contractor should also consider scheduling noisy activities during periods when they would cause the least disruption to nearby residents and businesses. •			
	Injuries and fatal accidents due to occupational health and safety issues	• Noise will be limited to restricted times agreed to in the permit • Machinery and equipment undergo regular inspection/maintenance; fitted with silencers and mufflers, use of noise insulation. • Personal Protective Equipment: provide and enforce use by all personnel working in noisy zones; • Provide education to crew about noise-sensitive aquatic life; • Limit noise generating activities	As minimum emission as possible	Longido District Council	1,000,000 (for PPEs)
	Waste generation	• Prepare site waste management plan prior to commencement of construction works • Designate appropriate waste storage areas, • Develop collection and removal schedule, • Unusable construction waste will be disposed of at an approved dumpsite	Environmental Management (Solid Waste Management) Regulations, 2009 as amended in 2016	Longido District Council	Part of Project cost
	Employment Opportunity	• Employ locals for most of unspecialized labour • Procure local for most consumables available within the District • Manage local expectations by not overpromising • Registering of discontent/complaints from the local community, if any, and proper response	Local procurement and Local employment	Longido District Council	Part of project cost

Phase	Potential Impacts	Management/Mitigation Measures	Target Level/Standard	Responsibility	Estimated Costs [TZS]
Operation Phase	Disruption of air quality and effect on human health due to emissions of exhaust and fugitive gases	• The school can adopt renewable energy sources, such as solar panels and gas to meet the energy needs of the school such as lighting and cooking. • The school should prioritize energy-efficient designs and equipment within the school. This can involve the use of energy-efficient lighting systems, insulation materials, and energy-saving appliances. • The school can promote sustainable transportation options such as organizing carpooling initiatives for their staffs. • Develop a comprehensive cleaning program that includes regular dusting, vacuuming, and cleaning of surfaces to minimize dust, allergens, and contaminants. Use environmentally friendly and non-toxic cleaning products. • Regular monitoring of air quality and implementation of appropriate air pollution control measures should also be undertaken.	TZS 845:2005 Air Quality – Specification; TZS 983:2007 Air Quality - Vehicular Exhaust Emissions Limits	Longido District Council	5,000,000
	Noise emissions	• Installation of soundproofing materials in classrooms and common areas to reduce internal noise transmission. • Strategic planning of school facilities, such as locating noisy areas away from residential areas or utilizing buffer zones, can help minimize the impact on nearby communities. • Proper maintenance of equipment and facilities within the school premises can also contribute to noise reduction. • Regular monitoring of noise levels and compliance with relevant noise regulations and standards should be prioritized. This can involve periodic assessments and	**45dBA** during a day and **35dBA** during night	Longido District Council	5,000,000

Phase	Potential Impacts	Management/Mitigation Measures	Target Level/Standard	Responsibility	Estimated Costs [TZS]
		inspections to ensure that noise pollution levels remain within acceptable limits			
	Waste Generation	• Establishment of waste segregation systems, encouraging composting initiatives for the kitchen waste, and providing sufficient waste bins and collection points throughout the school premises. • The school should establish dedicated storage areas for hazardous waste such as laboratory chemicals, faulty electrical appliances, ensuring they are secure, properly labeled, and equipped with appropriate safety measures. • The school should also establish partnerships with authorized entities to ensure the waste is handled and disposed of in compliance with environmental regulations. • Designate bins specifically for the disposal of sanitary pads. These bins should be placed in female restrooms and other private areas, and they should have lids to maintain hygiene and provide privacy. • Construction of an incinerator for the management of the sanitary pads.	Environmental Management (Hazardous Waste Control and Management) Regulations, 2021.	School Administration	15,000,000
	Employment Opportunity	• Employ locals for most of unspecialized labour • Procure local for most consumables available within the District • Manage local expectations by not overpromising • Registering of discontent/complaints from the local community, if any,	Local procurement and Local employment	Longido District Council	20,000,000

Phase	Potential Impacts	Management/Mitigation Measures	Target Level/Standard	Responsibility	Estimated Costs [TZS]
	General Health and Safety hazards	• Establishment of a comprehensive health and safety policy. • Conducting regular inspections to identify and mitigate any potential hazards, such as faulty electrical systems, structural weaknesses, or unsafe equipment within the school premises. • Adequate emergency preparedness plans should be in place, including fire safety measures, first aid provisions, and clear evacuation procedures. • The school should prioritize maintaining a clean and hygienic environment to prevent the spread of diseases and ensure the availability of adequate sanitation facilities. • Promoting health and wellness among students should also be a focus, with initiatives like health education programs, access to clean drinking water, and appropriate waste management practices. • Implement security measures such as fencing of the school premises. Establish anti-bullying policies and procedures to address and prevent bullying incidents. •	Zero incidents and accidents	Longido District Council	1,000,000
Decommissioning	Injuries and fatal accident	• Effective communication and coordination among project stakeholders, including contractors, workers, and relevant authorities, are vital for maintaining a safe working environment.	Zero accident	Longido District Council	1,000,000

Phase	Potential Impacts	Management/Mitigation Measures	Target Level/Standard	Responsibility	Estimated Costs [TZS]
		• It is crucial for the contractor to prioritize safety measures and adhere to strict guidelines and regulations by implementing comprehensive safety protocols, providing appropriate personal protective equipment (PPE), conducting thorough risk assessments, and ensuring proper training for workers to significantly reduce the likelihood of accidents and injuries during the demolition activities. •			
	Unemployment	• Preparing the workers to be employed anywhere else in the different sectors through provision of extensive training. • Preparing the workers for forced retirement by providing skills for self-employment, wise investment. • Ensuring that all employees are members of the National Social Security Fund and the employees should ensure that the Proponent contributions are made.	All employees	Longido District Council	N/A

10 ENVIRONMENTAL AND SOCIAL MONITORING PLAN

Environmental Management Plan (EMP) intends to set forth “environmental and social conditions” that are to be abided by the proponent. It aims at ensuring effective implementation of the proposed mitigation measures
The Project requires regular monitoring and auditing of key environmental, health and safety indicators to:

- assess the overall performance of the project;
- to comply with local environmental, health and safety legislation; and
- Benchmark its project with other similar projects for improved management.

Key environmental parameters of concern with the operation of such a project are:

- water consumption,
- energy consumption; and
- solid and liquid waste handling;

Additionally, the following social parameters need to be keenly monitored to ensure benefits to the community and its sustainability:

- Health status of workers;
- Employment opportunities to local community; and
- Corporate Social responsibility programs.

With these factors in mind, there are a need to put in place elaborate and sound environmental management system and mechanisms of monitoring on a continuous basis the environmental performance of the Project. Undertaking monitoring and auditing of key environmental parameters and putting in place of all approved recommendation of the environmental management plan and conditions of the EIA license achieved, this Monitoring undertaken are both active and reactive.

With increased urban development come the challenges of waste handling and disposal. The monitoring programme developed must consider possible impacts of solid waste disposal. All wastes emanating from the Project and its disposal must be monitored to ensure no environmental nuisance or degradation arises.

10.1 Parameters are Monitored

Monitoring involves measuring, observing, recording and evaluation of physical, socioeconomic and ecological variables within the project area and the neighborhood. This may include the following:

Table 10-1: Environmental and Social Monitoring Plan

Phase	Potential Impacts	Parameters to be Monitored	Target Level/Standard	Monitoring Area	Monitoring Frequency	Responsibility	Estimated Cost
Pre-Construction Phase	*Atmospheric air pollution* due to emissions of exhaust and fugitive gases	SO2, NOx, CO2, CO, Particulate matter (TSP, PM10, PM2.5	CO-4.5g/kWh NOx-1.1 g/kWh HC-8.0 g/kWh PM-0.612 g/kWh Smoke 0.15g/m	Established Monitoring Area	Monthly	Longido District Council	5,000,000
	Loss of biodiversity (both Flora and Fauna)	Biodiversity	As minimum disturbance as possible	Project area	Before commissioning and once every three months	Longido District Council	N/A
	Climate change due to vehicle movement, bush clearance	Greenhouse gases (CO2,CH4,NO2,O3 and HCFCs)	As minimum emission of greenhouse gases into the atmosphere	Established Monitoring area	Monthly	Longido District Council	2,000,000
Construction Phase	*Atmospheric Air Pollution* due to emissions of exhaust and fugitive gases	SO2, NOx, CO2, CO, Particulate matter (TSP, PM10, PM2.5	CO-4.5g/kWh NOx-1.1 g/kWh HC-8.0 g/kWh PM-0.612 g/kWh Smoke 0.15g/m	Established Monitoring Point	Before commissioning and once every three months	Longido District Council	5,000,000
	Hearing impairment due to increased noise levels from construction vehicles and machinery	Noise and vibration level	As minimum emission as possible	Established Monitoring Point	Once Every three months	Longido District Council	10,000,000

Phase	Potential Impacts	Parameters to be Monitored	Target Level/Standard	Monitoring Area	Monitoring Frequency	Responsibility	Estimated Cost
	Injuries and fatal accidents due to occupational health and safety issues	Incident and accident register	As minimum emission as possible	Project site	Once Every six months	Longido District Council	1,000,000
	Waste generation	Waste disposal Inspection of amount of waste not contained in specified collection containers/skips	Zero waste	Transfer stations and disposal areas	Monthly	Longido District Council	700,000
Operation Phase	Disruption of air quality and effect on human health due to emissions of exhaust and fugitive gases	SO2, NOx, CO2, CO, Particulate matter (TSP, PM10, PM2.5	TZS 845:2005 Air Quality – Specification; TZS 983:2007 Air Quality - Vehicular Exhaust Emissions Limits	Established Monitoring Area	Once every six months	Longido District Council	5,000,000
	Noise emissions	dBA	Noise and Vibration Levels Regulations (United Republic of Tanzania, 2011) 45 dBA (Leq) Day and 35 dBA (Leq) Night and baseline of 50dBA (Leq)	Established Monitoring Area	Once every six months	Longido District Council and School Administration	4,000,000
	Waste Generation	Waste disposal Inspection of amount of waste not contained in specified	Zero Waste	Transfer stations and disposal areas	Monthly	School administration	1,000,000

Phase	Potential Impacts	Parameters to be Monitored	Target Level/Standard	Monitoring Area	Monitoring Frequency	Responsibility	Estimated Cost
		collection containers/skips					
	Employment Opportunity	Employees	Local procurement and Local employment	Number of Employees	Quarterly	Longido District Council	N/A
	General Health and Safety hazards	Accident and incident register	Zero incidents and accidents	School compound	Once every six months	Longido District Council	2,000,000
Decommissioning phase	Injuries and fatal accident	Accident and incident register	Zero accident	Project area	Monthly	Longido District Council	2,000,000
	Unemployment	NSSF remittance	All employees	School Compound	Once every year	Longido District Council	N/A

10.2 Environmental Health and Safety Auditing

Annual Environmental Health and Safety Audits should be carried out as provided for in the Environmental (Impact Assessment and Audit) Regulations of 2005. The Audits serve to confirm the efficacy and adequacy of the Environmental Management Plan. The audits should include but not limited to the following:

- Air, soil, and water pollution
- Waste generation, management and disposal;
- Resources utilization
- Occupational Health and Safety
- Traffic Safety;
- Monitoring and

Views and comments from neighbors and progress in implementation of Environmental Health and Safety Management Plan.

10.3 Awareness and Education

The project proponent with collaboration with contractor or local workers shall encourage environmental awareness among his supervisors before and during implementation of the project. The education will include:

- Provide copies of the EMP and discuss its contents with all construction foremen and workers
- Discuss techniques and answer questions about erosion and pollution control at regular site safety meetings
- Demonstrate proper housekeeping methods
- Inform the workers of actions to take in the event of spill of hazardous materials (oil, fuel, bitumen, concrete, etc.)
- Post sign at key locations reminding workers how to properly store construction materials, handle and dispose of toxic wastes, wash water, and similar instructions
- Remind workers of fines, penalties that may be levied against the project by the local permitting agencies control environmental destruction is not adhered to

11 COST BENEFIT ANALYSIS

11.1 Introduction

Chapter 7 and 8 of this EIS report have documented the cost/impacts of the project to Arusha region and the degree to which they can be substantially mitigated. Cost-benefit analysis is normally done in the framework of feasibility study of an activity.

The aim of cost-benefit analysis is to inform the project developer to decide on: whether it makes economic sense to continue with the project; whether the chosen option is a cost-effective alternative; and the estimate of the size of a project. For this project, the costs will include: capital expenditures; operating and maintenance costs; staff costs; materials; research and development; and environment, health and other social costs.

Benefits may include: build on the achievements of previous projects in the education sector which have supported quality improvements. It will support the expansion of the secondary school network in order to substantially reduce travel distances by bringing secondary schools closer to children's homes through an expansion of the secondary school network. Construction will be guided by a minimum infrastructure package based on the School Construction and Maintenance Strategy and minimum construction standards aligned with the Projects Environmental and Social Framework.

11.2 Environmental Cost And Benefit Analysis

Environmental cost benefit analysis is assessed in terms of the negative and positive impacts. Furthermore, the analysis is considering whether the impacts are mitigatable and the costs of mitigating the impacts are reasonable. As it has been mentioned in Chapters 7 and 8, the potential benefits of the project, in terms of economic advancement and social benefit are substantial.

The environmental impacts are reasonably mitigatable. So to mitigate negative impacts, when compared to the required data are relatively small.

11.3 Effect on the Local Community

The benefits from project development can be judged in terms of employment, social welfare, education development, and the local economy (wages, goods and services). Thus, there will be a substantial spread of the benefit within the community through the provision of food, accommodation and other regular services to the employees and students.

11.4 Infrastructure Development

The upgrading, development and maintenance of local infrastructure are benefits that will extend far beyond the project's scope and lifetime. Also, during operation of the project there will camps that will be constructed with engineering standards at the site especially at Oltepes Village nearby or within project camps

11.5 Advantages for the broader Community And Country

The earnings of the project will in the final analysis it will contribute the following:

- Creating a gender sensitive, learner-friendly school environment through investing in supportive structures in the school and community including trained school guidance counselors, stronger links with the community through Parent Teacher Associations and life skills training.
- Supporting female students to avoid getting pregnant and dropping out of secondary school through measures that include
    - Encouraging community awareness of risks for girls; and
    - Supporting safe passage and reducing the distance to schools to reduce the risks of gender-based violence on the way to school.
    - Supporting girls who become pregnant to access recognized, quality Alternative Education Pathways (AEPs)
- To obtain lower secondary certification and continue with upper secondary education or post-secondary education.
- Improving the quality of secondary school teaching and learning environments through the hiring of additional qualified teachers in core subjects and providing textbooks in core subjects.

- Increasing the number of secondary school spaces through the construction of new classrooms that meet minimum infrastructure standards and supporting the expansion of the school network to bring schools closer to communities.
- Using innovative digital technology to facilitate mathematics and science teaching and improve learning

12 DECOMMISSIONING PLAN

12.1 Introduction

The life span of the project is expected to be more than 100 years. This is a preliminary decommissioning plan. It establishes feasible decommissioning schemes that can be accomplished without undue risk to the health and safety of the public, decommissioning personnel, without adverse effects on the environment, and within established guidelines and limits of the appropriate regulatory agencies. This preliminary decommissioning plan will serve the purpose of ensuring that the decommissioning and ultimate disposition of a project is considered during the initial design project.

The preliminary plan will remain a “living document,” and revisions will be made throughout the operational life of the plant. It must be reviewed periodically and revised to reflect any changes in facility construction or operation that might affect decommissioning. Prior to the initiation of actual decommissioning activities for the plant, a detailed final plan will be prepared.

12.2 Objectives of the Plan

The preliminary plan serves to establish decommissioning as an important consideration from the inception of the project, during design and throughout the operation of the facility. The plan has the following purposes:

- The primary purpose of the preliminary plan is to ensure that the project designers are aware of decommissioning during the initial design of a project facilities. Thus, where design choices that would enhance decommissioning are available for types of materials and system components, and location of components, these choices should be made.
- Another purpose of the preliminary plan is to identity the ultimate decommissioning options and final facility status. These options would be evaluated and narrowed to the decommissioning method of choice as the end of facility life is approached.
- The final purpose of the preliminary plan is to demonstrate to regulatory agencies that important aspects of decommissioning are considered as early as possible during the initial design of a facility. The plan serves as the starting point to demonstrate that areas such as decommissioning methods, costs, schedules, and operating impact on decommissioning will be reviewed and refined throughout the operating life of a facility.

Design personnel should study the proposed decommissioning methods and take steps to ensure that the design incorporates features that will facilitate decommissioning.

Considerations include:

- An estimate of manpower, materials, and costs anticipated to support decommissioning.
- A discussion demonstrating that adequate financing will be programmed for decommissioning.
- Identification of records that should be maintained during construction and operation

12.3 Preliminary Plan

12.3.1 Project Removal Methodology and Schedule

Developer shall fund and implement all aspects of project decommissioning, including but not limited to, all engineering, environmental assessment, permitting, construction, and mitigation activities associated with the removal of the abandoned infrastructure, in accordance with this Plan and mitigation of Project removal

impacts on site. Also shall monitor environmental impacts during and after Project removal to respond to defined events during the monitoring phase.

The proponent shall remove the abandoned infrastructures safely and in a manner that:

- Minimizes environmental impacts;
- Restores the site to a condition suitable for multiple use; and
- Pays all dues (workers, government, suppliers etc.).

Project removal will begin six months after closure of the construction phase and continue for 2 years. Within the six months from closure, developer will inventories all components that need to be removed and or disposed of. This inventory will include building structures/tents to be demolished, debtors and creditors to be settled. In addition, mode of disposal will have to be finalized. This information will assist in the preparation of the final decommissioning plan, for approval by NEMC.

Project and associated facilities

- All concrete structures will be demolished and the area rehabilitated in order to restore the value of the land to that which existed prior to commencement of the project;
- All scrap metals will be disposed through recycling through steel manufacturing mills that are licensed to use such materials. Currently, the site disposes scrap metal through auctioning to licensed metal dealers.

12.3.2 Project decommissioning has five phases:

- Pre-removal monitoring;
- Permitting;
- Interim protective measures;
- Project removal and associated protective actions; and
- Post-removal activities, including monitoring of environment and socio economic activities

The description that follows outlines the activities that will occur in each phase:

- Pre-removal monitoring: Pre-removal monitoring includes environmental and socio economic status of the site and the surrounding. This monitoring is essential to identify if there is any environmental or social liability which need to be settled before the permit for closure is given. This period will also be used to inventories all assets and facilities that need to be disposed of and to prepare a final decommissioning plan for approval by NEMC.
- Permitting: Developer shall obtain all permits required to undertake removal of the Project. This will include NEMC, Ministry of Education, PO-RALG, Local Government Authorities, etc.
- Interim Protective Actions: This will take care of any interim protective measure that needs to be implemented to protect human health and environment, if any.
- Project Removal: As noted above, the removal of the project will be completed within six months.
- Post-Removal Activities: Post-Project removal monitoring will continue for two years.

Summary of closure plans for project infrastructures are indicated in Table 12-1 below. As describe, about 8,000,000/= Tanzania shillings (Tshs) will be used for decommissioning purposes. The proposed costs are only indicative and the developer should work out on actual costs and include them in the overall cost of the project.

Table 12-1: Summary of Proposed Closure Plan

S/N	DECOMMISIONING ACTIVITY	IMPACT	MITIGATION MEASURE	RESPONSIBLE PERSON	ESTIMATED EXPENDITURE
01	◆ Levelling	◆ Derelict Land ◆ Air pollution	◆ Before any demolition and during the works, all practicable steps shall be taken to prevent danger to any person and property adherence to part XIII per Occupational Health and Safety Act No. 5 of 2003(building and construction industry) rules, 2015 ➢ Land scaping ➢ Planting trees ➢ Return the land to a stable, non-polluting and self-sustaining state, compatible with the site and surrounds; ➢ Protect visual amenity;	➢ Proponent	5,000,000/=
02	Temporary Building demolition	➢ Solid wastes ➢ Noise pollution	➢ Operate during day time ➢ Contractor for waste handler.	➢ Proponent	3,000,000/=
TOTAL ESTIMATED DECOMMISSIONING COSTS					**8,000,000/=**

13 CONCLUSION AND RECOMMENDATIONS

13.1 Conclusion

This ESIA report provides a description of the proposed project, presents a concept project description, and acknowledges a number of issues pertaining to the project's operation.

The issues and impacts have been assessed and described in some detail to gain an adequate understanding of the possible environmental effects of the project in order to formulate mitigation measures in response to the negative aspects that have emerged.

Because it will allow the development of a deterministic model of climate change, the project will be extremely beneficial to the scientific community and the human race as a whole.

Given the nature and location of the development, the conclusion is that the potential impacts associated with the proposed development are of a nature and extent that can be reduced, limited, and eliminated by the application of appropriate mitigation measures.

The key findings of the ESIA study conducted by Tansheq Limited are as follows:

- The project development objectives (PDOs) are to increase access to secondary education, provide responsive learning environments for girls, and improve the completion of quality secondary education for both girls and boys. SEQUIP will contribute to addressing key challenges for girls and boys accessing education, and this school will definitely target girls for their academic success. The project aims to reduce the distance to the government target of 3 km (or 45 minutes).
- The project will contribute to increasing the total number of students in secondary education, including Alternative Education Pathways (AEP), by 250,000. It will directly benefit about 1.8 million secondary school students, including 920,000 girls, 95% of whom are enrolled in lower secondary. SEQUIP will help more girls' transition from lower to upper secondary education, as girls are underrepresented at this level.

13.2 Recommendations

The Project should systematically manage environmental as well as health and social issues so as to ensure sustainability and attainment of overall goal of the project. This can only be achieve if the ESMP and the Monitoring Plan developed hereinwhithin is properly adhered to and improved upon whenever shortcommings are identified.

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APPENDIX 1: LIST OF THE STAKEHOLDERS CONSULTED

1. ARUSHA REGIONAL COMMISSIONER OFFICE

SHEQ

TAMISEMI

SEQUIP – ENVIRONMENTAL AND SOCIAL IMPACT ASESSMENT

Location... ARUSHA REGION ..... Date ... 13/10/2022 .....

S/N	Name/ Jina	Title/ Cheo	Contacts/ Mawasiliano	Signature/ Sahihi
1	MAR MUSA	RAS - Arusha	0785-388810	
2.	Abel A. Ntupwa	REO	0754858883	
3.	Shirley M. Swai	RAO	0754457073	

2. LONGIDO DISTRICT COUNCIL

Location.. LONGIDO DISTRICT ..... Date .. 13/10/2022 .....

S/N	Name/ Jina	Title/ Cheo	Contacts/ Mawasiliano	Signature/ Sahihi
1.	Stephen A. Ulaya	DED	0755-757910	
2	Ukwaya E. Godwin	DEMO	0682751801	

3. OLTEPES VILLAGE COUNCIL

Location..OLTEPESI - VILLAGE COUNCIL..... Date ...13/10/2022.....

S/N	Name/ Jina	Title/ Cheo	Contacts/ Mawasiliano	Signature/ Sahihi
1	SONJOI LEMOIA	M/KI KIJIJI	0782754819	
2	ROSE L. KIPUYO	VEO	0787691156	
3	SARUNI MENGORU	M/KI KITONGOJI	0783794655	
4	SAITOTI OLOISHIRO	M/KI KITONGOJI	0787388888	
5	SOKOIME KILUSU	M/KI KITONGOJI	0787339207	
6	NDIONO NAMGERESA	DIWANI	0789311111	
7	PANIANI LEKERI	M/KI KITONGOJI	0787116695	
8	KELEMBU OLOISHIRO	MJUMBE	0788220005	
9	SAKAYA NJOLOLOI	MJUMBE	0787212788	
10	YASI ROKOI	MJUMBE	0788309786	
11	SARIS ALAIS	MJUMBE	0755554251	

Location..OLTEPESI - VILLAGE COUNCIL..... Date ...13/10/2022.....

S/N	Name/ Jina	Title/ Cheo	Contacts/ Mawasiliano	Signature/ Sahihi
12	NOOSIKITOK TARETOI	MJUMBE	0789813093	
13	ESTER ROKOI	MJUMBE	0783551619	
	OLEMOKORO NDETE	LAIGWANANI		
	OLEROIMEN SAPUYU	LAIGWANANI		
	NGEDIEMYE SARUNI	LAIGWANANI		
	NGAKUTU ROKOAI	LAIGWANANI		
	KIMANI MAKULETA	LAIGWANANI		

TANSHEQ

TAMISEMI

SEQUIP – ENVIRONMENTAL AND SOCIAL IMPACT ASESSMENT

SN	Name/Jina	Tittle/Jina	Contacts/Mawasiliano	Date/Tarehe	Signature/Sahihi
1	SOLUM MWANDAKE	OHJ (OSHA)	0713566451	28/04/23	

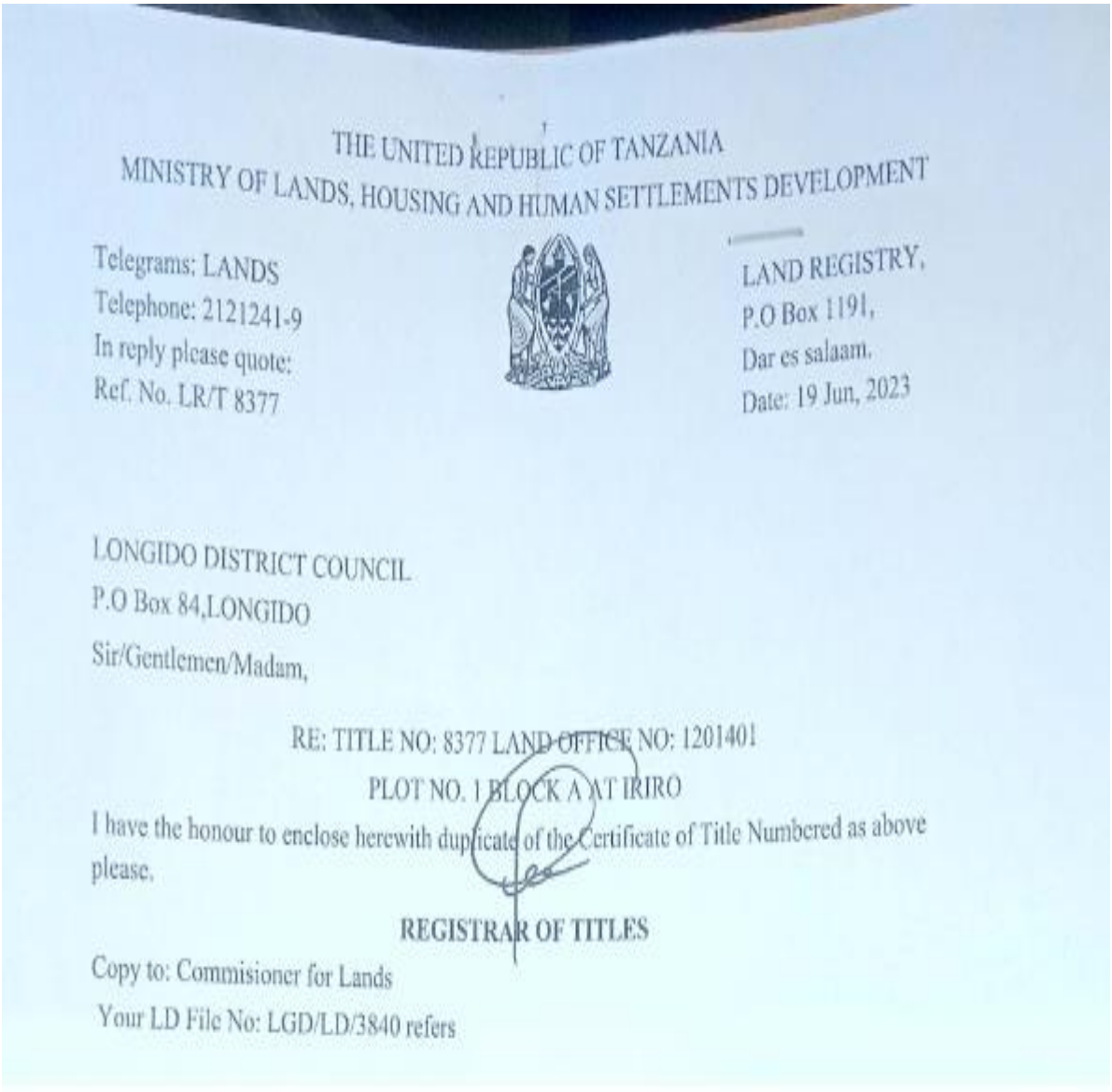
TANSHEQ

TAMISEMI

SEQUIP – ENVIRONMENTAL AND SOCIAL IMPACT ASESSMENT

SN	Name/Jina	Tittle/Jina	Contacts/Mawasiliano	Date/Tarehe	Signature/Sahihi
1.	INSP MAROSA J. KILAVO	OC. LEGAL	0717-158253	04/05/2023	
2.					

APPENDIX II: Land Ownership Document



THE UNITED REPUBLIC OF TANZANIA
MINISTRY OF LANDS, HOUSING AND HUMAN SETTLEMENTS DEVELOPMENT

Telegrams: LANDS
Telephone: 2121241-9
In reply please quote:
Ref. No. LR/T 8377

LAND REGISTRY,
P.O Box 1191,
Dar es salaam.
Date: 19 Jun, 2023

LONGIDO DISTRICT COUNCIL
P.O Box 84,LONGIDO

Sir/Gentlemen/Madam,

RE: TITLE NO: 8377 LAND OFFICE NO: 1201401
PLOT NO. 1 BLOCK A AT IRIRO

I have the honour to enclose herewith duplicate of the Certificate of Title Numbered as above please.

REGISTRAR OF TITLES

Copy to: Commisioner for Lands
Your LD File No: LGD/LD/3840 refers

Land Form No. 22

THE UNITED REPUBLIC OF TANZANIA

THE LAND ACT, 1999
(NO. 4 OF 1999)

CERTIFICATE OF OCCUPANCY

(Under Section 29)

Title No. 8377
L.O. No: 1201401
L.D No: LGB/LD/3548/7

The 16th day of June Two Thousand Twenty Three

THIS IS TO CERTIFY that LONGIDO DISTRICT COUNCIL (hereinafter called "the Occupiers") are entitled to the Right of Occupancy (hereinafter called "the Right") in and over the land described in the Schedule hereto (hereinafter called "the Land") for a term of **Ninety Nine (99)** years from the First day of **April, Two Thousand Twenty Three** according to the true intent and meaning of the Land Act and subject to the provisions thereof and to any regulations made there under and to any enactment in substitution there for or amendment thereof and to the following special conditions:-

1. The Occupiers having paid rent up to the **Thirtieth** day of June, **2023** shall thereafter pay rent of shillings **Five Thousand Shillings 15,000/=) Only;** a year in advance on the first day of July in every year of the term without deduction **PROVIDED** that the rent may be revised by the Commissioner for Lands.

2. The Occupiers shall:-

   (i) Be responsible for the protection of all beacons on the land throughout the term of the Right. Missing beacons will have to be re-established at any time at the Occupier's expense as assessed by the Director responsible for Surveys and Mapping.

(ii) Do everything necessary to preserve the environment and protect the soil and prevent soil erosion on the land and do all things which may be required by the authorities responsible for environment and to achieve such objective.

(iii) Erect on the land buildings in permanent materials designed for use in accordance with the conditions of the Right and which conform to the building line (if any) decided by the **Longido District Council** (hereinafter called "**the Authority**").

(iv) Submit to the Authority building plans within Six months from the date of commencement of the **Right**

(v) Begin building construction within six months after the approval of the building plans by the Authority.

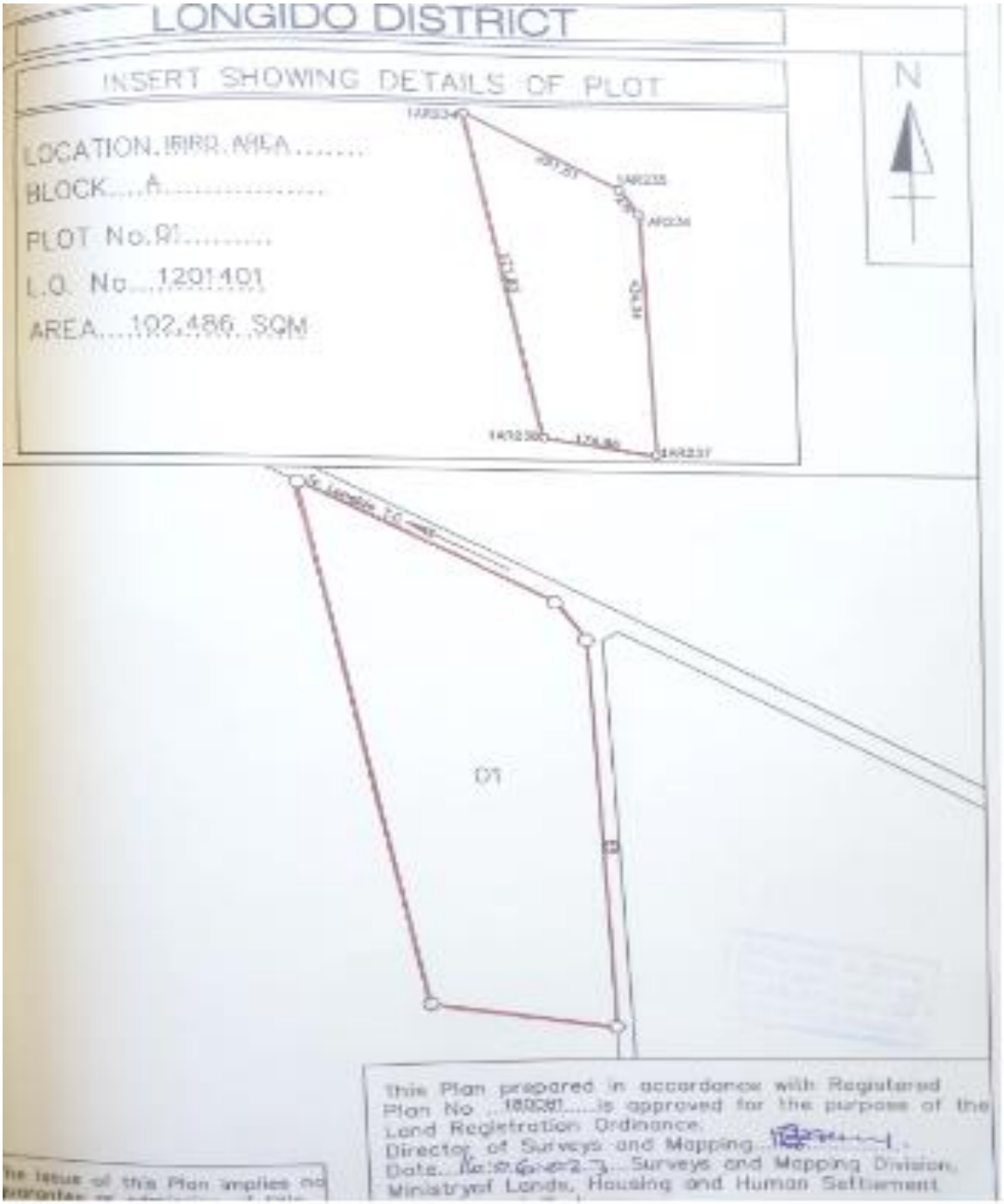
(vi) Complete the building construction within Thirty-Six months from the date of commencement of the **Right.**

USER: The land and the same shall be used for **Educational Buildings Designated for Secondary School Purposes Only**: Use Group 'K' use class (c), as defined in The Urban Planning **(Use Groups & Use Classes)** Regulations,2018.

The Occupier's shall not assign the Right within three years of the date hereof without the prior approval of the Commissioner.

The Occupier's shall deliver to the Commissioner notification of disposition in prescribed form before or at the time the disposition is carried out together with the payment of all premia, taxes and dues prescribed in connection with that disposition.

The President may revoke the right for good cause and in public interest.


LONGIDO DISTRICT
INSERT SHOWING DETAILS OF PLOT
LOCATION..IRRR AREA.....
BLOCK....A.....
PLOT No.R1.....
L.O. No....1201401
AREA....102,486..SQM
N
D1
This Plan prepared in accordance with Registered Plan No ...169081.....is approved for the purpose of the Land Registration Ordinance.
Director of Surveys and Mapping...
Date...
Surveys and Mapping Division,
Ministry of Lands, Housing and Human Settlement

SCHEDULE

ALL that Land known as **Plot No. 1 Block 'A'** situated at **Iriro Area** in **Longido District** containing **One Hundred And Two Thousand Four Hundred Eighty Six (102,486) Square Metres** shown for identification only edged **red** on the plan attached to this Certificate and defined on the registered survey plan numbered **180081** deposited at the Office of the Director for Surveys and Mapping at Dodoma.

Given under my hand and my official seal the day and year first above written.

ASSISTANT COMMISSIONER FOR LANDS

WE, the within named **LONGIDO DISTRICT COUNCIL** hereby accept the terms and conditions contained in the foregoing Certificate of Occupancy.

SEALED with the **COMMON SEAL** of the said **LONGIDO DISTRICT COUNCIL** and **DELIVERED** in the Presence of us, this 13th day of June 2023

Name STEPHEN A. ELAYA

Signature .....

Postal Address Box 84, LONGIDO

Qualification DED

Name SIMON - OMBECH

Signature .....

Postal Address Box 84 LONGIDO

Qualification: MBEYA.

SEAL

APPENDIX III: MINUTES OF MEETING

HALMASHAURI YA KIJIJI CHA OLTEPESI

OFISI YA KIJIJI CHA OLTEPESI,

S.L.P 85,

LONGIDO.

14/10/2022.

MKURUGENZI MTENDAJI,

HALMASHAURI YA WILAYA YA LONGIDO,

S.L.P 84,

LONGIDO.

YAH: **KUKUTUMIA MUHTASARI WA HALMASHAURI YA KIJIJI CHA OLTEPESI KILICHOFANYIKA TAREHE 13/10/2022 KUTENGA ENEO LA KUJENGA SEKONDARI YA WASICHANA.**

Husika na mada tajwa hapo juu. Napenda kukutumia muhtasari wa kikao cha Halmashauri ya kijiji kilichofanyika tarehe 13/10/2022 kutenga eneo la kujenga sekondari ya wasichana eneo lenye ukubwa wa hekari 25.

Pamoja na barua hii naambatanisha na muhtasari wenyewe.

Wako katika utumishi

AFISA MTENDAJI KIJIJI CHA OLTEPESI

ROSE L. KIPUYO

AFISA MTENDAJI KIJIJI

MUHTASARI WA KIKAO CHA HALMASHAURI YA KIJIJI CHA OLTEPESI

KIKAO CHA DHARURA KILICHOFANYIKA TAREHE 13/10/2022

AGENDA

1. KUFUNGUA KIKAO
2. SUALA LA KUTENGA ENEO LA KUJENGA SHULE YA WASICHANA KIJIJI CHA OLTEPESI
3. KUFUNGA KIKAO

AGENDA NO:1 2022 KUFUNGUA KIKAO

Mwenyekiti alifungua kikao mnamo saa 6:14 mchana kwa kuwashukuru wajumbe kwa kutikia wito wa kikao.

AGENDA NO: 2 2022 SUALA LA KUTENGA ENEO LA KUJENGA SEKONDARI YA WASICHANA KIJIJI CHA OLTEPESI

Afisa mtendaji wa kijiji aliwasomea wajumbe barua iliyotoka kwa mkurugenzi wa Halmashuri ya Longido yenye Kumb: HW/LONG/EL/5/08/75 ya tarehe 5/10/2022 ya kuomba eneo la hekari hamsini (50) kwa ajili ya kujenga Sekondari ya wasichana. Baada ya mtendaji kuwasomea wajumbe barua hiyo wajumbe walianza kuchangia kwa kusema tunapenda sana maendeleo lakini hatujui kama tunaweza kupata hekari hizo hamsini (50) kwa ajili ya kujenga shule hiyo. Baada ya mjadala mrefu mhe Diwani kata ya Orbomba aliwaeleza wajumbe faida nyingi za shule hiyo pia alisema tuanze na hekiri ishirini na tano na tukiona majengo yamekuwa mengi tunaweza kuwaongeza kama kutakuwa na maeneo ya wazi mhe Diwani aliwaeleza kuwa wilaya yetu ina bahati sana kupewa heshima ya kujenga shule hii ya wasichana hasa ya Orbomba kijiji cha Oltepesi. Hivyo tulpokee shule hii kwa faida ya watoto wetu kupata elimu kwa ukaribu na kupunguza gharama za kuwapeleka watoto wetu mbali . tena vijana wetu watapata ajira kwa waliosomea uwalimu. Baada ya maelezo ya Mhe Diwani wajumbe walipendelea maeneo matatu ya ya kutembelea eneo la kwanza ni eneo ambalo lipokaribu na shule ya msingi Oltepesi na eneo la pili ni eneo lililopo karibu na shule ya zamani ya Oltepesi na eneo lingine ni eneo lililo kitongoji cha iriro ambalo wafugaji wanasema lipo karibu sana na maboma na ni eneo la mifugo (lopololi) wajumbe walipanga siku ya kutembelea maeneo hayo. Na baada ya kutembelea maeneo hayo na kupendekeza watapeleka kwa wananchi/mkutano mkuu wa kijiji. Wote kwa pamoja walikubaliana kutembelea maeneo hayo tarehe 07/10/2022. Baada ya kutembelea maeneo hayo walipendekeza eneo lililopo karibu na shule ya msingi ya zamani ya Oltepesi. Wajumbe wote kwa pamoja walikubaliana kutenga eneo lenye ukubwa wa hekari 25 kwa ajili ya ujenzi wa shule ya sekondari ya wasichana.

AGENDA NO: 3/2022 KUFUNGA KIKAO

Mwenyekiti alifunga kikao mnamo saa 8:30 mchana kwa kuwashukuru wajumbe kwa kuona umuhimu wa elimu. Aliwatakia wajumbe mchana mwema.

.....

ROSE L. KIPUYO
VEO OLTEPESI

AFISA MTENDAJI
KIJIJI CHA OLTEPESI
TAR _____

.....

SONGOI LENDIYA
M/KITI KIJIJI CHA OLTEPESI

FOMU YA MAHUDHURIO KIKAO CHA HALMASHAURI YA [illegible] CH

TAREHE 13/10/2022 OLTEPESI

NA	JINA	CHEO	NO. SIMU	SAHIHI
1	SOMJOI LENDIA	M/KI KIJIJI	0782754819	
2	ROSE KIPUYO	VEO	0787671156	
3	SARUNI MEMUORU	M/K. KITONGOJI	0783794655	
4	KELEMBU OLOISHIRO	MJUMBE	0783220005	
5	MOOSIKITOK TARETOI	11	0729813093	
6	SARIS ALAIS	11	0755554251	
7	SOKOIME KILUSU	M/KI KITONGOJI	0787359207	
8	YASI ROKOI	MJUMBE	0783097886	
9	PAULINI LEMERI	M/KI KITONGOJI	0787116695	
10	SAKAYA NJOLOLOI	MJUMBE	0787212789	
11.	SAITOTI OLOISHIRO	M/K KITONGOJI	0782[illegible]	
12	ESTER ROKOI		0783551619	
13	NAIOMO MANGERESA	DIWANI	0787311111	

JAMHURI YA MUUNGANO WA TANZANIA

OFISI YA RAIS

TAWALA ZA MIKOA NA SERIKALI ZA MITAA

HALMASHAURI YA WILAYA YA LONGIDO

04/11/2022

KUMB. Na. HW/LONG/VOL.11/M/48/40
KATIBU TAWALA MKOA,
S. L.P 3050,
ARUSHA.

YAH: KUTENGA ENEO KWA AJILI YA UJENZI WA SEKONDARI YA WASICHANA YA MKOA

Tafadhali naomba urejee somo la hapo juu.

Halmashauri ya Longido ilipewa fursa ya kutenga eneo kwa ajili ya kujenga shule ya wasichana ya mkoa. Katika utekelezaji wa suala hilo, Halmashauri ya Wilaya ya Longido tayari imetenga eneo la kujenga shule hiyo lenye ukubwa wa ekari 25 lililopo katika kijiji cha Oltepes kata ya Olbomba.

Nyuma ya barua hii imeambatishwa mchoro wa eneo hilo na muhutasari wa kikao cha Halmashauri ya kijiji kilichojadili na kuridhia kutoa eneo hilo.

Nawasilisha

MKURUGENZI MTENDAJI S.L.P. 84 HALMASHAURI YA WILAYA LONGIDO

STEPHEN A. ULAYA

MKURUGENZI MTENDAJI

HALMASHAURI YA WILAYA YA LONGIDO

S.L.P 84 | 2120 Barabara ya TCA Namanga | 23582 Longido, Arusha
| Simu: +255 (027) 25 39 603/2 | Nukushi: +255 (027) 25 39 603,
Barua pepe: ded@longido.go.tz | Tovuti: www.longidodc.go.tz

Appendix IV: Emergency Response and Preparedness Plan

1.0 Introduction

The purpose of this emergence Response and preparedness Plan is to adequately save lives and avoid injuries safeguard property and records and also establish procedures, responsibilities, resources and an organizational chain of response to emergency cases occurring within school compound. This plan will be handling man-made or natural events including fire, hazardous material, chemicals, medical injuries and earthquake, etc.

1.1 Emergences Response Procedures

1.1.1 Fire Emergences

Students, staff, visitors, and members of the school community are kindly requested to remain vigilant and promptly report any signs or evidence of fire within the school premises. It is essential to observe and identify the following indicators:

I. **Smoke**:

- Report any sight or smell of smoke, regardless of its source or location within the school buildings or surrounding areas.
- Pay attention to areas where smoke may accumulate, such as stairwells, restrooms, or utility rooms.

II. Burning smell:

- Take note of any unusual or strong burning odors that may indicate a fire.
- Report any such smell, even if there is no visible smoke or flames.

III. Abnormal heating of any material or machines:

- Be observant of any objects, equipment, or machinery that exhibit abnormal or excessive heat.
- Report any instances where materials or devices feel unusually hot to the touch.

The swift detection and reporting of potential fire incidents are crucial for ensuring the safety and security of everyone within the school. All members of the school community are encouraged to remain alert and immediately inform the designated authorities or the emergency response team upon discovering any of these fire-related signs or evidence. Remember, early detection and timely reporting can help prevent the escalation of fire hazards and facilitate prompt response and evacuation procedures if necessary.

1.1.1.1 Fire response Plan (for Large Fires)

I. Use emergency communication systems to notify the Emergency Coordinator/Supervisor immediately of the fire's location.
II. Ensure that doors in large buildings open outwardly to facilitate easier movement of people outside the building.
III. Activate the nearest fire alarm within the premises to alert others of the emergency.
IV. If safe to do so, rescue any person in immediate danger and move them to a place of safety.
V. If someone's clothing is on fire, cover them with fire blankets. If fire blankets are not available, use water from showers or other sources to extinguish the flames.
VI. Proceed to the nearest exit and evacuate the building area using the nearest available exit.
VII. Close doors behind you to contain any smoke and prevent the fire from spreading further within the building.
VIII. Proceed to the designated assembly area and do not re-enter the building until it has been deemed safe to do so by emergency personnel.
IX. If you are unable to exit the room, try to prevent smoke from entering by using available materials to block gaps under doors or windows.
X. Make efforts to draw attention to your location if you are trapped. Use a phone, window, or call for help to alert others. Remember, smoke inhalation is a significant danger in fires.

XI. Only attempt to use a fire extinguisher if the fire is small and you have been properly trained to operate it safely.
XII. If you have any doubts about operating the fire extinguisher or if the fire extinguishing attempts are ineffective, evacuate immediately from the building.
XIII. Call the firefighting crew or emergency services (e.g., dial 911) immediately for professional assistance.

1.1.2 Chemical and Hazardous Material Spills

This section covers important information for emergence involving the release of chemical or hazardous substance that could harm people health and environmental.

- Train laboratory staff and science teachers in proper safety protocols.
- Establish clear guidelines for reporting accidents or injuries.
- Implement procedures for quickly and safely evacuating students from the laboratory area.
- Designate staff members responsible for administering first aid and contacting emergency medical services, if necessary.

1.1.3 Medical Emergencies

I. Remain calm and focus on ensuring the safety and well-being of all individuals involved, without compromising your own safety.
II. Immediately seek help by contacting the designated emergency phone number for the clinic and inform the Supervisor or appropriate personnel.
III. Provide the necessary First Aid services to the injured person(s) as trained and within your capabilities.
IV. Avoid moving an injured person unless they are in immediate danger of further harm. Stabilize the person and wait for medical professionals to assess the situation.
V. Alert personnel in adjacent areas of any potential hazards to their safety, such as fire explosions, chemical contamination, or civil disturbances.
VI. If a person's clothing is on fire, cover them with a fire blanket if available. If not, instruct them to roll on the floor to extinguish the flames. If showers are immediately available, use them to douse the person with water.
VII. If chemicals have entered the eye, promptly flush the affected eye with plenty of water for at least 15 minutes, ensuring to wash the eyeball and inner surface of the eyelid.
VIII. If necessary, transport the injured person(s) to the nearest dispensary or hospital. If an ambulance is not readily accessible, utilize the available means of transportation to ensure timely medical attention.

1.2 Resources and Equipment

1.2.1 First Aid Kits

In the school area, each designated area will be equipped with a First Aid Kit, which will be stored in a readily accessible location for emergency team members. These kits will contain essential first aid items that can be used before seeking further medical assistance at the clinic.

To maintain the effectiveness of the First Aid Kits, the clinic staff and/or Office Supervisor will conduct regular inspections to ensure that the items are in good condition and have not expired. This includes checking the integrity of the packaging, verifying the expiration dates of medications and perishable items, and replenishing any used or depleted supplies

1.2.3 Fire Extinguisher

To ensure the safety of the school compound, fire extinguishers will be strategically placed in all buildings, including classrooms, dormitories, laboratories, the dining hall, and offices. These fire extinguishers will be regularly inspected to ensure they are operational and ready for use.

A yearly inspection will be conducted to verify the functionality and condition of each fire extinguisher. Trained personnel or a designated fire safety team will perform these inspections, checking for any signs of damage,

ensuring that pressure gauges are within the recommended range, and confirming that safety seals are intact. If any issues are identified during the inspection, immediate maintenance or replacement of the fire extinguisher will be arranged.

1.2.5 Alarms

The school's alarm system serves as a crucial tool for emergency notification. In the event of an emergency, all students, staff, visitors, and contractors are required to respond promptly and gather at the designated assembly point once the alarm is activated. The safety and well-being of everyone within the school compound are of utmost importance, and this response protocol ensures a swift and organized evacuation or response to any potential threat or emergency situation. By adhering to this procedure, we can maintain a secure environment and effectively practice our emergency preparedness measures

1.3 Accident / Incident Reporting Obligation

- All incidents/accidents must be reported
- Notify the department responsible, Safety Managers and Environmental personnel if the accident/ Incident have led into Environmental impacts
- Report all incidents and accidents using and incidents/ Accident form to ensure that corrective measures are in place to prevent re occurrence in future
- The filled incident and Accident form will be signed off when all corrective is already done.

1.4 Responsibilities

1.4.1 Workers and Students

- Workers and Students are responsible to ensure that all incidents or suspicious situations are reported immediately
- When fire alarm signal has sounded or shout for fire, workers and students are required to immediately evacuated the buildings and if possible, knocking on their neighbor doors and while saying **EMERGENCE GET OUT!**
- Familiarize with the Emergence Response Plan
- Familiarize with the signs **EXIT, EMERGENCY EXIT, ASSEMBLY POINT**
- Observe the fire warning sign such as **DO NOT SMOKE, FIRE**
- To know where the assembly point is it

1.4.2 Office Supervisor/ Emergence Coordinator

Emergence Coordinator or office Supervisor will be responsible to responsible the rescue team (Fire crew, first aiders and emergence response team) during emergencies cases
To identify OHS training needs depending upon the existing requirement

1.4.3 District Secondary Education Officer

- To provide recourses to implement Emergence Preparedness Plan

1.4.4 Emergence Respond Team

- To quickly respond and evacuate he facility within the designated timeframe and follow all other procedures as listed in the emergency plan.
- Know where emergency and first aid equipment are found in the building (s) and how to use such equipment.
- Know the Emergency number and understand how the chain of command works.
- Known Emergence numbers and understand how the chain of command works

1.5 Trainings Programs

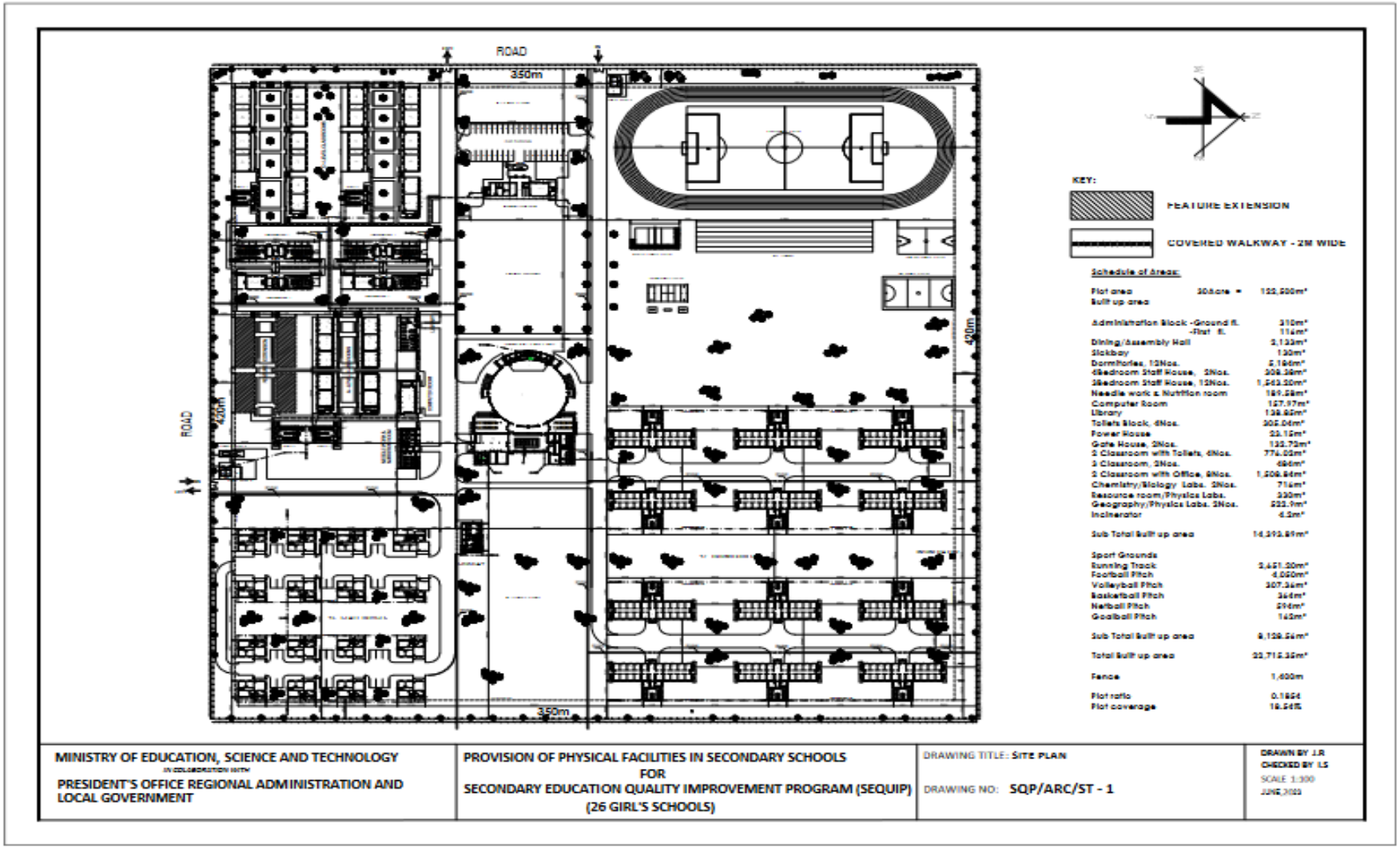
- Workers and Students will be trained depending upon the Training needs of each section
- Occupational Health, Safety and Environmental meeting will be held in month basis to ensure that issues from department are communicated and managed according
- Key personnel will be trained on evacuation procedures, use of fire Equipment's, first aid procedure etc.
- Notices indicting contact details for first aiders or appointed persons, the emergence contact number and where the first – aid box is must be posted at the site

1.6 Emergence Contact Detail

Table 1.1 List of Emergency Contacts

S/N	Organisation	CONTACT
1.	Longido District Executive Director	
2.	Longido District Secondary Education Officer	
3	Fire and Rescue Office	
4	TANESCO	
5	Orbomba Ward Executive Officer	
7	District hospital	

Appendix V: Site Layout Plan



Appendix VI: Schedule of Materials and Architectural Drawing

SCHEDULE OF MATERIALS

THE UNITED REPUBLIC OF TANZANIA

PRESIDENT'S OFFICE
REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT

PROPOSED STANDARD DRAWINGS FOR SEQUIP

Schedule of Materials & Labour for Two Classroom Block – Gable Type

PROJECT AREA

TANZANIA MAINLAND

Ministry of Education, Science and Technology,
Government City - Mtumba,
AFYA Street,
P.O Box 10,
40479 DODOMA.

President's Office,
Regional Administration,
& Local Government
Government City - Mtumba
TAMISEMI Street,
P. O. Box 1923,
41185 DODOMA.

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
	MATERIALS				
A	**SUB-STRUCTURE -**PROVISIONAL				
1	**Strip Foundation - Grade 15 Plain**				
	Aggregate (3/4")	10	M^3		
	Sand	5	M^3		
	Cement-50kgs -(42.5)	49	Bags		
2	**Foundation Walls**				
	6" Cement & Sand block -Minimum Strength 3. 5 MPa	1,036	No		
	Sand	3	M^3		
	Cement -50kgs (42.5)	17	Bags		
	ALTENATIVE TO FOUNDATION WALL				
	** If stone is applicable, then blockwork is not applicable.				
	Therefore Engineer must confirm to the Tenderer which				
	item to be priced (Blockwork or Stone) depending on				
	availability and suitability of building materials.				
	Stone, complete with its cement and sand mortar (1:4)	18	M^3		
3	**Moram, Hardcore & Site sterilization**				
	Moram ($4.5m^3$ lorry)	8	Trips		
	Hardcore 200mm thick - ($4.5m^3$ lorry)	7	Trips		
	Sand	5	M^3		
	Aldrin solution or other and equal approved (1000mls)	2	Bottle		
4	**Oversite Concrete 100mm thick - 15 grade ,Ground Beam and base column - 20 grade**				
	DPM	155	M^2		
	Cement -50kgs (42.5)	115	Bags		
	Aggregates (1/2")	19	M^3		
	Sand	10	M^3		
	Reinforcement - 12mm diameter high tensile 460N/mm2	35	PC'S		
	Reinforcement - 8mm diameter high tensile 460N/mm2	33	PC'S		
	Binding Wire - 1kg	8	Kgs		
	A252 Mesh 200 x 200x 6.16kg/m2	4	PC'S		
	Timber 1" X 10 " (5.2m long)	15	PC'S		
	Timber 2" X 2"(5.2m long	10	PC'S		
	Nails-4"	8	Kgs		
	Nails-3"	8	Kgs		
	Supporting props - 3m	5	PC'S		
	SUB-TOTAL SUBSTRUCTURE				

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
B.	**SUPERSTRUCTURE**				
1	**Walls & Ring beam**				
	6" Cement & Sand block (Minimum Strength 3. 5 MPa) - 230mm	2,190	No		
	6" Cement & Sand block (Minimum Strength 3. 5 MPa) - 150mm	198	No		
	DPC (30m long)	1	Roll		
	Sand	11	M^3		
	Cement-50kgs (42.5)	72	Bags		
	Aggregates (1/2")	4	M^3		
	Reinforcement - 12mm diameter high tensile 460N/mm2	25	PC'S		
	Reinforcement - 8mm diameter high tensile 460N/mm2	27	PC'S		
	Binding Wire - 1kg	8	Kg		
	Timber 1" X 10" to Sides (5.2m long)	18	PC'S		
	Timber 1" X 5" (Plates)(5.2m long	4	PC'S		
	Timber 2" X 2"(5.2m long	10	PC'S		
	Supporting Props - 3m	15	PC'S		
	SUB-TOTAL SUPER STRUCTURE				
	ALTENATIVE TO BLOCKWORK WALL				
	***** If brickwork is applicable, then blockwork is not applicable.***				
	Therefore Engineer must confirm to the Tenderer which item				
	to be priced (Blockwork or brickwork) depending on availability				
	and suitability of building materials. Note that: Strictly do not				
	use stretcher bond when using bricks, the acceptable				
	bond is either Flemish or English or header.				
	230mm thick One brick wall	158	m^2		
	150mm thick One brick wall	22	m^2		
C.	**ROOF STRUCTURE & COVERING**				
1	**Roof Structure -** Provisional				
	Timber 2 " X 3" Purlins	50	PC'S		
	Timber 2" X 4" King Post, wall plate and struts	70	PC'S		
	Timber 2" X 6" Rafter and Tie beam	55	PC'S		
	Fascia board 1" X 10" -ref. Semi Hardwood (5.2m long)	14	PC'S		
	Nails -5"	50	Kgs		
	Nails -4"	30	Kgs		
	Nails -3"	20	Kgs		
	16mm diameter bolt, 500mm long	28	Pc's		
	NOTE: The above softwood timber structure should be pressure impregnated treated				
2	**Roof Covering**				
	28 G Resincoated Iron sheet size 900x3000mm long	103	PC'S		
	Hips/Ridge and valley - 28 G resin coat - 3m	8	PC'S		
	Aluminium Roofing Nails	23	Packet		
			C/F		

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
			B/F		
3	**Gutter's**				
	Upvc 100mm half round (6m long)-5"	7	PC'S		
	Upvc 75mm diameter down pipe; Class B	2	PC'S		
	PVC outlet	2	PC'S		
	Gutter support bracket	32	PC'S		
	PVC bend 90'	2	PC'S		
	PVC bend 45'	4	PC'S		
	Gutter Clamp 3"	28	PC'S		
	Connector/reducer	8	PC'S		
	Connector outer	2	PC'S		
	Corner Inner	2	PC'S		
	SUB-TOTAL ROOF STRUCTURE & COVERING				
D.	**CEILING**				
	Gypsum board -9mm thick	56	PC'S		
	Plain Cornice (8ft)	40	PC'S		
	Screw 1.25" 500pcs/box	3	Box		
	Gypsum powder -25kg	11	Bags		
	Fiber tape (90m)	1	Roller		
	Treated softwood Timber 2" X 2" (3.6m)	102	PC'S		
	Nails 4"	20	Kgs		
	Nails 3"	25	Kgs		
	SUB-TOTAL FOR CEILING				
E.	**DOOR**				
1	**40mm thick hardwood Panelled door shutter**				
	820 x 2100mm high	2	PC'S		
2	**45 x 145mm Frames (hardwood),Varnish**				
	900 x 2500 mm high frame	2	PC'S		
	5mm thick clear glass to Vents	1	m2		
	16mm diameter burglar bars -12m	1	Pcs		
	Brush 3"	3	Pcs		
	Sand paper (msasa) No.80	3	LM		
	Clear Varnish - 4Litres	1	TIN		
	Thinner for Varnish	3	Litres		
3	**Ironmongeries**				
	Mortice lock Three lever	2	No		
	Brass hinges - 100mm	3	Pairs		
	SUB-TOTAL FOR DOORS				
F.	**WINDOWS**				
	Aluminium sliding Window comprising 100mm x 1.2mm thick standard aluminium profile ex-china/Turkey infill with 5mm thick glass complete with mosquito proofing panel, including all accessories, ironmongeries, cutting and pinning lugs				
	1500 X 1500mm high	10	PC'S		
	SUB-TOTAL FOR WINDOWS				

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
G.	**FINISHING**				
1	**Floor finishing**				
	Bedding/Backing; cement sand and Chipping (1:2:2); to steel finishing				
	40mm Thick granolithic floor screed steel trowlelling to smooth finishing				
	Sand	9	M^3		
	Cement-50kgs (42.5)	58	Bags		
	Chipping "1/4"	11	M^3		
2	**Wall Finishing -15mm thick (1:4)**				
	Sand	12	M^3		
	Cement-50kgs	78	Bags		
	Sand paper (msasa) No.120	10	M		
	White cement - 40kg	5	Bags		
	Gypsum powder -25Kg	10	Bags		
	SUB-TOTAL FOR FINISHING				
H.	**PAINTING & DECORATION**				
	Emulsion Paint - 20 LTRS	9	buckets		
	Weather guard Paint - 20 LTRS	3	buckets		
	Washable paint -20 LTRS	3	buckets		
	Primer paint -20 LTRS	2	buckets		
	Solvent - 5LTRS	2	TIN		
	Brush 3"	4	Pcs		
	Roller	4	Pcs		
	Blackboard paint	4	Litres		
	Gloss paint-4LTR	3	TIN		
	Bitumen paint - 4Litres	4	TIN		
	SUB-TOTAL FOR PAINTING&DECORATION				

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
J.	**ELECTRICAL INSTALLATION**				
	Single fluorescent fitting Complete	18	No		
	Double switch socket	4	No		
	Main switch 6way,1PH with integral RCD 100A/300mmA	1	No		
	NB: Wiring cables shall be copper have a minimum cross section area of 1.5sqmm and shall comply with an appropriate British or Harmonized standard for either thermoplastic or thermosetting insulated electric cables.				
	Single core wire 1.5sqmm - Red	2	Roll		
	Single core wire 1.5sqmm - Black	2	Roll		
	Single core wire 1.5sqmm -green	2	Roll		
	Single core wire 2.5sqmm - red	1	Roll		
	Single core wire 2.5sqmm - Black	1	Roll		
	Single core wire 2.5sqmm green	1	Roll		
	Ceiling fan National or other equal	12	PC's		
	3gang 1 way switch	4	No		
	2gang 1 way switch	2	No		
	Earth rod approved copper 16mm not less than 1200mm	1	No		
	Earth wire 4sqmm	20	M		
	Metal box twin	4	No		
	Metal box single	6	No		
	Junction box	20	No		
	Conduit pipe	120	PC's		
	Elbow	20	PC's		
	Conduit coupling	20	PC's		
	Round cover	10	PC's		
	Round box	10	PC's		
	Fine screw	2	PACKET		
	plastic clips 22mm	2	BOX		
	Bulk head light fitting	4	PCS		
	SUB-TOTAL FOR ELECTRICAL INSTALLATION				

ITEM	DESCRIPTION				AMOUNT -TZS
	SUMMARY				
	2No CLASSROOM BLOCK -- SEQUIP				
A.	SUB-STRUCTURE -PROVISIONAL				
B.	SUPERSTRUCTURE				
C.	ROOF STRUCTURE & COVERING				
D.	CEILING				
E.	DOOR				
F.	WINDOWS				
G.	FINISHING				
H.	PAINTING & DECORATION				
J.	ELECTRICAL INSTALLATION				
	TOTAL BUILDING MATERIALS CARRIED TO GENERAL SUMMARY				
	ADD:				
	LABOUR COST CARRIED TO GENERAL SUMMARY : (Improve and Fill the respective Labour form)				
	Note:				
	i. Refer attached specification and number of Furniture(s) for two classroom Block				
	ii. Refer General Summary for: Preliminary, Transportation and Supervision Costs				
	iii. Preliminary cover the following item:				
	- Setting out working tools, Equipments, Temporary toilets, water for the works, Scaffolding,				
	- Power for the works, Security, store, Materials test, levelling, holdings and removal of rubbish.				
	iv. Supervision cost depend on guideline of the specific project				
	v. Installation of Ceiling Fan is an option, depend on whether condition of specific area .				

ARCHITECTURAL DRAWINGS

CLASSROOM BLOCK

ARCHITECTURAL DRAWING

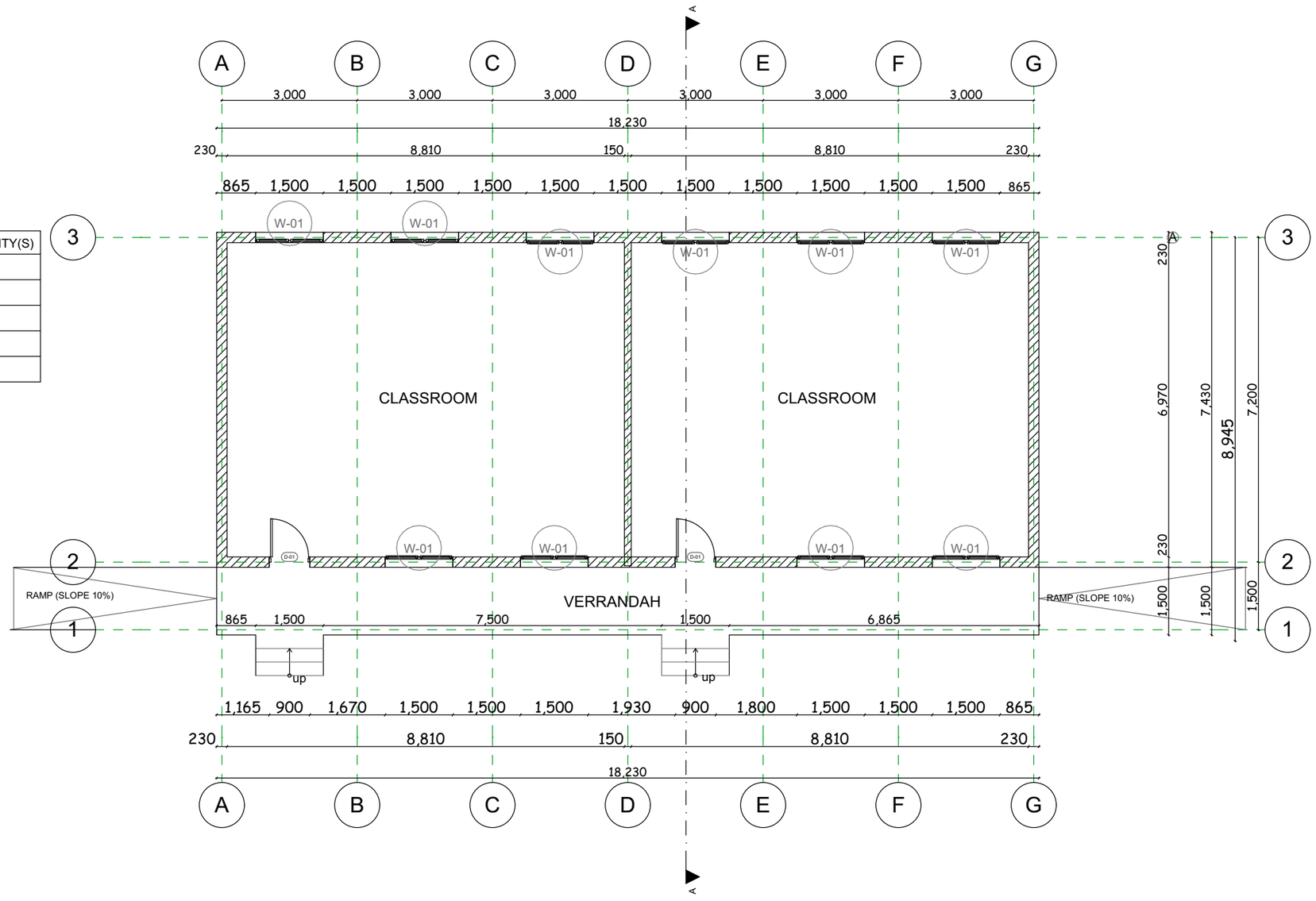
2- Classroom Block only -Gable

JUNE 2023

MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY ***IN COLLABORATION WITH*** **PRESIDENT'S OFFICE REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT**	**PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS FOR SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM**	DRAWING TITLE:2- CLASSROOMS BLOCK - GABLE DRAWING NO: ARC/2CRG/00	Date	June, 2023
			Drawn by	IAS
			Checked by	JR
			Scale	To fit

WINDOW SCHEDULE

WINDOW TYPE	HEIGHT x WIDTH	QUANTITY(S)
W 01	1500mm x 1500mm	10
TOTAL		10
DOOR SCHEDULE		
D 1	2500mm x 900mm	2
TOTAL		2



TOTAL FLOOR AREA = 163 SQM

MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY

IN COLLABORATION WITH

PRESIDENT'S OFFICE REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT

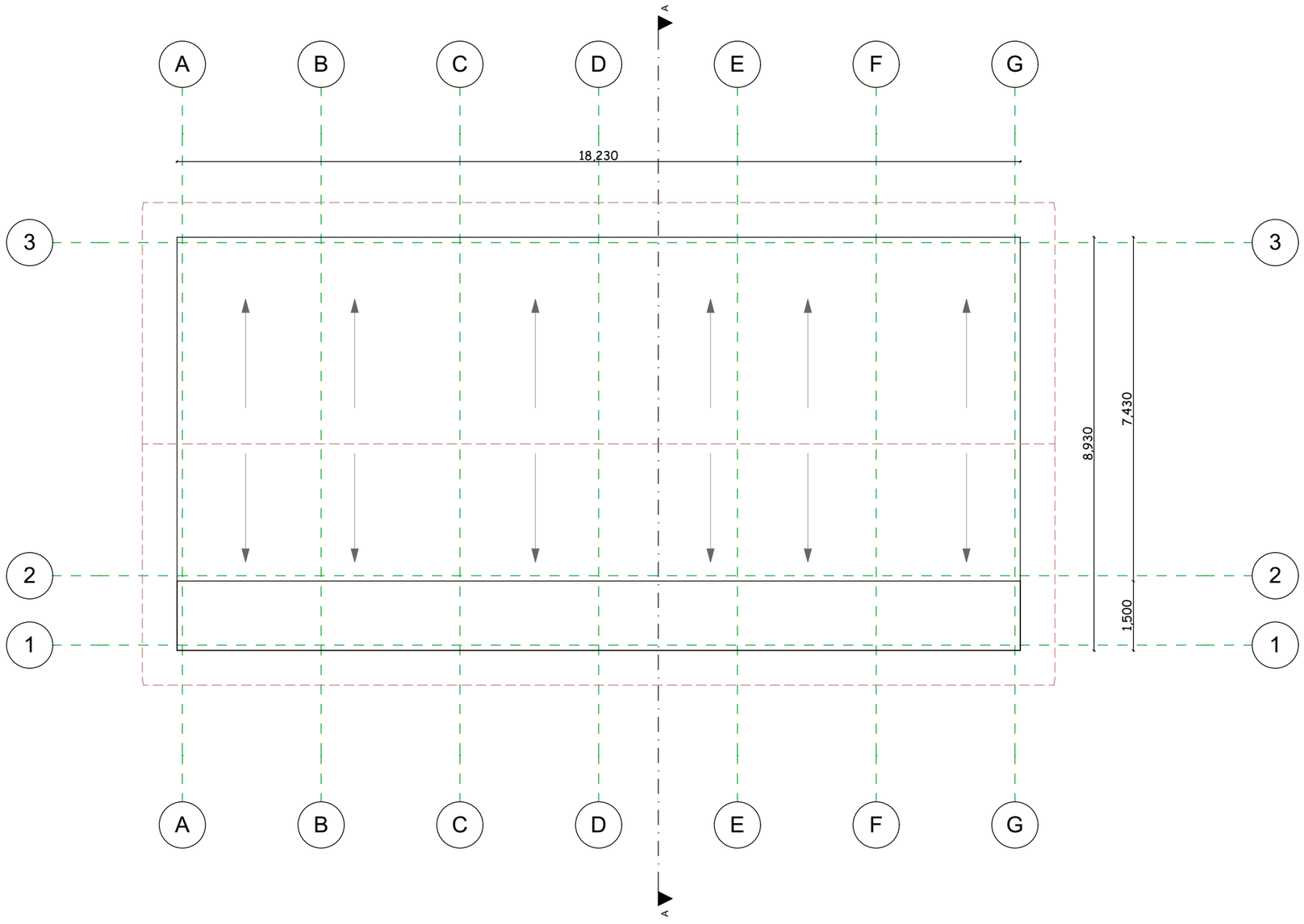
PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS FOR SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM

DRAWING TITLE:2- CLASSROOMS BLOCK GABLED

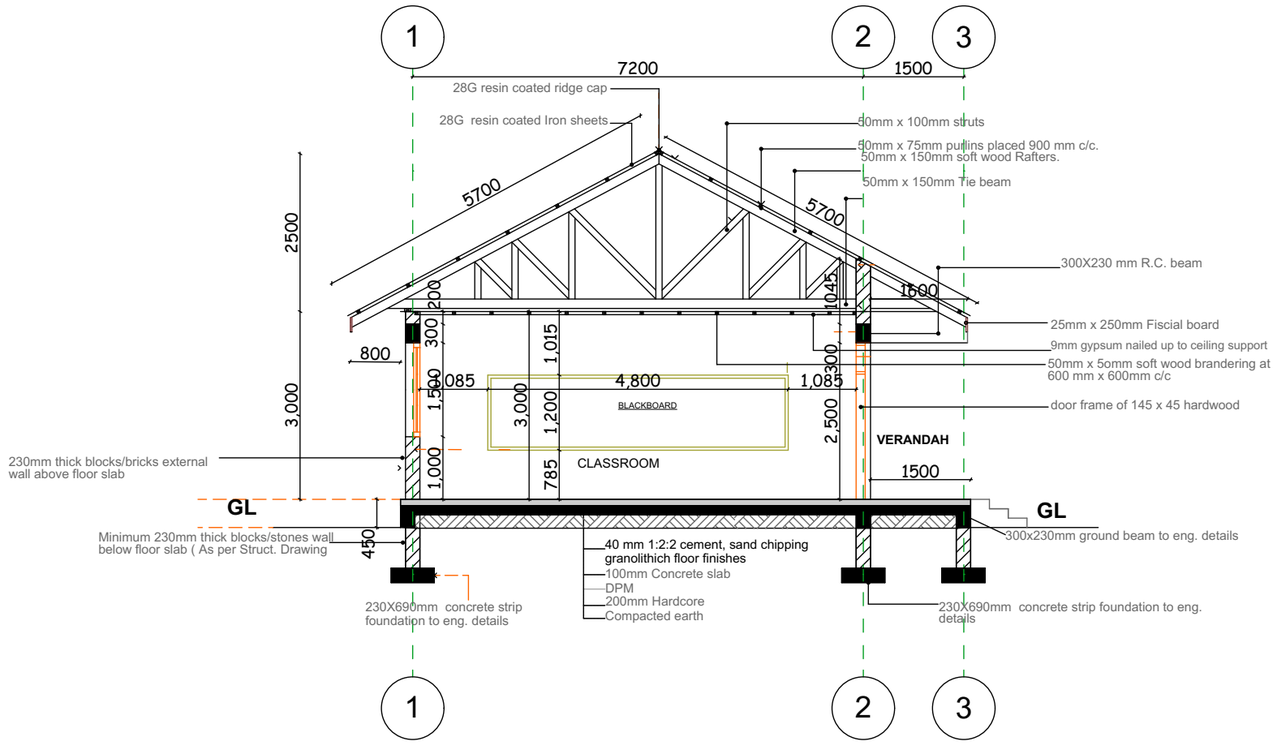
FLOOR PLAN

DRAWING NO: ARC/2CRG/01

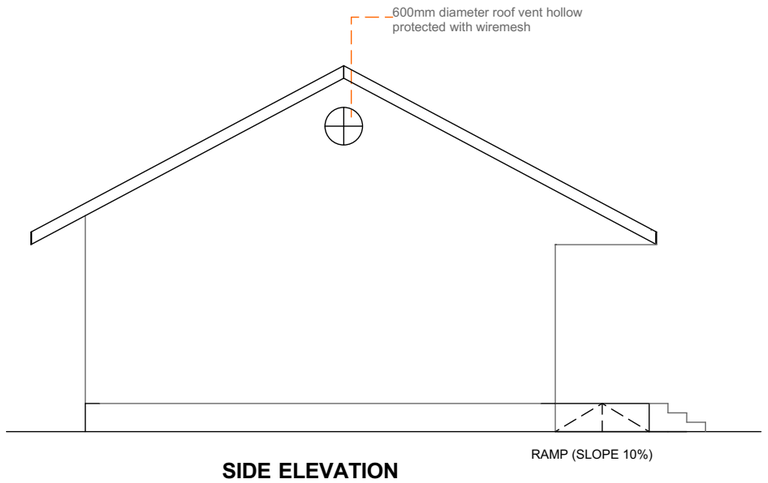
Date	June, 2023
Drawn by	IAS
Checked by	JR
Scale	To fit



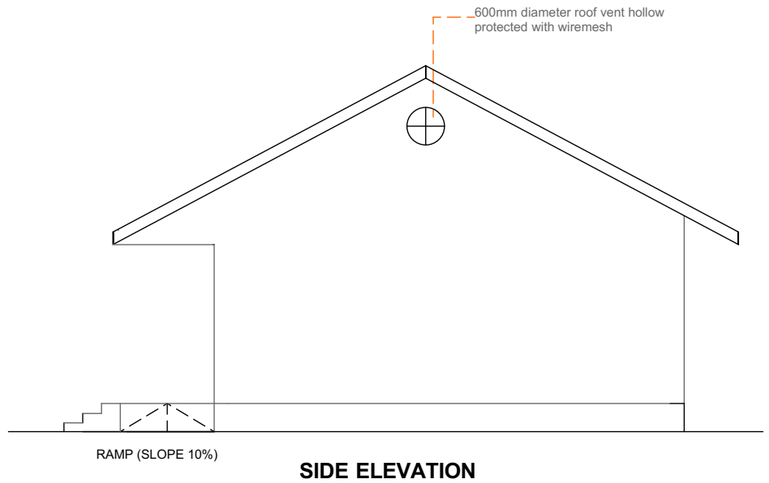
MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY *IN COLLABORATION WITH* **PRESIDENT'S OFFICE REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT**	**PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS FOR SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM**	DRAWING TITLE: 2- CLASSROOMS BLOCK GABLED **ROOF PLAN GABLE** DRAWING NO: ARC/2CRG/02	Date: June, 2023 Drawn by: IAS Checked by: JR Scale: To fit



TYPICAL SECTION

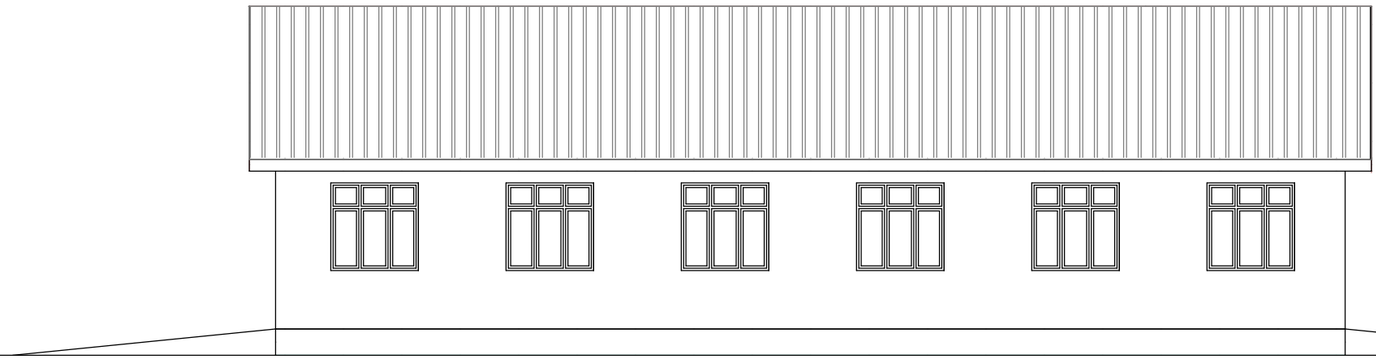


SIDE ELEVATION

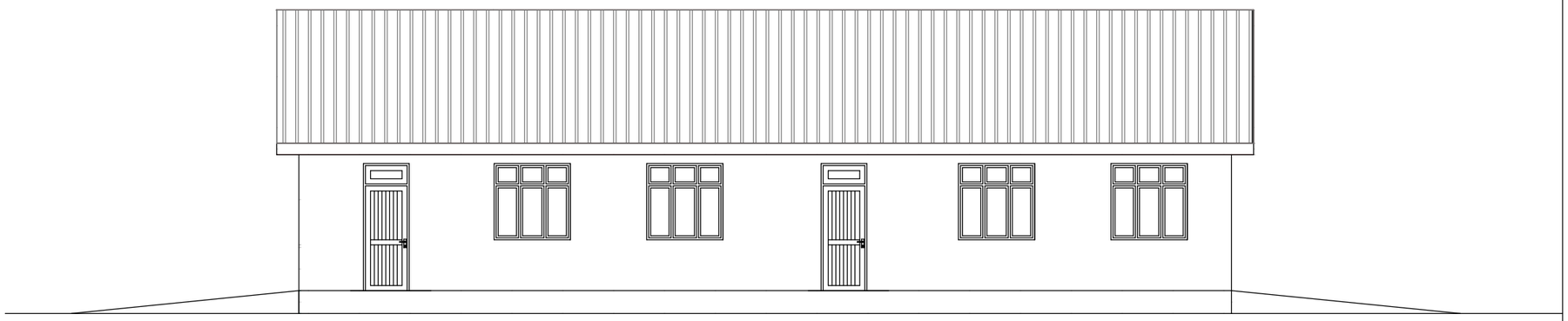


SIDE ELEVATION

MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY ***IN COLLABORATION WITH*** **PRESIDENT'S OFFICE REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT**	**PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS FOR SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM**	DRAWING TITLE:2-CLASSROOMS BLOCK GABLED **TYPICAL SECTION - SIDE ELEVATIONS** DRAWING NO: ARC/2CRG/03	Date: June,2023 Drawn by: IAS Checked by: JR Scale: To fit



REAR ELEVATION



FRONT ELEVATION

REVISED 1

MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY ***IN COLLABORATION WITH*** **PRESIDENT'S OFFICE REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT**	**PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS FOR SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM** PROPOSED 2- CLASSROOMS BLOCK GABLED	DRAWING TITLE: **ELEVATIONS GABLE** DRAWING NO: ARC/2CRG/04	Date	June, 2023
			Drawn by	IAS
			Checked by	JR
			Scale	To fit

THE UNITED REPUBLIC OF TANZANIA

PRESIDENT'S OFFICE
REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT

PROPOSED STANDARD DRAWINGS FOR SEQUIP

Schedule of Materials & Labour for Administration Block (Girl's National Schools)

PROJECT AREA

TANZANIA MAINLAND

Ministry of Education, Science and Technology,
Government City - Mtumba,
AFYA Street,
P.O Box 10,
40479 DODOMA.

President's Office,
Regional Administration,
& Local Government
Government City - Mtumba
TAMISEMI Street,
P. O. Box 1923,
41185 DODOMA.

JUNE, 2023

MOEST/PO-RALG

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
	MATERIALS				
A	**SUB-STRUCTURE -**PROVISIONAL				
1	**Strip Foundation (33m^3) Grade 15 & Blinding (7m^3) - Grade 10 Plain**				
	Aggregate (3/4")	40	M^3		
	Sand	19	M^3		
	Cement-50kgs (42.5)	172	Bags		
2	**Foundation Walls (204m^2)**				
	6" Cement & Sand block - Minimum Strength 3. 5 MPa	2,856	No		
	Sand	9	M^3		
	Cement -50kgs (42.5)	72	Bags		
	ALTENATIVE TO FOUNDATION WALL				
	***** If stone is applicable, then blockwork is not***				
	applicable. Therefore Engineer must confirm to the				
	Tenderer which item to be priced (Blockwork or				
	stone) depending on availability and suitability of				
	building materials.				
	Stone, complete with its associated mortar etc	*47*	*M^3*		
3	**Moram, Hardcore & Site sterilization (303m^2)**				
	Moram 200mm thick (4.5m^3 lorry)	13	Trips		
	Hardcore-150mm thick (4.5m^3 lorry)	10	Trips		
	Sand	10	M^3		
	Aldrin solution or other and equal approved (1000mls)	3	Bottle		
4	**Staircase, concrete grade 20'**				
	Aggregate (3/4")	4	M^3		
	Sand	2	M^3		
	Cement-50kgs (42.5)	37	Bags		
	Reinforcement - 16mm diameter high tensile 460N/mm2	3	PC'S		
	Reinforcement - 10mm diameter high tensile 460N/mm2	15	PC'S		
	Reinforcement - 8mm diameter high tensile 460N/mm2	2	PC'S		
	Timber 1" X 10 " (5.2m long)	4	PC'S		
	Timber 2" X 2"	2	PC'S		
	Nails-4" /3"	30	Kg		
	Supporting props (3m)	10	PC'S		

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
5	**30m^3 Oversite Concrete 100mm thick - 15 grade) + Ground Beam and column 34m^3- 20 grade**				
	DPM	303	M^2		
	Cement -50kgs (42.5)	324	Bags		
	Aggregates (1/2")	60	M^3		
	Sand	29	M^3		
	Reinforcement - 16mm diameter high tensile 460N/mm2	187	PC'S		
	Reinforcement - 8mm diameter high tensile 460N/mm2	100	PC'S		
	Timber 1" X 10" (5.2m long)	12	PC'S		
	Timber 2" X 2"(5.2m long	10	PC'S		
	Nails-4"	20	Kg		
	Nails-3"	30	Kg		
	Supporting props (3m)	40	PC'S		
	SUB-TOTAL SUBSTRUCTURE				
B.	**SUPERSTRUCTURE**				
1	**Walls (451m^2), Ring beam(35m^3), Columns(12m^3) & slab (14m^3)**				
	6" Cement & Sand block - Minimum Strength 3. 5 MPa	4,060	No		
	DPC (20m long)	10	Roll		
	Sand	46	M^3		
	Cement-50kgs (42.5)	434	Bags		
	Aggregates (1/2")	54	M^3		
	Reinforcement - 16mm diameter high tensile	205	PC'S		
	Reinforcement - 12mm diameter high tensile	130	PC'S		
	Reinforcement - 10mm diameter high tensile	3	PC'S		
	Reinforcement - 8mm diameter	250	PC'S		
	Binding Wire - 25kg	5	Roll		
	Timber 1" X 10" to Sides (5.2m long)	82	PC'S		
	Timber 1" X 5" (Plates)(5.2m long	20	PC'S		
	Timber 2" X 2" (3.5m)	20	PC'S		
	Supporting Props (3m)	80	PC'S		
	SUB-TOTAL SUPER STRUCTURE				
	ALTENATIVE TO BLOCKWORK WALL				
	***** If brickwork is applicable, then blockwork is not***				
	applicable. Therefore Engineer must confirm to the				
	Tenderer which item to be priced (Blockwork or brickwork)				
	depending on availability and suitability of building				
	materials. Note that: Strictly do not use stretcher bond				
	when using bricks, the acceptablebond is either Flemish				
	or English or header.				
	Brickwork				
	230mm thick One brick wall	*451*	*m^2*		

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
C.	**ROOF STRUCTURE & COVERING**				
1	**Roof Structure -** Provisional				
	Timber 2 " X 3" Purlin	4,488	ft		
	Timber 2" X 4" Strusts and wall plate	975	ft		
	Timber 2" X 6" Rafter,Kingpost and Tie beam	1,584	ft		
	Nails -5"	20	Kg		
	Nails -4"	30	Kg		
	Nails -3"	30	Kg		
	16mm diameter Anchor bolts, 500mm long	92	Nr.		
	NOTE: The above softwood timber structure should be pressure impregnated treated				
2	**Roof Covering**				
	28 G Resincoated Iron sheet	477	M^2		
	Hips/Ridge and valley - 28 G resin coat	11	PC'S		
	Aluminium Roofing Nails	15	Packet		
3	**Gutter's**				
	Cement -50kgs (42.5)	245	Bags		
	Water proofing cement (20ml Bucket)	4	Bucket		
	Aggregates (1/2")	26	M^3		
	Sand	13	M^3		
	Reinforcement - 10mm diameter high tensile 460N/mm2	80	PC'S		
	Timber 1" X 10 " (5.2m long)	35	PC'S		
	Timber 2" X 2"	10	PC'S		
	Nails-4" (50kg Per Bag)	1	Bags		
	Nails-3" (50 Kg Bag)	1	Bags		
	Supporting props (3m)	100	PC'S		
	Upvc 100mm diameter down pipe; Class B	12	PC'S		
	PVC bend 90'	12	PC'S		
	PVC bend 45'	12	PC'S		
	Gutter Clamp 3"	48	PC'S		
	Connector/reducer	12	PC'S		
	Connector outer	12	PC'S		
	Corner Inner	12	PC'S		
	SUB-TOTAL ROOF STRUCTURE & COVERING				

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
D.	**CEILING**				
	Gypsum board -9mm thick	99	PC'S		
	Plain Cornice (2.5m)	80	PC'S		
	Screw 1.25" 500pcs/box	5	Box		
	Gypsum powder 25kg	24	Bags		
	Fibre tape (90m)	4	Roller		
	Treated softwood Timber 2" X 2"	5,682	ft		
	Nails 4"/3' (50Kg per Bag)	1	Bags		
	SUB-TOTAL FOR CEILING				
E.	**DOOR**				
1	**40mm thick hardwood paneled door shutter**				
	900 x2200mm high door	18	pc's		
	800 x2200mm high	1	pc's		
	800 x2200mm high	4	pc's		
2	**45 x 145mm Frames (hardwood),Varnish & Glass**				
	900 x2750mm high door including transome	18	pc's		
	800 x 2750mm high	1	pc's		
	800 x2100mm high	4	pc's		
	Brush 3"and 2.5"	4	pc's		
	Sand paper (msasa) No.80	8	LM		
	Clear Varnish - 4Litres	4	TIN		
	Thinner for Varnish	6	Litres		
3	**IronMongeries**				
	Mortice lock Three lever	19	No		
	Mortice lock Two lever	4	No		
	Heavy Dutty Door closer	19	No		
	5mm thick clear glass for vent to doors	10	m^2		
	25 x 30mm thick timber beads	56	m		
	Brass hinges - 100mm	34.50	Pairs		
	SUB-TOTAL FOR DOORS				

F.	**WINDOWS**				
1	**Aluminium sliding Window comprising 100mm x 1.2mm thick standard aluminium profile ex-china/Turkey infill with 5mm thick glass complete with mosquito proofing panel, including all accessories, ironmongries, cutting and pinning lugs**				
	Overallsize 2750 x 1750mm high	11	No		
	Overallsize 1500 x 1750mm high	9	No		
	Overall size 1500x 650 mm high	4	No.		

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
2	**25 x 4mm thick flat bar grill painted red-oxide with 25 x 25mm square pipes frame and all necessary accessories**				
	Overallsize 2750 x 1750mm high	11	No		
	Overallsize 1500 x 1750mm high	9	No		
	Overall size 1500x 650 mm high	4	No.		
	SUB-TOTAL FOR WINDOWS				
G.	**FINISHING**				
1	**Tiles Floor finishing**				
	Sand	14	M^3		
	Cement-50kgs (42.5)	86	Bags		
	500x500mm x 9mm Porcelain as per Spanish equal or other	170	Box		
	400x400mm x 8mm thick floor tiles (1.92m2 per box)	20	Box		
	Skirting (600 mm long; 25No/Box)	14	Box		
	Grouts (20Pkt per Box)	5	Box		
2	**Wall Finishing**				
	Sand	46	M^3		
	Cement-50kgs (42.5)	291	Bags		
	White cement - 40kg	25	Bags		
	Gypsum powder -25kg	75	Bags		
	250x400mm x 8mm glazed ceramic wall tiles(1.5m2 per box)	66	Box		
	Grouts (20Pkt per Box)	2	Box		
	Sand paper Msasa No.120	5	Roll		
	SUB-TOTAL FOR FINISHING				
H.	**PAINTING & DECORATION**				
	Emulsion Paint - 20 LTRS	20	buckets		
	Weather guard Paint - 20 LTRS	8	buckets		
	Washable paint -20 LTRS	12	buckets		
	Primer paint -20 LTRS	5	buckets		
	Solvent - 5LTRS	2	TIN		
	Brush 3"	4	Pcs		
	Roller	4	Pcs		
	Gloss paint-4LTR	2	TIN		
	Bitumen paint - 4Litres	4	TIN		
	SUB-TOTAL FOR PAINTING&DECORATION				

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
J.	**ELECTRICAL & AIRCONDITIONING INSTALLATION**				
	Single fluorescent fitting Complete,	37	No		
	Double switch socket	22	No		
	Main switch 4way,3PH with integral RCD 100A/300mmA	1	No		
	NB: Wiring cables shall be copper have a minimum cross section area of 1.5sqmm and shall comply with an appropriate British or Harmonized standard for either thermoplastic or thermosetting insulated electric cables.				
	Single core wire 1.5sqmm - Red	4	R0ll		
	Single core wire 1.5sqmm - Black	4	Roll		
	Single core wire 1.5sqmm -green	4	Roll		
	Single core wire 2.5sqmm - red	2	Roll		
	Single core wire 2.5sqmm -Black	2	Roll		
	Single core wire 2.5sqmm green	2	Roll		
	Single core wire 4sqmm -Red	20	M		
	Single core wire 4sqmm -Black	20	M		
	Single core wire 4sqmm -Green	20	M		
	Ceiling fan National or other equal	12	PC's		
	3gang 1 way switch	1	No		
	1gang 1 way switch	5	No		
	2gang 1 way switch	11	No		
	1gang 2 way switch	1	No		
	4gang 1 way switch	1	No		
	DP switch 20A	3	No		
	Cooker control unit 45A	1	No		
	Ceiling light complete with energy saver 18W	6	No		
	Earth rod approved copper 16mm not less than 1200mm	2	No		
	Earth wire 4sqmm	20	M		
	Metal box twin	25	No		
	Metal box single	29	No		
	Junction box	50	No		
	Conduit pipe	250	PC's		
	Elbow	40	PC's		
	Conduit coupling	70	PC's		
	Round cover	60	PC's		
	Round box	10	PC's		
	Fine screw	2	Packet		
	12U rack cabinate,complete with accessories	1	PC		
	Patch panel cat 6 24 port	1	PC		
	Switch port 24	1	No		
	Dual Face plate RJ45 CAT 6	13	No		
	plastic clips 22mm	4	BOX		
	Cat 6 UTP Cable (300m)	1	Roll		
	TV switch	2	PCS		
	Handdrier	3	No		
2	**Air Conditioning**				
	18000BTU,LG A.C or other equal with all necessary accessories	1	No		
	TOTAL FOR ELECTRICAL & A.C INSTALLATION				

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
	PLUMBING AND DRAINAGE INSTALLATIONS.				
	Water Distribution System				
	PPR Pipes				
	32mm Dia	7	PCS		
	25mm Dia	18	PCS		
	20mm Dia	6	PCS		
	15mm Dia	11	PCS		
	12mm Dia Flexible Pipe	36	PCS		
	Valves				
	32mm Dia	3	PCS		
	25mm Dia	11	PCS		
	20mm Dia	7	PCS		
	15mm Dia	8	PCS		
	15mm Dia Angle Valves	36	PCS		
	20mm Dia WATER TAPE WITH STOP COCK/PUSH COCK	1	PCS		
	Reducig Bush				
	Ø32 / 25mm	4	PCS		
	Ø32 / 20mm	2	PCS		
	Ø32 / 15mm	2	PCS		
	Ø25 / 20mm	8	PCS		
	Ø25 / 15mm	8	PCS		
	Ø20 / 15mm	8	PCS		
	90^0 Plain Elbow				
	Ø32mm	6	PCS		
	Ø25mm	11	PCS		
	Ø20mm	16	PCS		
	Ø15mm	18	PCS		
	90 Adaptor Elbow (Female)				
	Ø15mm	28	PCS		
	90 Adaptor Elbow (Male)				
	Ø15mm	10	PCS		
	T Plain				
	Ø32mm	5	PCS		
	Ø25mm	8	PCS		
	Ø20mm	11	PCS		
	Ø15mm	14	PCS		
	Socket				
	Dia. 15mm	16	PCS		
	Dia. 20mm	12	PCS		
	Dia. 25mm	18	PCS		
	Dia. 32mm	6	PCS		

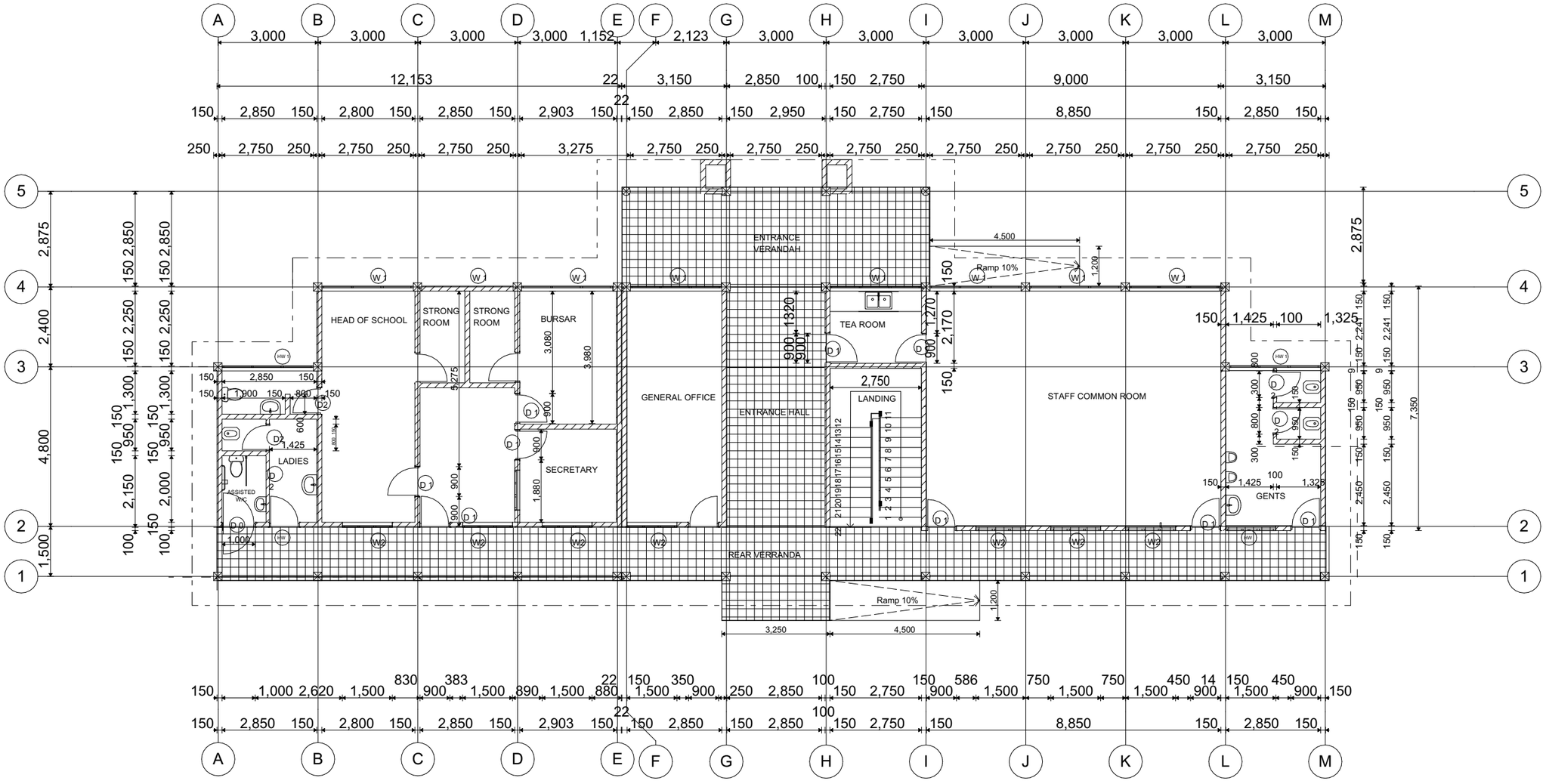
ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
	Sewage				
	PIPING (uPVC PIPE)				
	100mm Dia	18	PCS		
	50mm Dia	4	PCS		
	40mm Dia	8	PCS		
	32mm Dia	8	PCS		
	Elbows	48	PCS		
	Bend	31	PCS		
	Bracket	36	PCS		
	Filter	13	PCS		
	Fittings				
	100mm Dia Y-Tee	6	PCS		
	50mm Dia Y-Tee	7	PCS		
	100mm Dia Inspection Tee	5	PCS		
	50mm Dia Inspection Tee	5	PCS		
	Socket				
	110mm Dia	12	PCS		
	50mm Dia	8	PCS		
	40mm Dia	8	PCS		
	32mm Dia	6	PCS		
	90^{O} Elbow				
	110mm	5	PCS		
	50mm	4	PCS		
	40mm	5	PCS		
	32mm	3	PCS		
	45^{O} Elbow				
	110mm	7	PCS		
	50mm	4	PCS		
	40mm	5	PCS		
	32mm	6	PCS		
	Reducing Bush				
	50mm/40mm	9	PCS		
	40mm/32mm	6	PCS		
	Reducing Socket				
	50mm/40mm	8	PCS		
	40mm/32mm	9	PCS		
	Rain Water				
	Piping (uPVC PIPE)				
	100mm Dia	20	PCS		

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
	100mm Dia Floor gully including all fittings.	10	PCS		
	Elbow	30	PCS		
	Bend	24	PCS		
	Bracket	16	PCS		
	Filter	4	PCS		
	Sanitary Fittings				
	White Vitreous China Floor Standing Back to Wall Rimless Water Closet	2	pcs		
	White Vitreous China SQUATTING PAN with TRAP as any approved equivalent with Dimenions 510mm x 410mm , complete with 9Litres Wall mounted Push Type flush tank	8	pcs		
	Bib Cock with Jet Spray or its equivalent approved	10	pcs		
	1000mm x 600mm Vanity Mirror	5	pcs		
	White Vitreous ChinaWall Hung Wash Hand Basin with Half Pedestal and quarter turn faucet as manufactured by any manufacturer approved with gurantee	5	pcs		
	100mm x 100mm PVC Floor Drain with Cover	6	pcs		
	Soap dispenser with Holder CERA or its equivalent approved	5	pcs		
	Wall Hung Urinal Bowl with push button flashing Valve or its approved equivalent	4	pcs		
	Timber / Ceramic Urinal separator	5	pcs		
	Stainless Steel **FRANKE Nouveau Single Kitchen Sink** Single bowl / Single drainer Kitchen Sink with dimensions 460mm x 800mm complete with basket strainer and all other accessories	1	pcs		
	Max Sink Sink Mixer Swivel Spout Chrome	1	pcs		
	Toilet Paper Holder	10	pcs		
	Portable fire Extinguishers				
	CO2, 9ltrs bottle as manufactured by NAFFCO or equal approved.	3	pcs		
	CO2, 9kg bottle as manufactured by NAFFCO or equal approved.	3	pcs		
	TOTAL FOR PLUMBING INSTALLATION				

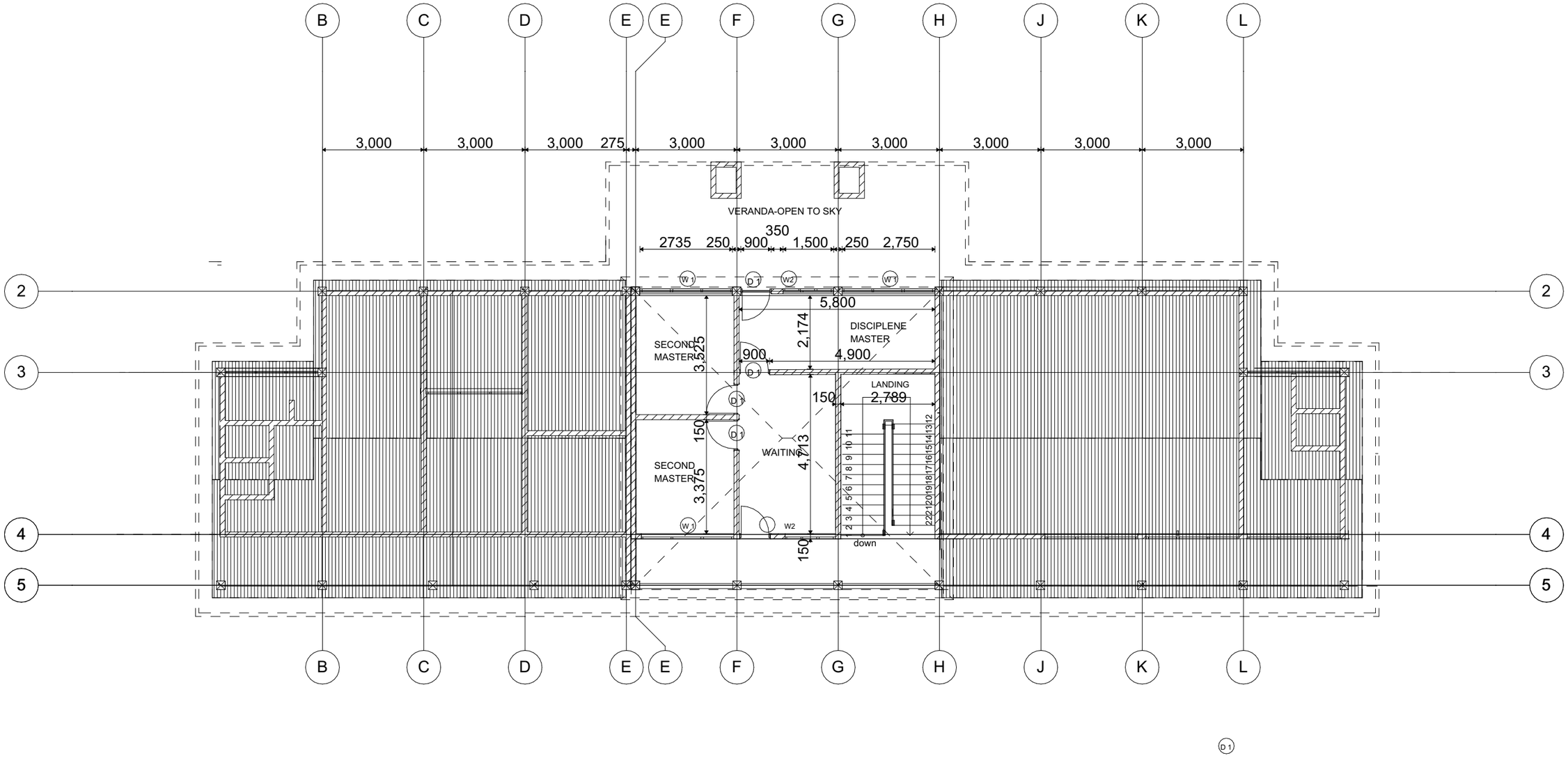
	GENERAL SUMMARY				**AMOUNT -TZS**
	ADMINISTRATION BLOCK				
A.	SUB-STRUCTURE -PROVISIONAL				
B.	SUPERSTRUCTURE				
C.	ROOF STRUCTURE & COVERING				
D.	CEILING				
E.	DOOR				
F.	WINDOWS				
G.	FINISHING				
H.	PAINTING & DECORATION				
J.	ELECTRICAL INSTALLATION				
K	PLUMBING INSTALLATION				
	TOTAL BUILDING MATERIALS CARRIED TO GENERAL SUMMARY				
	ADD:				
	LABOUR COST CARRIED TO GENERAL SUMMARY : (Improve and Fill the respective Labour form)				
	Note:				
	i. Refer attached specification and number of Furniture(s) for Administration Block				
	ii. Refer General Summary for: Preliminary, Transportation and Supervision Costs				
	iii. Preliminary cover the following item:				
	- Setting out working tools, Equipments, Temporary toilets, water for the works, Scaffolding,				
	- Power for the works, Security, store, Materials test and signboard.				
	iv. Supervision cost depend on guideline of the project				
	v. Installation of Ceiling Fan is an option, depend on whether condition of specific area .				

TWO STOREY ADMINISTRATION BLOCK

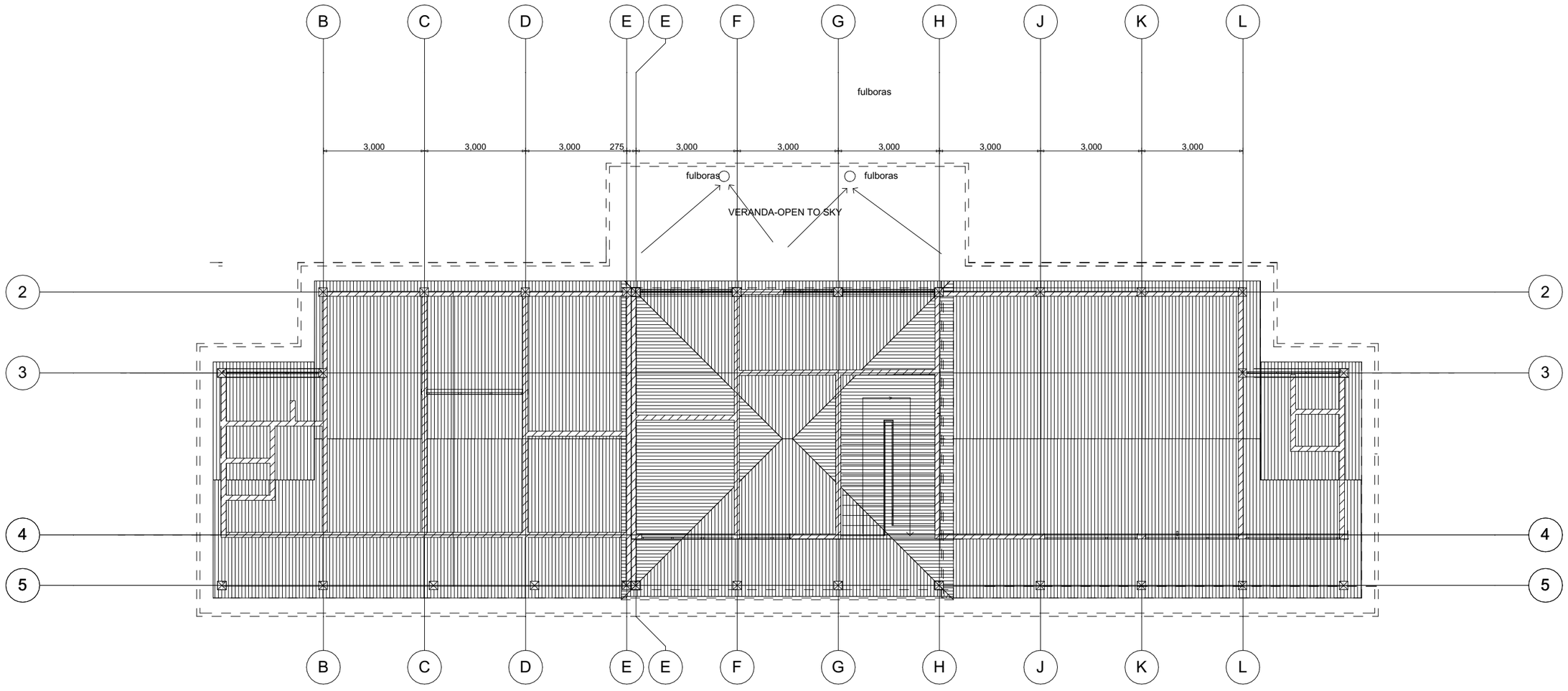
ARCHITECTURAL DRAWING



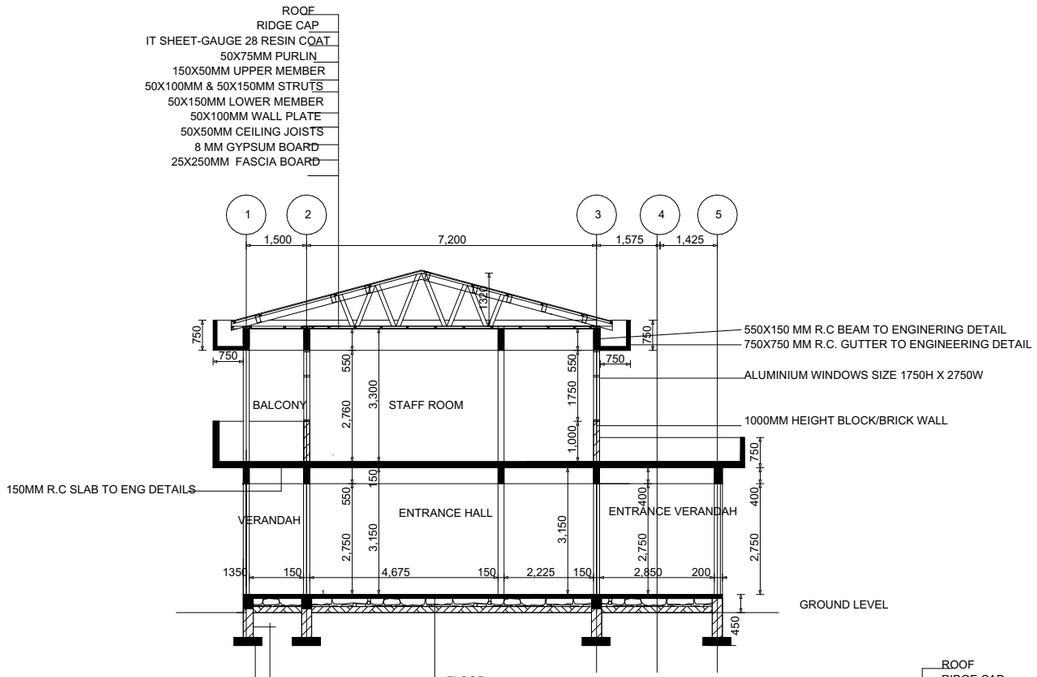
MINISTRY OF EDUCATION,SCIENCE AND TECHNOLOGY *IN COLABORATION WITH* **PRESIDENT'S OFFICE REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT**	**PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS FOR SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM**	DRAWING TITLE: **ADMINISTRATION BLOCK GROUND FLOOR PLAN - REVISED 2023** DRAWING NO.: **SQP/ARC/ADM/01**	**DRAWN BY I.S** **CHECKED BY C.L, H.N, & N.L** SCALE 1;200 June,2023



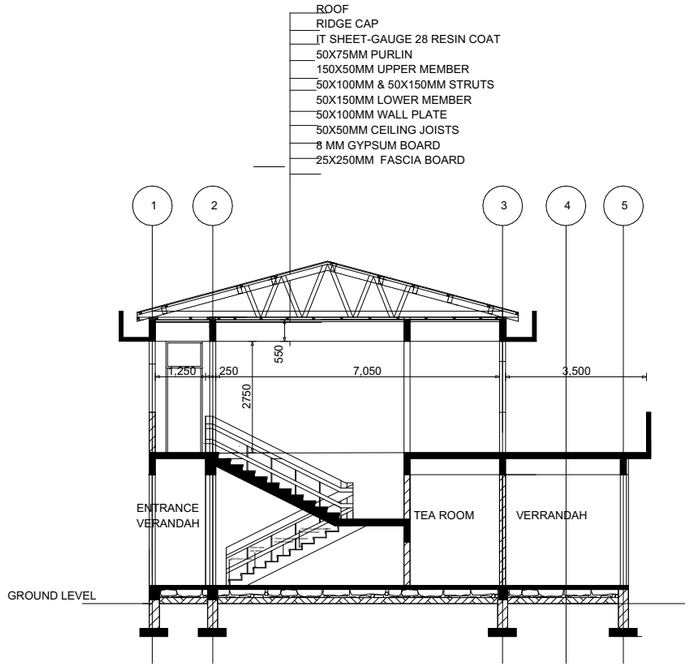
MINISTRY OF EDUCATION,SCIENCE AND TECHNOLOGY *IN COLABORATION WITH* **PRESIDENT'S OFFICE REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT**	**PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS FOR SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM**	DRAWING TITLE **ADMINISTRATION BLOCK FIRST FLOOR PLAN - REVISED 2023** DRAWING NO. **SQP/ARC/ADM/02**	**DRAWN BY I.S** **CHECKED BY C.L, H.N, & N.L** SCALE 1;200 June,2023



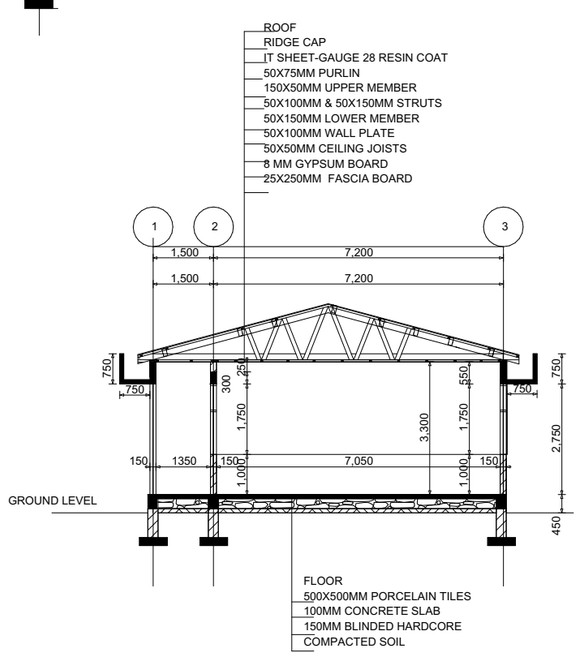
MINISTRY OF EDUCATION ,SCIENCE AND TECHNOLOGY *IN COLABORATION WITH* **PRESIDENT'S OFFICE REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT**	**PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS FOR SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM**	DRAWING TITLE **ADMINISTRATION BLOCK ROOF PLAN - REVISED 2023** DRAWING NO. **SQP/ARC/ADM/03**	**DRAWN BY I.S** **CHECKED BY C.L, H.N, & N.L** SCALE 1;200 June,2023



SECTIONS THROUGH ENTRANCE HALL



SECTIONS THROUGH STAIRCASE



SECTIONS THROUGH SINGLE STOREY PART

MINISTRY OF EDUCATION ,SCIENCE AND TECHNOLOGY *IN COLABORATION WITH* **PRESIDENT'S OFFICE REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT**	**PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS FOR SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM**	DRAWING TITLE **ADMINISTRATION BLOCK SECTIONS - REVISED 2023** DRAWING NO. **SQP/ARC/ADM/04**

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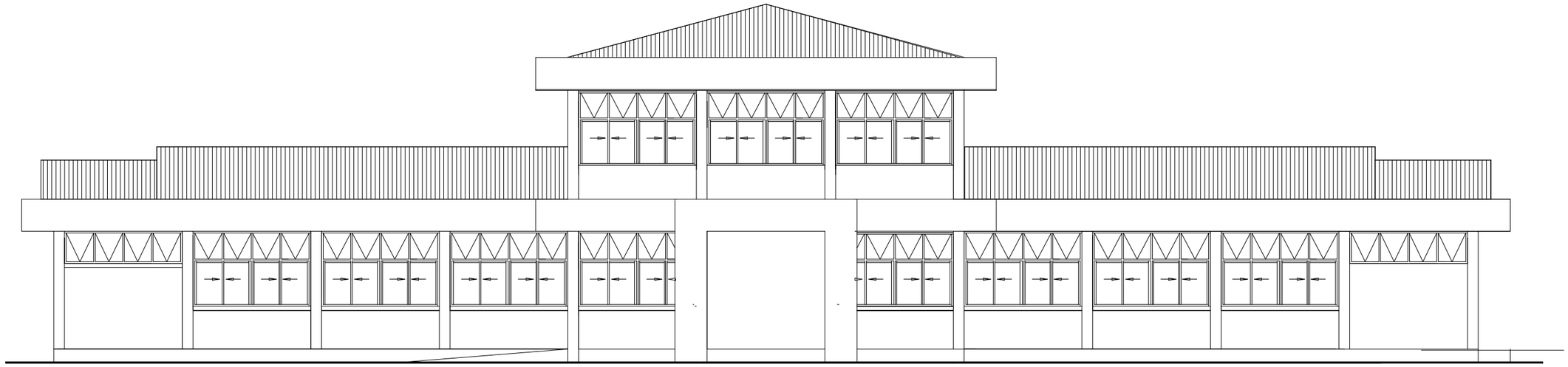
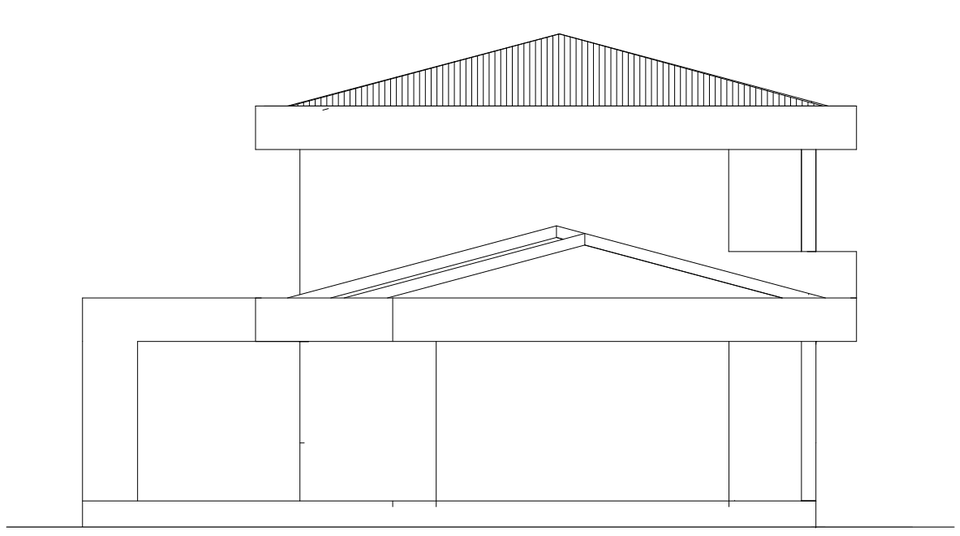
SCALE 1;200
June,2023

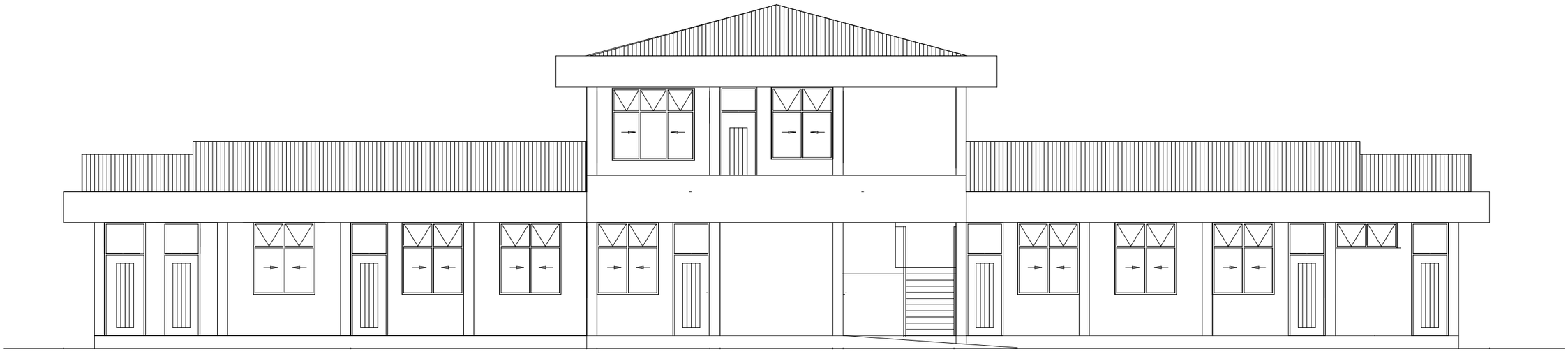


FRONT ELEVATION

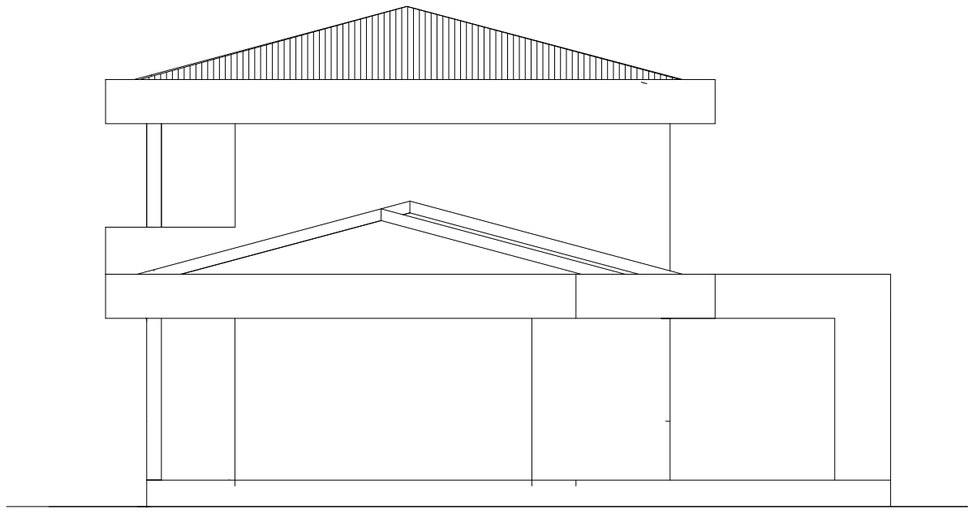


TYPICAL SIDE ELEVATION

MINISTRY OF EDUCATION ,SCIENCE AND TECHNOLOGY *IN COLABORATION WITH* **PRESIDENT'S OFFICE REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT**	**PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS FOR SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM (SEQUIP)**	DRAWING TITLE **ADMINISTRATION BLOCK FRONT AND SIDE ELEVATION-REVIED 2023** DRAWING NO. **SQP/ARC/ADM/05**	**DRAWN BY I.S** **CHECKED BY C.L, H.N, & N.L** SCALE 1;200 June,2023

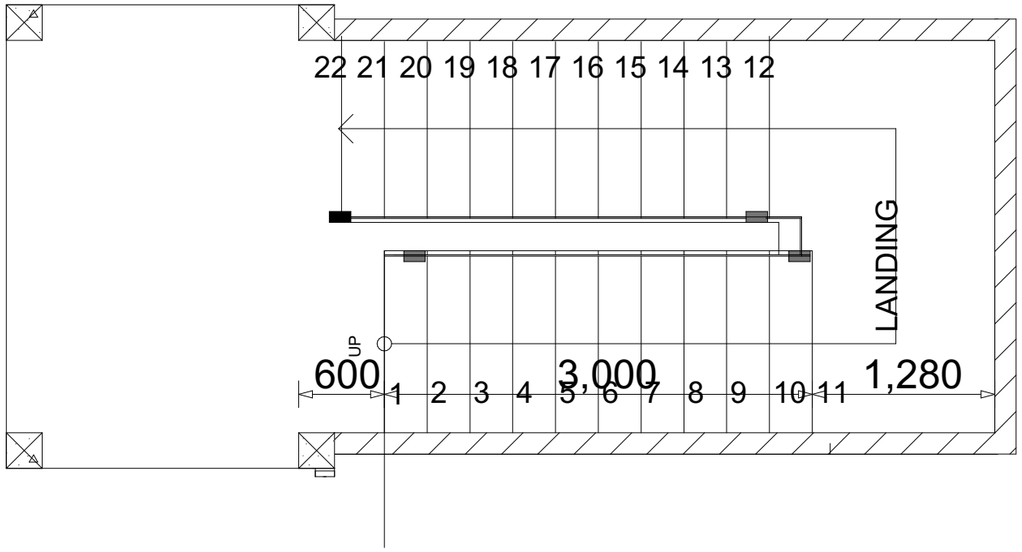


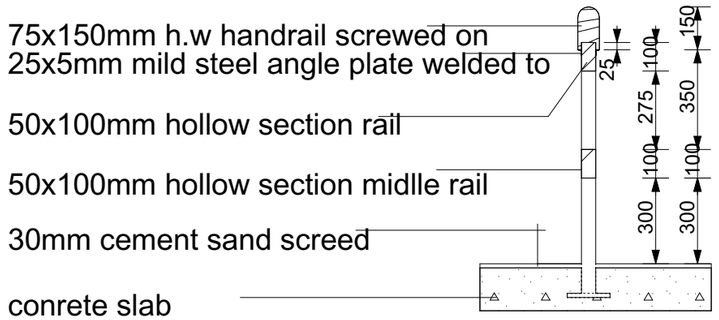
REAR ELEVATION



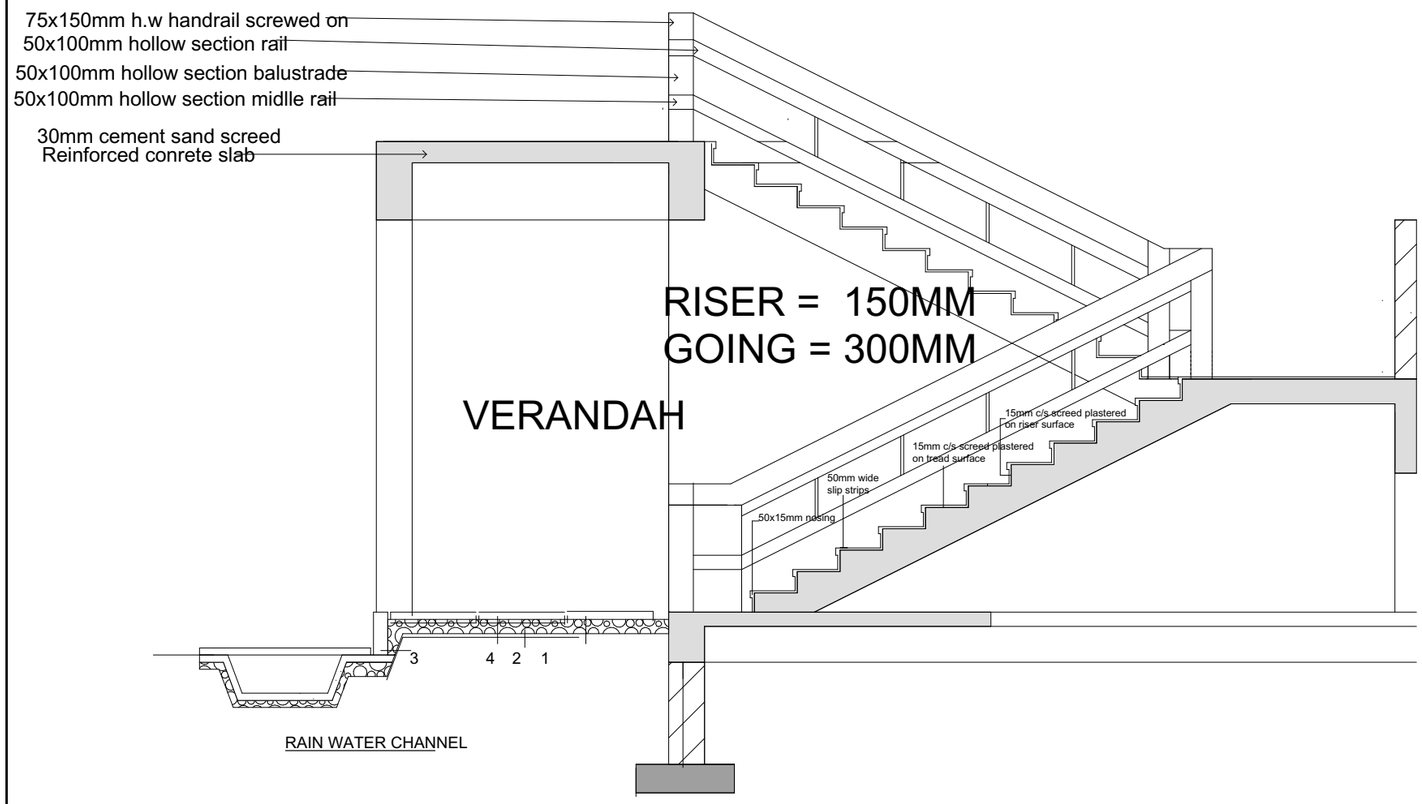
TYPICAL SIDE ELEVATION

MINISTRY OF EDUCATION ,SCIENCE AND TECHNOLOGY *IN COLABORATION WITH* **PRESIDENT'S OFFICE REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT**	**PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS FOR SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM (SEQUIP)**	DRAWING TITLE **ADMINISTRATION BLOCK REAR AND SIDE ELEVATION -REVISED 2023** DRAWING NO. **SQP/ARC/ADM/06**	**DRAWN BY I.S** **CHECKED BY C.I, H.N, & N.I** SCALE 1;200 June,2023





SECTION B-B



MINISTRY OF EDUCATION ,SCIENCE AND TECHNOLOGY *IN COLABORATION WITH* **PRESIDENT'S OFFICE REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT**	**PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS FOR SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM**	DRAWING TITLE **ADMINISTRATION BLOCK STAIR DETAILS - REVISED 2023** DRAWING NO. **SQP/ARC/ADM/07**	**DRAWN BY I.S** **CHECKED BY C.L, H.N, & N.L** SCALE 1;200 June,2023

SCHEDULE OF MATERIALS

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
	MATERIALS				
A	**SUB-STRUCTURE -**PROVISIONAL				
1	**Strip Foundation - Grade 15 Plain (28m^3)**				
	Aggregate (3/4")	28	M^3		
	Sand	13	M^3		
	Cement-50kgs (42.5)	112	Bags		
2	**Foundation Walls (81m^2)**				
	6" Cement & Sand block - Minimum Strength 3. 5 MPa	2,130	No		
	Sand	7	M^3		
	Cement -50kgs (42.5)	36	Bags		
	ALTENATIVE TO FOUNDATION WALL				
	***** If stone is applicable, then blockwork is not applicable.***				
	Therefore Engineer must confirm to the Tenderer which				
	item to be priced (Blockwork or stone) depending				
	on availability and suitability of building materials.				
	Stone, complete with its cement and sand mortar (1:4)	*35*	*M^3*		
3	**Moram, Hardcore & Site sterilization**				
	Moram (4.5m^3 lorry)	14	Trips		
	Hardcore (4.5m^3 lorry) - 200mm thick	14	Trips		
	Sand	16	M^3		
	Aldrin solution or other and equal approved (1000mls)	3	Bottle		
4	**Oversite Concrete 100mm thick - 15 grade ,Ground Beam and base- 20 grade**				
	DPM	333	M^2		
	Cement -50kgs (42.5)	216	Bags		
	Aggregates (1/2")	40	M^3		
	Sand	20	M^3		
	Reinforcement - 12mm diameter high tensile 460N/mm2	58	PC'S		
	Reinforcement - 8mm diameter high tensile 460N/mm2	56	PC'S		
	A252 Mesh 200 x 200x 6.16kg/m2	4	PC'S		
	Timber 1" X 10" (5.2m long)	46	PC'S		
	Timber 2" X 2"	20	PC'S		
	Nails-4"	40	Kgs		
	Nails-3"	45	Kgs		
	Supporting props (3m)	30	PC'S		
	SUB-TOTAL SUBSTRUCTURE				

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
B.	**SUPERSTRUCTURE**				
1	**Walls Ring beam & Columns**				
	6"Cement & Sand block-Minimum Strength 3. 5 MPa	3,500	No		
	DPC (30m long, 1m wide)	2	Roll		
	Sand	18	M^3		
	Cement-50kgs (42.5)	138	Bags		
	Aggregates (1/2")	8	M^3		
	Reinforcement - 12mm diameter high tensile	62	PC'S		
	Reinforcement - 8mm diameter high tensile	61	PC'S		
	Binding Wire - 25kg	1	Roll		
	Re use substructure formwork				
	Timber 1" X 10" to Sides (5.2m long)	10	Pc's		
	Timber 1" X 5" (Plates) (5.2m long	11	Pc's		
	Timber 2" X 2" (3.5m)	20	Pc's		
	Supporting props (3m)	20	Pc's		
	SUB-TOTAL SUPER STRUCTURE				
	ALTENATIVE TO BLOCKWORK WALL				
	***** If brickwork is applicable, then blockwork is not***				
	applicable. Therefore Engineer must confirm to the				
	Tenderer which item to be priced (Blockwork or brickwork)				
	depending on availability and suitability of building				
	materials. Note that: Strictly do not use stretcher bond				
	when using bricks, the acceptablebond is either Flemish				
	or English or header.				
	Brickwork				
	230mm thick One brick wall	*190*	m^2		
	150mm thick One brick wall	*90*	m^2		
C.	**ROOF STRUCTURE & COVERING**				
1	**Roof Structure -** Provisional - 5.2 m				
	Timber 2 " X 3" Purlins	70	Pc's		
	Timber 2" X 4" Struts and wall plates	98	Pc's		
	Timber 2" X 6" Rafter, King post and Tie beam	95	Pc's		
	Fascia board 1" X 10" -ref. Semi Hardwood (5.2m long)	17	Pc's		
	Nails -5"	50	Kgs		
	Nails -4"	30	Kgs		
	Nails -3"	30	Kgs		
	16mm diameter mild steel bolt including nuts 500mm long	46	No		
	NOTE: The above softwood timber structure should be pressure impregnated treated				

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
2	**Roof Covering**				
	28 G Resincoated Iron sheet	410	M^2		
	Ridge - 28 G - 3m long	12	PC'S		
	Roofing Nails	41	Packet		
3	**Gutter's**				
	Upvc 100mm half round (6m long)-5''	12	PC'S		
	Upvc 100mm diameter down pipe; Class B	4	PC'S		
	PVC outlet	8	PC'S		
	PVC bend 90'	8	PC'S		
	PVC bend 45'	8	PC'S		
	Gutter Clamp 3''	32	PC'S		
	Connector/reducer	8	PC'S		
	Connector outer	8	PC'S		
	Corner Inner	8	PC'S		
	SUB-TOTAL ROOF STRUCTURE & COVERING				
D.	**CEILING**				
	Gypsum board -9mm thick (288m^2)	100	PC'S		
	Plain Cornice	65	PC'S		
	Screw 1.25'' 500pcs/box	4	Box		
	Gypsum powder -	13	Bags		
	Fiber tape (90m)	3	Roller		
	Treated softwood Timber 2'' X 2'' - 5.2M Long	190	PC'S		
	Nails 4''	28	Kgs		
	Nails 3''	45	Kgs		
	SUB-TOTAL FOR CEILING				
E.	**DOOR**				
1	**40mm thick hardwood Matchboarded door shutter**				
	1500 x2100mm high double door	2	PC'S		
	900 x2100mm high	6	PC'S		
	750 x 1500mm high	2	PC'S		
2	**Frames (hardwood) & Varnish**				
	1500 x 2500mm high double door	2	PC'S		
	1000 x 2500mm high	6	PC'S		
	750 x 1500mm high	2	PC'S		
	Brush 3''	4	Pcs		
	Sand paper (msasa) No.80	4	LM		
	Clear Varnish - 4Litres	2	TIN		
	Thinner for Varnish	3	Litres		
3	**Ironmongeries - ref Union**				
	Mortice lock Three lever	8	No		
	Barrel bollt	2	No		
	Brass hinges - 100mm	15	Pairs		
	SUB-TOTAL FOR DOORS				

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
F.	**WINDOWS**				
1	**Aluminium sliding Window comprising 100mm x 1.2mm thick standard aluminium profile ex-china/Turkey infill with 5mm thick glass complete with mosquito proofing panel, including all accessories, ironmongeries, cutting and pinning lugs**				
	Overall size 1500x1500mm high	22	No		
2	**25 x 4mm thick flat bar grill painted red-oxide with 25 x 25mm square pipes frame and all necessary accessories**				
	Overall size 1500x1500mm high	22	No		
3	**25 X 25mm square pipe grill painted red-oxide with all necessary accessories**				
	1500 x 750mm high - door to gas chamber	2	PC'S		
	SUB-TOTAL FOR WINDOWS				
G.	**FINISHING**				
1	**Terrazo Floor finishing (1:1:1.5)**				
	Sand	5	M^3		
	Cement-50kgs (42.5R)	116	Bags		
	White Chipping	2	M3		
	Black Chipping	2	M3		
	Pink Chipping	2	M3		
	Red Chipping	2	M3		
	Terrazo colour (user's selection) - 25Kg	6	Bags		
	Concrete nails - 1''	4	Packet		
	Tina, Polish & Hardina for terrazo	2	Set		
	Strips	356	M		
2	**Wall Finishing 15mm thick (1:4)**				
	Sand	9	M^3		
	Cement-50kgs (42.5)	55	Bags		
	White cement - 40kg	8	Bags		
	Gypsum powder	15	Bags		
	Sand paper Msasa No.120	1	Roll		
3	**Service Trench**				
	Sand	2	M^3		
	Cement-50kgs (42.5)	20	Bags		
	Aggregates (1/2'')	4	M^3		
	50 x 50 mm mesh	11	PC'S		
	SUB-TOTAL FOR FINISHING				

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
H.	**PAINTING & DECORATION**				
	Emulsion Paint - 20 LTRS	13	buckets		
	Weather guard Paint - 20 LTRS	4	buckets		
	Washable paint -20 LTRS	5	buckets		
	Primer paint -20 LTRS	2	buckets		
	Solvent - 5LTRS	2	TIN		
	Brush 3"	6	Pcs		
	Roller	6	Pcs		
	Gloss paint-4LTR	2	TIN		
	Bitumen paint - 4Litres	4	TIN		
	SUB-TOTAL FOR PAINTING & DECORATION				
J.	**ELECTRICAL INSTALLATION**				
	Single fluorescent fitting Complete	30	No		
	Double switch socket	20	No		
	Main switch 6way,1PH with integral RCD 100A/300mmA	1	No		
	NB: Wiring cables shall be copper have a minimum cross section area of 1.5sqmm and shall comply with an appropriate British or Harmonized standard for either thermoplastic or thermosetting insulated electric cables.				
	Single core wire 1.5sqmm - Brown	3	Roll		
	Single core wire 1.5sqmm - Black	3	Roll		
	Single core wire 1.5sqmm -green	3	Roll		
	Single core wire 2.5sqmm - Brown	2	Roll		
	Single core wire 2.5sqmm	2	Roll		
	Single core wire 2.5sqmm green	2	Roll		
	Ceiling fan National or other equal	14	PC's		
	3gang 1way switch	4	No		
	1gang 1way switch	3	No		
	2gang 1 way switch	2	No		
	4gang 1 way switch	1	No		
	DP switch 20A	1	No		
	Earth rod approved copper 16mm not less than	2	No		
	Earth wire 4sqmm	15	M		
	Metal box twin	20	No		
	Metal box single	11	No		
	Junction box	30	No		
	Conduit pipe	100	Pc's		
	Elbow	30	Pc's		
	Conduit coupling	20	Pc's		
	Round cover	50	Pc's		
	Round box	10	Pc's		
	Fine screw	1	Packet		
	Smoke ditector	2	No		
	plastic clips 22mm	3	Box		
	SUB-TOTAL FOR ELECTRICAL INSTALLATION				

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
K.	**PLUMBING AND GAS INSTALLATIONS**				
	Water Distribution System				
	PPR Pipes				
	40mm Dia	4	Pcs		
	32mm Dia	6	Pcs		
	25mm Dia	9	Pcs		
	20mm Dia	14	Pcs		
	15mm Dia	19	Pcs		
	12mm Dia Flexible Pipe	29	Pcs		
	Valves				
	40mm Dia	4	Pcs		
	32mm Dia	9	Pcs		
	20mm Dia	17	Pcs		
	15mm Dia	9	Pcs		
	15mm Dia Angle Valves	29	Pcs		
	Reducing Bush				
	Ø40 / 32mm	4	Pcs		
	Ø40 / 25mm	4	Pcs		
	Ø40 / 20mm	3	Pcs		
	Ø40 / 15mm	3	Pcs		
	Ø32 / 25mm	11	Pcs		
	Ø32 / 20mm	9	Pcs		
	Ø32 / 15mm	10	Pcs		
	Ø25 / 20mm	16	Pcs		
	Ø25 / 15mm	8	Pcs		
	Ø20 / 15mm	10	Pcs		
	90^0 Plain Elbow				
	Ø40mm	3	Pcs		
	Ø32mm	3	Pcs		
	Ø25mm	5	Pcs		
	Ø20mm	21	Pcs		
	Ø15mm	31	Pcs		
	90 Adaptor elbow (Female)				
	Ø15mm	33	Pcs		
	90 Adaptor elbow (Male)				
	Ø15mm	10	Pcs		
	T Plain				
	Ø40mm	4	Pcs		
	Ø32mm	7	Pcs		
	Ø25mm	9	Pcs		
	Ø20mm	24	Pcs		

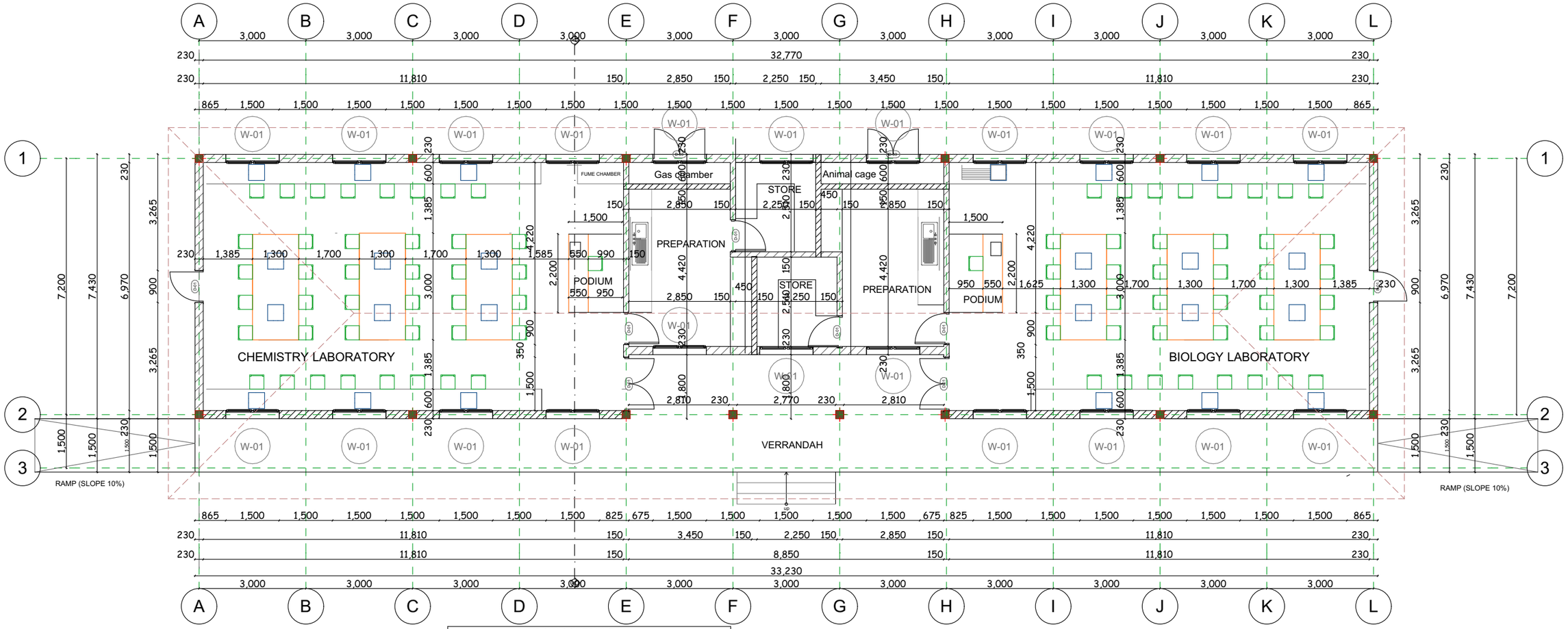
ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
	Socket				
	Dia. 15mm	34	Pcs		
	Dia. 20mm	30	Pcs		
	Dia. 25mm	14	Pcs		
	Dia. 32mm	20	Pcs		
	Dia. 40mm	10	Pcs		
	Sewage				
	PIPING (uPVC PIPE)				
	100mm Dia	12	Pcs		
	50mm Dia	14	Pcs		
	40mm Dia	11	Pcs		
	32mm Dia	11	Pcs		
	Elbows	43	Pcs		
	Bend	34	Pcs		
	Bracket	30	Pcs		
	Filter	11	Pcs		
	Fittings				
	50mm Dia Y-Tee	17	Pcs		
	50mm Dia Inspection Tee	7	Pcs		
	Socket				
	110mm Dia	58	Pcs		
	50mm Dia	29	Pcs		
	40mm Dia	22	Pcs		
	32mm Dia	17	Pcs		
	90^{O} Elbow				
	50mm Dia	9	Pcs		
	40mm Dia	9	Pcs		
	32mm Dia	6	Pcs		
	45^{O} Elbow				
	50mm Dia	19	Pcs		
	40mm Dia	14	Pcs		
	32mm Dia	9	Pcs		
	Reducing Bush				
	50mm/40mm	25	Pcs		
	40mm/32mm	20	Pcs		
	Reducing Socket				
	50mm/40mm	20	Pcs		
	40mm/32mm	11	Pcs		

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
	Sanitary Installation				
	350x 350x 200mm durapipe S&LP vulcathene sink or equal and approved type 604/1 complete with 38mm BSP Waste outlet type 504 and ant-siphon bottle trap type W561 with plug and chain Assemblies type 508	32	Pcs		
	Mild Steel/Copper pipes				
	12mm Dia	25	Pcs		
	Valves				
	12mm Dia	20	Nos.		
	Presure Gauges				
	12mm Dia	4	Nos.		
	Gas Cylinder				
	Gas cylinder complete with double stage LPG regulator. Manifold with complete flexible and cylinder adoptors, proper signages and standing, 15 kg Butane/ propane	2	Nos.		
	Gas Taps				
	LPG deck or other equal apprved mounted double outlet faucet gas tap. Body should be solid brass coated with high gloss epoxy powder resistant to most chemicals.	30	Nos.		
	Fittings				
	Non-Return Valves	64	No		
	Strainer	58	No		
	Ball valve	61	No		
	Socket	48	No		
	Reducer	60	No		
	Elbow	57	No		
	Tee	57	No		
	Pipe work support	28	No		
	Bressing set	44	No		
	Oxyacetylene gas	4	No		
	Fumes wood				
	Fume wood complet with all accessories as per engineer specification	3	No		
	Chemical Disposal				
	Emergency eye wash sink (VL2201) with two streams with ABS bowl fixed at side worktop	2	PCS		
	Dilution recovery trap type W612 complete with fixing accessories	2	PCS		
	Portable fire extinguisher				
	CO2, 9ltrs bottle as manufactured by NAFFCO or equal approved.	2	Nos		
	CO2, 9kg bottle as manufactured by NAFFCO or equal approved.				
	Fire Blankets	2	Nos		
	SUB-TOTAL PLUMBING AND GAS INSTALLATION				

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
L	**Gully trap (3No) - 150 x 150**				
1	6"Cement & Sand block-Minimum Strength 3. 5 MPa	6	PC'S		
	Sand - (Lorry 4.5M3)	0.2	m3		
	Cement-50kgs	1	Bags		
3	**Neutralization/ Grease Chamber (2.2m x 1m x 1.5m deep)**				
	6"Cement & Sand block-Minimum Strength 3. 5 MPa	140	PC'S		
	Sand - (Lorry 4.5M3)	0.6	m3		
	Cement-50kgs (42.5)	2	Bags		
	Aggregates (1/2") - (Lorry 4.5M3)	0.3	m3		
	Coral stone (4.5m3 / trip)	1	Trip		
	Reinforcement - 10mm diameter high tensile	4	PC'S		
	Binding Wire -1kg	5	Kgs		
	Marine board - Size 4ft x 8ft x 18mm thick	1	PC'S		
	Timber 2" X 2" (3m long)	6	PC'S		
	Nails-4"	4	Kgs		
	Nails-3"	3	Kgs		
	Supporting Props	5	PC'S		
	450 X450mm Cast iron cover	1	PC'S		
	100mm diameter PVC vent pipe complete -CLASS B"	1	PC'S		
	SUB-TOTAL GULLY TRAP & NEUTRALIZATION CHAMBER				

	GENERAL SUMMARY				**AMOUNT**
					TZS
	CHEMISTRY AND BIOLOGY BLOCK				
A.	SUB-STRUCTURE -PROVISIONAL				
B.	SUPERSTRUCTURE				
C.	ROOF STRUCTURE & COVERING				
D.	CEILING				
E.	DOOR				
F.	WINDOWS				
G.	FINISHING				
H.	PAINTING & DECORATION				
J.	ELECTRICAL INSTALLATION				
K	PLUMBING AND GAS INSTALLATION				
L	GULLY TRAP AND NEUTRALIZATION CHAMBER				
	TOTAL BUILDING MATERIALS CARRIED TO GENERAL SUMMARY				
	ADD:				
	LABOUR COST CARRIED TO GENERAL SUMMARY : (Improve and Fill the respective Labour form)				
	Note:				
	i. Refer attached specification and number of Furniture(s) for Chemistry & Biology Laboratory				
	ii. Refer General Summary for: Preliminary, Transportation and Supervision Costs				
	iii. Preliminary cover the following item:				
	- Setting out working tools, Equipments, Temporary toilets, water for the works, Scaffolding,				
	- Power for the works, Security, store, Materials test and signboard.				
	iv. Supervision cost depend on guideline of the project				
	v. Installation of Ceiling Fan is an option, depend on whether condition of specific area .				

ARCHITECTURAL DRAWINGS



WINDOW SCHEDULE		
WINDOW TYPE	HEIGHT x WIDTH	QUANTITY(S)
W 01	1500mm x 1500mm	22
TOTAL		22
DOOR SCHEDULE		
D 1	900mm x 2500mm	6
D 2	1500mm x 2500mm	2
D 3	7500mm x 1500mm	2
TOTAL		

TOTAL FLOOR AREA = 298 SQM

MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY

IN COLLABORATION WITH

PRESIDENT'S OFFICE REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT

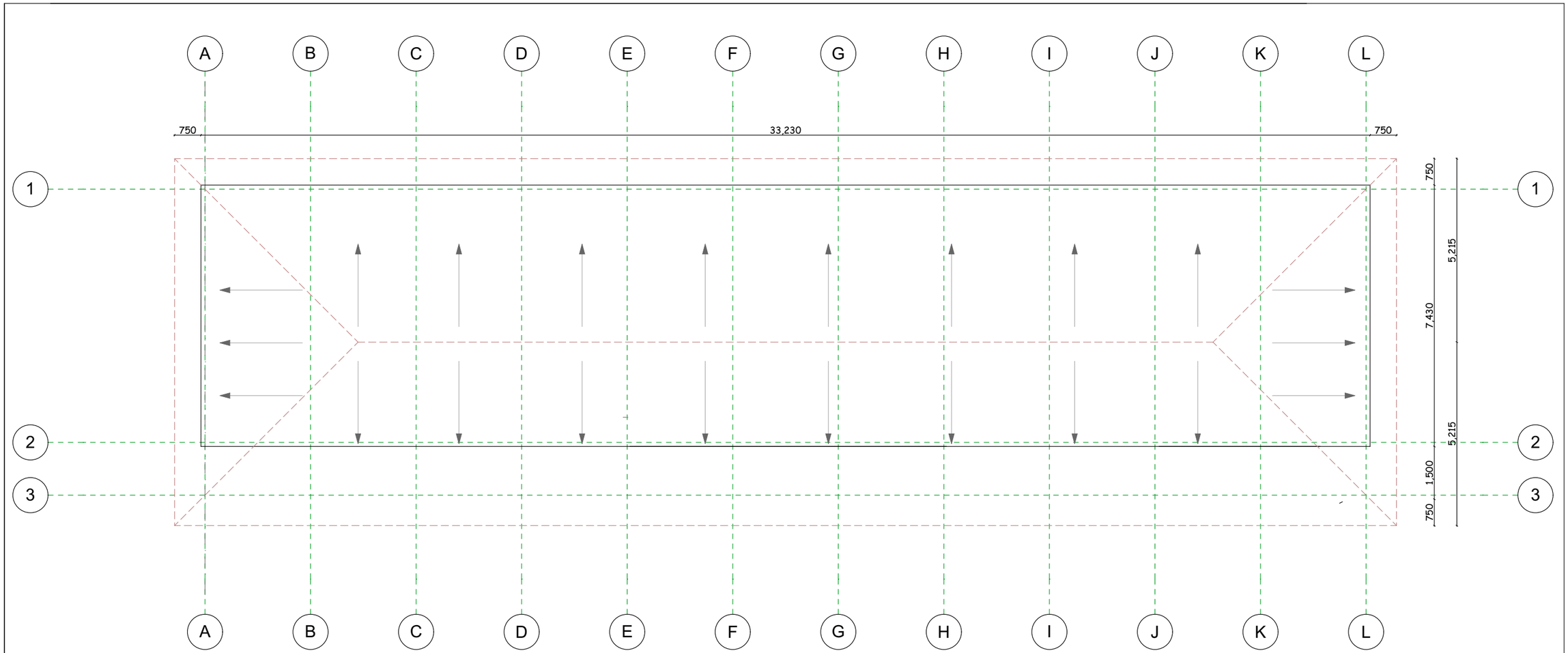
PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS FOR SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM

DRAWING TITLE:CHEMISTRY & BIOLOGY BLOCK

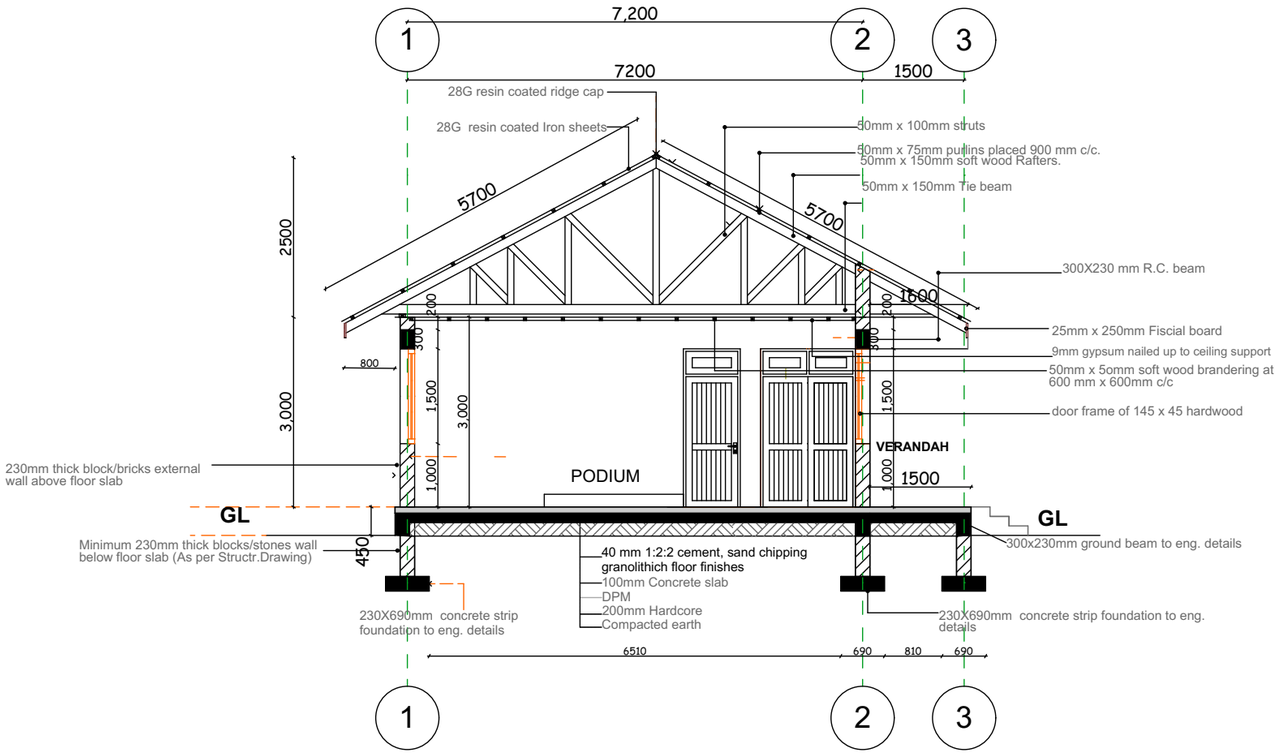
FLOOR PLAN

DRAWING NO: ARC/CHB/LAB/01

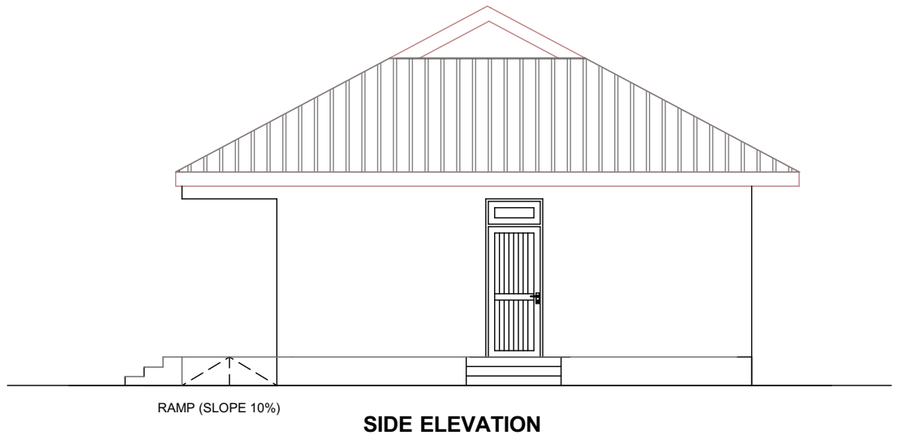
Date	June,2023
Drawn by	IAS
Checked by	JR
Scale	To fit



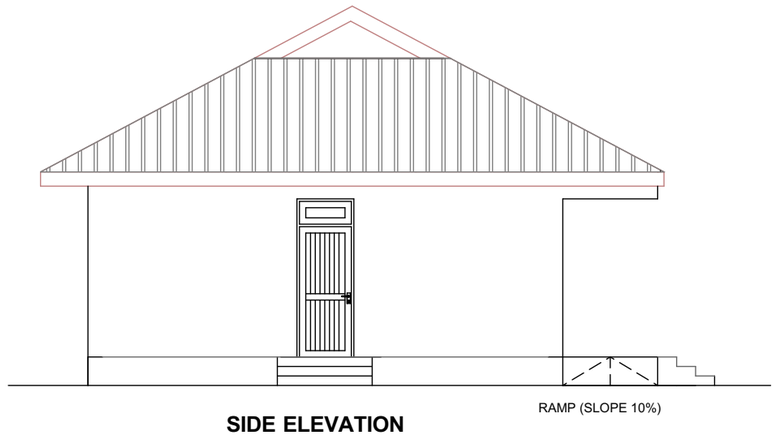
MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY *IN COLLABORATION WITH* **PRESIDENT'S OFFICE REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT**	**PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS FOR SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM**	DRAWING TITLE:CHEMISTRY & BIOLOGY BLOCK **ROOF PLAN** DRAWING NO: ARC/CHB/LAB/02	Date: June, 2023 Drawn by: IAS Checked by: JR Scale: To fit



TYPICAL SECTION

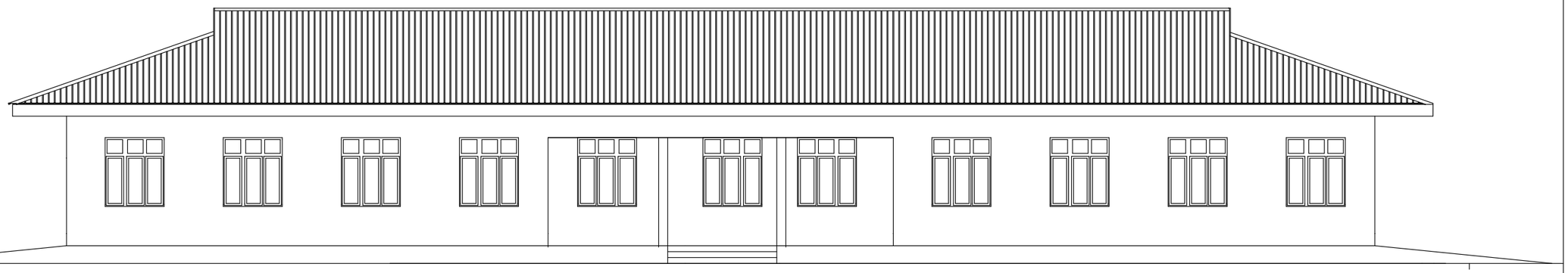


SIDE ELEVATION

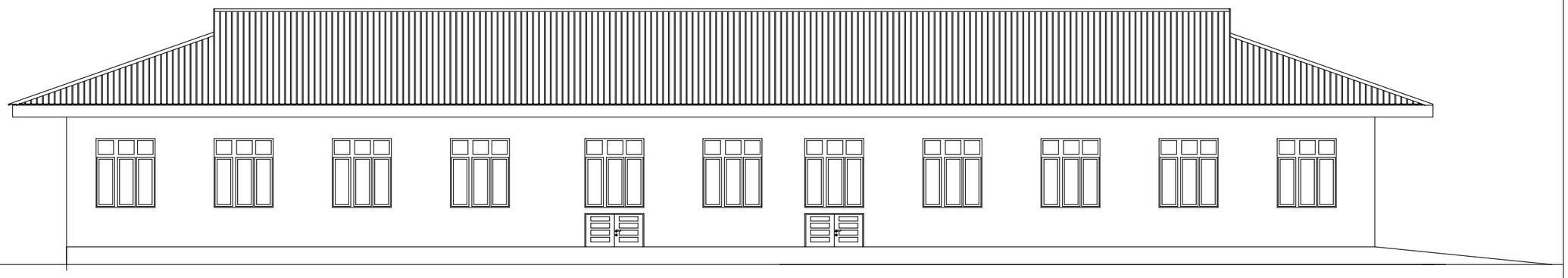


SIDE ELEVATION

MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY ***IN COLLABORATION WITH*** **PRESIDENT'S OFFICE REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT**	**PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS FOR SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM**	DRAWING TITLE:CHEMISTRY & BIOLOGY BLOCK **TYPICAL SECTION - SIDE ELEVATIONS** DRAWING NO: ARC/CHB/LAB/03	Date: June, 2023 Drawn by: IAS Checked by: JR Scale: To fit



FRONT ELEVATION



REAR ELEVATION

MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY *IN COLLABORATION WITH* **PRESIDENT'S OFFICE REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT**	**PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS FOR SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM**	DRAWING TITLE:CHEMISTRY & BIOLOGY BLOCK **ELEVATIONS** DRAWING NO: ARC/CHB/LAB/04	Date	June, 2023
			Drawn by	IAS
			Checked by	JR
			Scale	To fit

SCHEDULE OF MATERIALS

THE UNITED REPUBLIC OF TANZANIA

PRESIDENT'S OFFICE
REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT

PROPOSED STANDARD DRAWINGS FOR SEQUIP

Schedule of Materials & Labour for Library Block – Gable Type

PROJECT AREA

TANZANIA MAINLAND

Ministry of Education, Science and Technology,
Government City - Mtumba,
AFYA Street,
P.O Box 10,
40479 DODOMA.

President's Office,
Regional Administration,
& Local Government
Government City - Mtumba
TAMISEMI Street,
P. O. Box 1923,
41185 DODOMA.

JUNE, 2023

MOEST/PO-RALG

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
	MATERIALS				
A	**SUB-STRUCTURE -**PROVISIONAL				
1	**Strip Foundation - Grade 15 Plain**				
	Aggregate (3/4")	12	M^3		
	Sand	6	M^3		
	Cement-50kgs (42.5)	60	Bags		
2	**Foundation Walls**				
	6" Cement & Sand block - Minimum Strength 3. 5 MPa	1,300	No		
	Sand	4	M^3		
	Cement -50kgs (42.5)	22	Bags		
	ALTENATIVE TO FOUNDATION WALL				
	**** If stone is applicable, then blockwork is not**				
	applicable. Therefore Engineer must confirm to the Tenderer				
	which item to be priced (Blockwork or Stone) depending on				
	availability and suitability of building materials.				
	Stone, complete with its cement and sand mortar (1:4)	21	M^3		
3	**Moram, Hardcore & Site sterilization**				
	Moram ($4.5m^3$ lorry)	8	Trips		
	Hardcore 200mm thick - ($4.5m^3$ lorry)	7	Trips		
	Sand	6	M^3		
	Aldrin solution or other and equal approved (1000mls)	2	Bottle		
4	**Oversite Concrete 100mm thick - 15 grade ,Ground Beam - 20 grade**				
	DPM	162	M^2		
	Cement -50kgs	110	Bags		
	Aggregates (1/2")	18	M^3		
	Sand	9	M^3		
	Reinforcement - 12mm diameter high tensile 460N/mm2	30	PC'S		
	Reinforcement - 8mm diameter high tensile 460N/mm2	31	PC'S		
	A252 Mesh 200 x 200x 6.16kg/m2	4	PC'S		
	Binding Wire - 25kg	1	Roll		
	Timber 1" X 10 " (5.2m long)	25	PC'S		
	Timber 2" X 2"(5.2m long	8	PC'S		
	Nails-4"	25	Kgs		
	Nails-3"	20	Kgs		
	Supporting Props - 3m	15	PC'S		
	SUB-TOTAL SUBSTRUCTURE				

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
B.	**SUPERSTRUCTURE**				
1	**Walls & Ring beam**				
	6" Cement & Sand block - Minimum Strength 3. 5 MPa	1,801	No		
	DPC (30m long, 1m wide)	1	Roll		
	Sand	8.0	M^3		
	Cement-50kgs (42.5)	60	Bags		
	Aggregates (1/2")	4	M^3		
	Reinforcement - 12mm diameter high tensile 460N/mm2	25	PC'S		
	Reinforcement - 8mm diameter high tensile 460N/mm2	24	PC'S		
	Binding Wire - 25kg	1	Roll		
	Timber 1" X 10" to Sides (5.2m long)	18	PC'S		
	Timber 1" X 5" (Plates) (5.2m long	4	PC'S		
	Timber 2" X 2" (5.2m long	12	PC'S		
	Supporting Props - 3m	15	PC'S		
	SUB-TOTAL SUPER STRUCTURE				
	ALTENATIVE TO BLOCKWORK WALL				
	***** If brickwork is applicable, then blockwork is not applicable.***				
	Therefore Engineer must confirm to the Tenderer which item				
	to be priced (Blockwork or brickwork) depending on availability				
	and suitability of building materials. Note that: Strictly do not				
	use stretcher bond when using bricks, the acceptable				
	bond is either Flemish or English or header.				
	230mm thick One brick wall	116	m^2		
	150mm thick One brick wall	17	m^2		
C.	**ROOF STRUCTURE & COVERING**				
1	**Roof Structure -** Provisional - 5.2 M				
	Timber 2 " X 3" Purlins	40	Pcs		
	Timber 2" X 6" Rafter and Tie beam	56	Pcs		
	Timber 2 " X 4" Struts, wall plates	60	Pcs		
	Fascia board 1" X 10" -ref. Semi Hardwood (5.2m long)	11	PC'S		
	Nails -5"& 4"	45	Kgs		
	Nails -3"	40	Kgs		
	16mm diameter bolt, 500mm long	26	Kgs		
	NOTE: The above softwood timber structure should be pressure impregnated treated				
2	**Roof Covering**				
	28 G Resincoated Iron sheet	210	M^2		
	Aluminium Roofing Nails	15	Packet		
	Ridge - 28 G resign coat (3m long)	7	PC'S		

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
3	**Gutter's (PVC)**				
	Upvc 100mm half round (6m long)-5''	7	PC'S		
	Upvc 75mm diameter down pipe; Class B	3	PC'S		
	PVC outlet	4	PC'S		
	Gutter support bracket	18	PC'S		
	PVC bend 90'	4	PC'S		
	PVC bend 45'	4	PC'S		
	Gutter Clamp 3''	16	PC'S		
	Connector/reducer	4	PC'S		
	Connector outer	4	PC'S		
	Corner Inner	4	PC'S		
	SUB-TOTAL ROOF STRUCTURE & COVERING				
D.	**CEILING**				
	Gypsum board -9mm thick	58	PC'S		
	Plain Cornice (8ft)	55	PC'S		
	Screw 1.25'' 500pcs/box	2	Box		
	Gypsum powder	9	Bags		
	Fiber tape (90m)	1	Roller		
	Treated softwood Timber 2'' X 2'' (5.2m)	104	Pcs		
	Nails 4''	20	Kgs		
	Nails 3''	25	Kgs		
	SUB-TOTAL FOR CEILING				
E.	**DOOR**				
1	**40mm thick hardwood Panelled door shutter**				
	900 x 2100mm high door	2	PC'S		
2	**Frames (hardwood) & Varnish**				
	900 x 2500mm high	2	PC'S		
	Brush 3''	2	Pcs		
	Sand paper (msasa) No.80	1	LM		
	Clear Varnish - 4Litres	1	TIN		
	Thinner for Varnish	1	Litres		
3	**Ironmongeries - ref Union**				
	Mortice lock Three lever	2	No		
	Brass hinges - 100mm	3.0	Pairs		
	SUB-TOTAL FOR DOORS				

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
F.	**WINDOWS**				
1	**Aluminium sliding Window comprising 100mm x 1.2mm thick standard aluminium profile ex-china/Turkey infill with 5mm thick glass complete with mosquito proofing panel, including all accessories, ironmongeries, cutting and pinning lugs**				
	1500 X 1500mm high	11	PC'S		
2	**25 x 4mm thick flat bar grill painted red-oxide with 25 x 25mm square pipes frame and all necessary accessories**				
	1500 X 1500mm high	11	PC'S		
	SUB-TOTAL FOR WINDOWS				
G.	**FINISHING**				
1	**Floor finishing**				
	Sand	7.0	m3		
	Cement-50kgs (42.5)	47	Bags		
	Marley flex PVC tiles with size 300 x 300 x 2.5mm thick(4.5m2 per Box)	36	Box		
	Skirting (600 mm long; 25No/Box)	10	Box		
	Grout (1kg/packet)	5	Packet		
	Spacer	2	Packet		
	Marley Solvent (250ML)	2	Bags		
2	**Wall Finishing 15mm thick (1:4)**				
	Sand	8	M^3		
	Cement-50kgs (42.5)	47	Bags		
	White cement - 40kg	4	Bags		
	Gypsum powder - 25kg	7	Bags		
	SUB-TOTAL FOR FINISHING				
H.	**PAINTING & DECORATION**				
	Emulsion Paint - 20 LTRS	6	buckets		
	Weather guard Paint - 20 LTRS	2	buckets		
	Washable paint -20 LTRS	3	buckets		
	Primer paint -20 LTRS	1	buckets		
	Solvent - 5LTRS	2	TIN		
	Brush 3''	4	Pcs		
	Roller	3	Pcs		
	Gloss paint-4LTR	1	TIN		
	Oil paint -4LTR	1	TIN		
	Bitumen paint - 4Litres	1	TIN		
	SUB-TOTAL FOR PAINTING&DECORATION				

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
J.	**ELECTRICAL INSTALLATION**				
	Single fluorescent fitting Complete	22	No		
	Double switch socket	11	No		
	Main switch 6way,1PH with integral RCD 100A/300mmA	1	No		
	NB: Wiring cables shall be copper have a minimum cross section area of 1.5sqmm and shall comply with an appropriate British or Harmonized standard for either thermoplastic or thermosetting insulated electric cables.				
	Single core wire 1.5sqmm - Brown	1	Roll		
	Single core wire 1.5sqmm - Black	1	Roll		
	Single core wire 1.5sqmm - Green	1	Roll		
	Single core wire 2.5sqmm - Brown	1	Roll		
	Single core wire 2.5sqmm - Black	1	Roll		
	Single core wire 2.5sqmm - Green	1	Roll		
	Ceiling fan National or other equal	12	PC's		
	3gang 1way switch	4	No		
	1gang 1way switch	1	No		
	2gang 1 way switch	3	No		
	4gang 1 way switch	2	No		
	DP switch 20A	1	No		
	Earth rod approved copper 16mm not less than 1200mm	1	No		
	Earth wire 4sqmm	15	M		
	Metal box twin	11	No		
	Metal box single	8	No		
	Junction box	15	No		
	Conduit pipe	60	PC's		
	Elbow	15	PC's		
	Conduit coupling	10	PC's		
	Round cover	20	PC's		
	Round box	5	PC's		
	Fine screw	1	Packet		
	Data socket	3	No		
	CAT 6 UTP cable (300m)	1	box		
	Smoke detector	2	No		
	plastic clips 22mm	2	Box		
	SUB-TOTAL FOR ELECTRICAL INSTALLATION				

	GENERAL SUMMARY				**AMOUNT -TZS**
	LIBRARY BLOCK				
A.	SUB-STRUCTURE -PROVISIONAL				
B.	SUPERSTRUCTURE				
C.	ROOF STRUCTURE & COVERING				
D.	CEILING				
E.	DOOR				
F.	WINDOWS				
G.	FINISHING				
H.	PAINTING & DECORATION				
J.	ELECTRICAL INSTALLATION				
	TOTAL BUILDING MATERIALS CARRIED TO GENERAL SUMMARY				
	ADD:				
	LABOUR COST CARRIED TO GENERAL SUMMARY : (Improve and Fill the respective Labour form)				
	Note:				
	i. Refer attached specification and number of Furniture(s) for Library Block				
	ii. Refer General Summary for: Preliminary, Transportation and Supervision Costs				
	iii. Preliminary cover the following item:				
	- Setting out working tools, Equipments, Temporary toilets, water for the works, Scaffolding,				
	- Power for the works, Security, store, Materials test and signboard.				
	iv. Supervision cost depend on guideline of the project				
	v. Installation of Ceiling Fan is an option, depend on whether condition of specific area .				

ARCHITECTURAL DRAWINGS

LIBRARY BLOCK

ARCHITECTURAL DRAWING

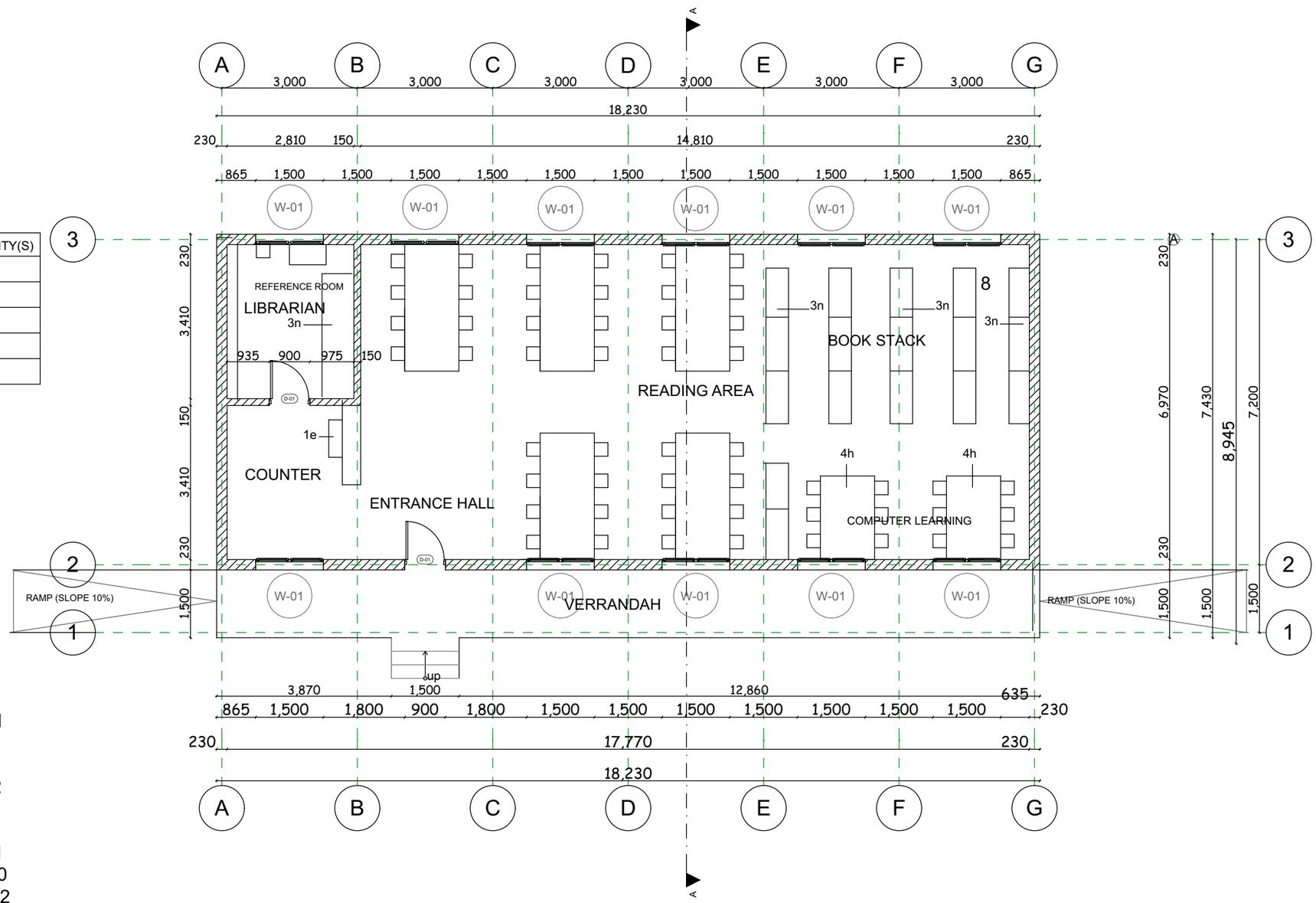
Library Block -Gable

JUNE 2023

MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY ***IN COLLABORATION WITH*** **PRESIDENT'S OFFICE REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT**	**PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS FOR SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM**	DRAWING TITLE: LIBRARY BLOCK- GABLE DRAWING NO: ARC/LBR/00	Date	June, 2023
			Drawn by	IAS
			Checked by	JR
			Scale	To fit

WINDOW SCHEDULE

WINDOW TYPE	HEIGHT x WIDTH	QUANTITY(S)
W 01	1500mm x 1500mm	11
TOTAL		11
DOOR SCHEDULE		
D 1	2500mm x 900mm	2
TOTAL		2



FURNITURES

KEY	ITEM	NO
1e	cardex cabinet	1
2k	pinboard	4
2x	work bench	1
2w	work bench	2
3g	book case	2
3n	library shelf	36
3r	shelves unit	1
4a	single desk	40
4h	general tables	2
4k	counter section	1
5a	general chair	54
7b	book trolley	1

TOTAL FLOOR AREA = 163 SQM

MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY

IN COLLABORATION WITH

PRESIDENT'S OFFICE REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT

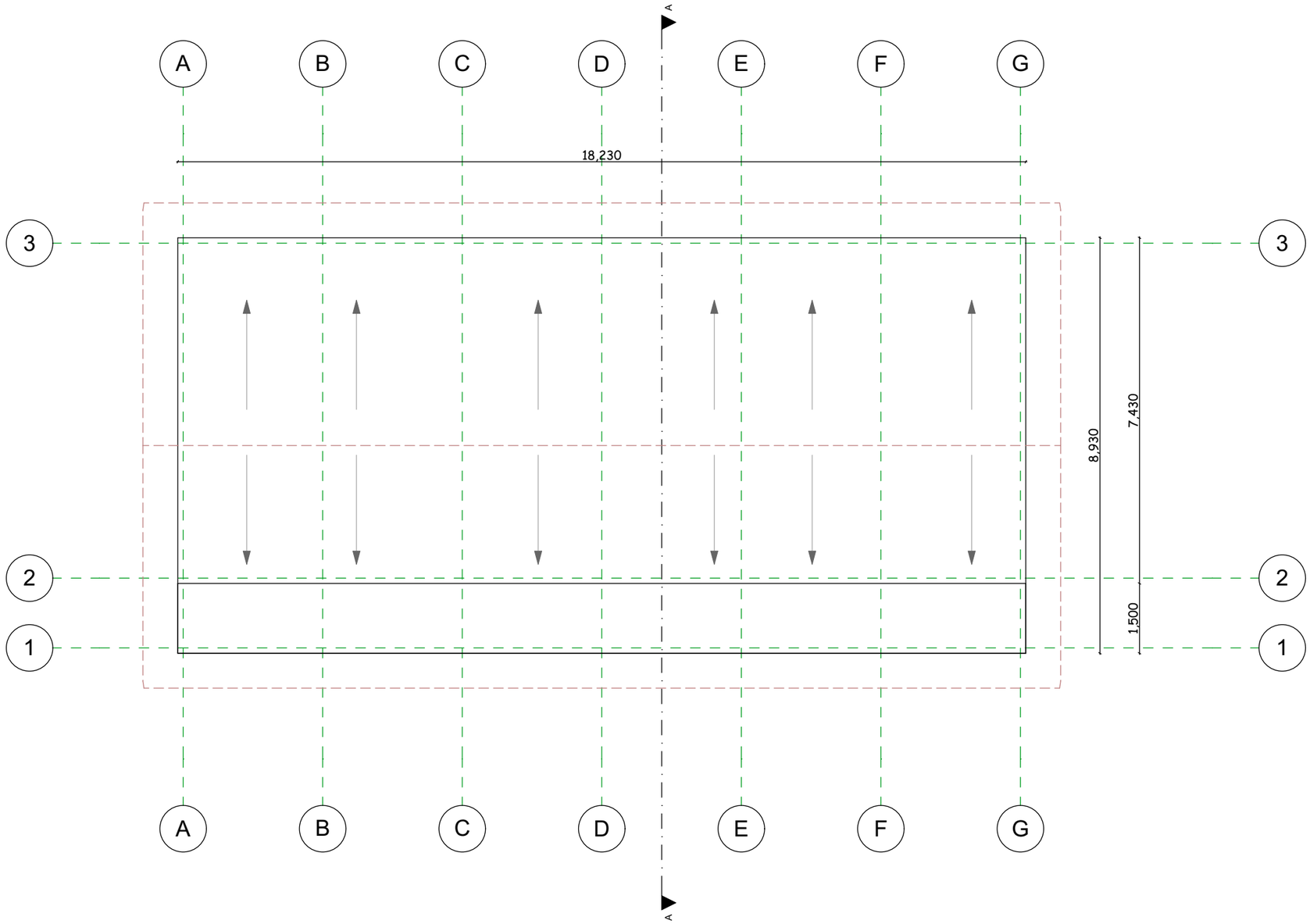
PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS FOR SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM

DRAWING TITLE:LIBRARY BLOCK GABLED

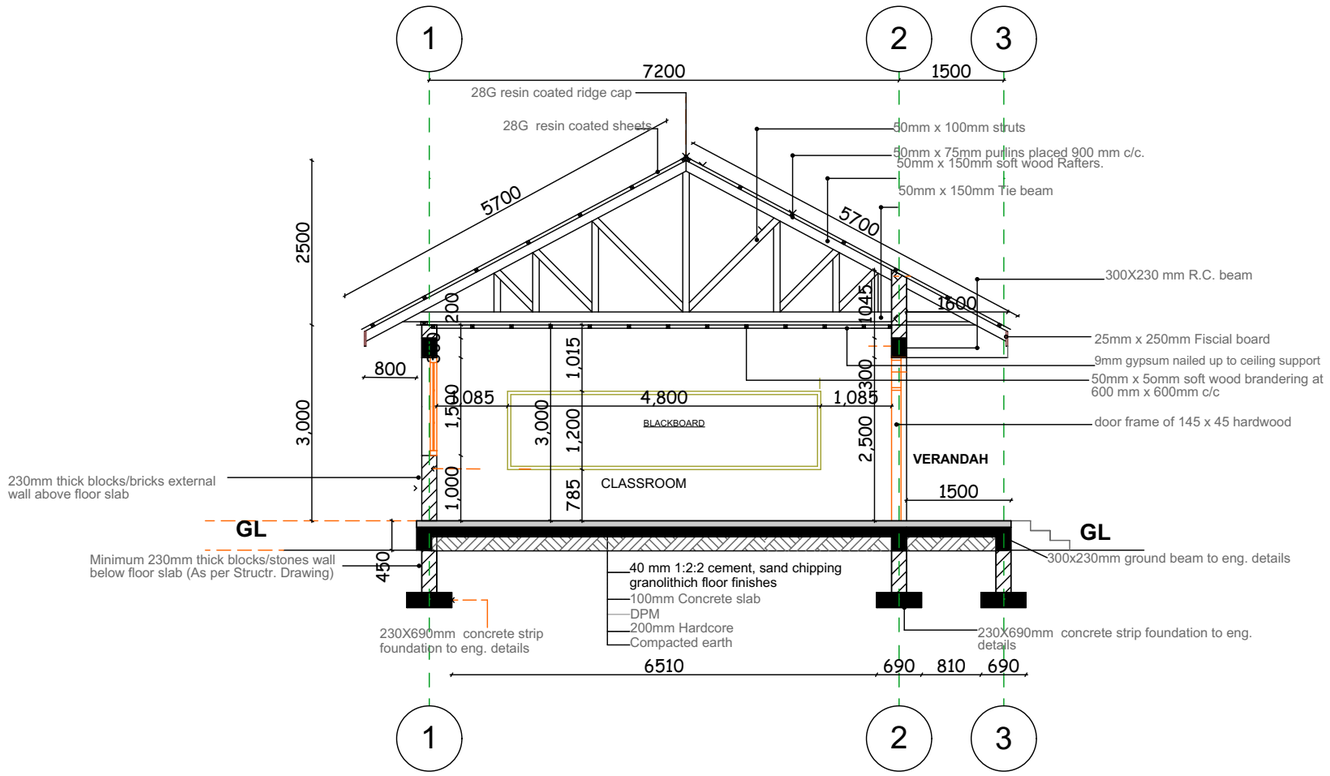
FLOOR PLAN GABLE

DRAWING NO: ARC/LBR/01

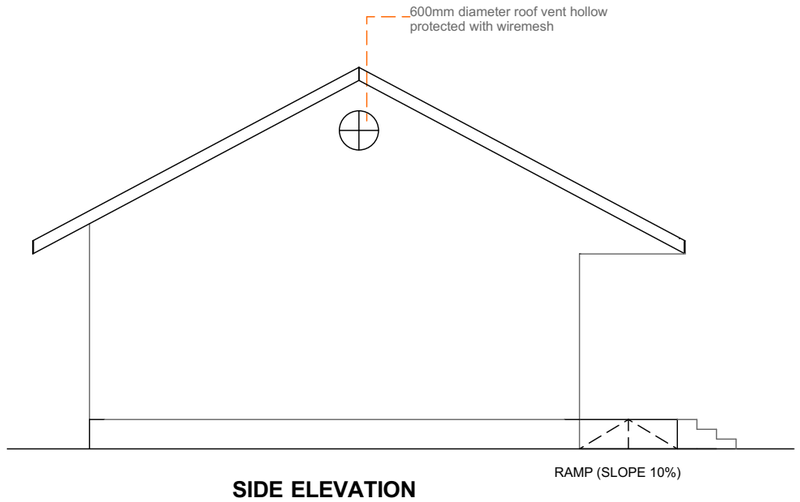
Date	June, 2023
Drawn by	IAS
Checked by	JR
Scale	To fit



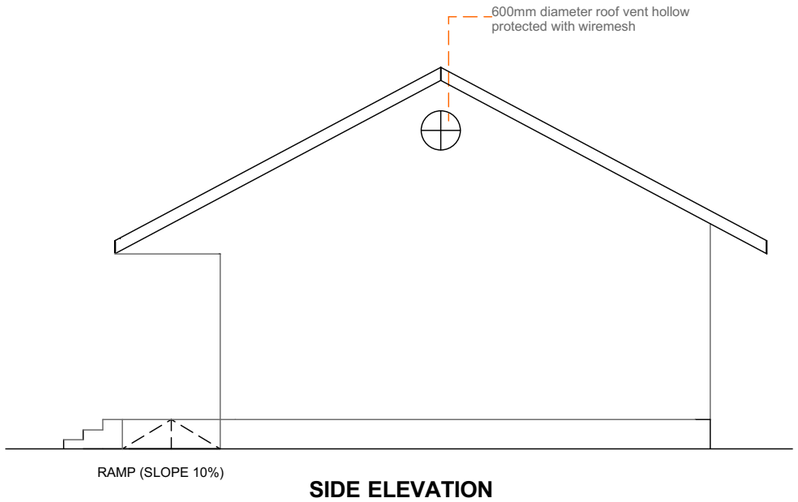
MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY *IN COLLABORATION WITH* **PRESIDENT'S OFFICE REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT**	**PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS FOR SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM**	DRAWING TITLE: PROPOSED LIBRARY BLOCK GABLED **ROOF PLAN** DRAWING NO: ARC/LBR/02	Date: June, 2023 Drawn by: IAS Checked by: JR Scale: To fit



TYPICAL SECTION

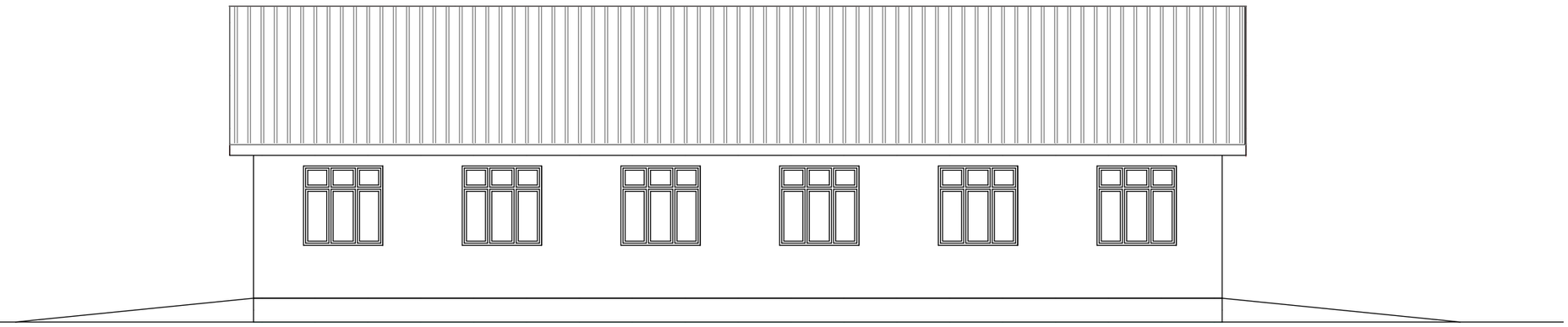


SIDE ELEVATION

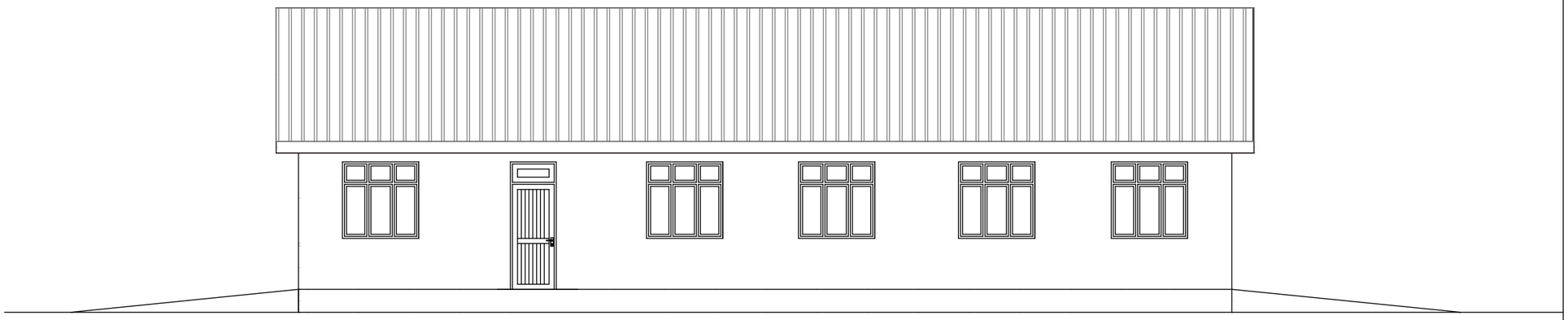


SIDE ELEVATION

MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY ***IN COLLABORATION WITH*** **PRESIDENT'S OFFICE REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT**	**PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS FOR SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM**	DRAWING TITLE: LIBRARY BLOCK GABLED **TYPICAL SECTION - SIDE ELEVATIONS** DRAWING NO: ARC/LBR/03	Date: June, 2023 Drawn by: IAS Checked by: JR Scale: To fit



REAR ELEVATION



FRONT ELEVATION

MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY ***IN COLLABORATION WITH*** **PRESIDENT'S OFFICE REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT**	**PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS FOR SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM** PROPOSED LIBRARY BLOCK GABLED	DRAWING TITLE: LIBRARY BLOCK GABLED **ELEVATIONS** DRAWING NO: ARC/LBR/04	Date: June, 2023 Drawn by: IAS Checked by: JR Scale: To fit

THE UNITED REPUBLIC OF TANZANIA

PRESIDENT'S OFFICE
REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT

PROPOSED STANDARD DRAWINGS FOR SEQUIP

Schedule of Materials & Labour for 80 Students Dormitory Block

PROJECT AREA

TANZANIA MAINLAND

Ministry of Education, Science and Technology,
Government City - Mtumba,
AFYA Street,
P.O Box 10,
40479 DODOMA.

President's Office,
Regional Administration,
& Local Government
Government City - Mtumba
TAMISEMI Street,
P. O. Box 1923,
41185 DODOMA.

JUNE, 2023

MOEST/PO-RALG

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
	MATERIALS				
A	**SUB-STRUCTURE -**PROVISIONAL				
1	**Strip Foundation - Grade 15 Plain**				
	Aggregate (3/4")	38	M^3		
	Sand	19	M^3		
	Cement-50kgs (42.5)	188	Bags		
2	**Foundation Walls**				
	6" Cement & Sand block - Minimum Strength 3. 5 MPa	3,570	No		
	Sand	12.0	M^3		
	Cement-50kgs (42.5)	60	Bags		
	ALTENATIVE TO FOUNDATION WALL				
	** If stone is applicable, then blockwork is not applicable.				
	Therefore Engineer must confirm to the Tenderer which				
	item to be priced (Blockwork or Stone) depending on				
	availability and suitability of building materials				
	Stone, complete with its cement and sand mortar (1:4)	59	M^3		
3	**Moram, Hardcore & Site sterilization**				
	Moram average depth 150mm ($4.5m^3$ lorry)	14	Trips		
	Hardcore 200mm thick ($4.5m^3$ lorry)	19	Trips		
	Sand	21	M^3		
	Aldrin solution or equal -1000mls	3	Bottles		
4	**Oversite Concrete (100mm thick - 15 grade) & Ground Beam - 20 grade, Steps, Ramps**				
	DPM	412	M^2		
	Cement-50kgs (42.5)	342	Bags		
	Aggregates (1/2")	51	M^3		
	Sand	26	M^3		
	Reinforcement - 12mm diameter high tensile 460N/mm2	105	PC'S		
	Reinforcement - 8mm diameter high tensile 460N/mm2	114	PC'S		
	Binding wire -25Kg	3	Roll		
	A252 Mesh 200 x200x6.16kg/m2	4	PC'S		
	20mm stryropol comprehesive materials (1200x2400mm)	5	PC'S		
	Timber 1" X 8 " (5.2m long)	80	PC'S		
	Timber 2" X 2" (3.5m long)	20	PC'S		
	Nails-4"	20	Kgs		
	Nails-3"	20	Kgs		
	Supporting props	15	PC'S		
	SUB-TOTAL SUBSTRUCTURE				

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
B.	**SUPERSTRUCTURE**				
1	**Walls & Ring beam & Columns**				
	6" Cement & Sand block - Minimum Strength 3. 5 MPa	7,650	No		
	DPC (30m long), 1m wide	3	Roll		
	Sand	37	M^3		
	Cement-50kgs (42.5)	274	Bags		
	Aggregates (1/2")	11	M^3		
	Reinforcement - 12mm diameter high tensile 460N/mm2	75	PC'S		
	Reinforcement - 8mm diameter high tensile 460N/mm2	65	PC'S		
	Binding Wire (use balance of substructure)	1	Roll		
	20mm stryropol comprehesive materials	9	PC'S		
	Timber 1" X 8" to Sides (5.2m long)	30	PC'S		
	Timber 1" X 6" (5.2m long Plates)	9	PC'S		
	Timber 2" X 2" (3.5m long)	15	PC'S		
	Supporting Props (3m)	15	PC'S		
	SUB-TOTAL SUPER STRUCTURE				
	ALTENATIVE TO BLOCKWORK WALL				
	*** If brickwork is applicable, then blockwork is not applicable.*				
	Therefore Engineer must confirm to the Tenderer which item				
	to be priced (Blockwork or brickwork) depending on availability				
	and suitability of building materials. Note that: Strictly do not				
	use stretcher bond when using bricks, the acceptable				
	bond is either Flemish or English or header.				
	230mm thick One brick wall	225	m^2		
	150mm thick One brick wall	500	m^2		
C.	**ROOF STRUCTURE & COVERING**				
1	**Roof Structure -** Provisional -5.2m long				
	Timber 2 " X 3" Purlins	115	Pcs		
	Timber 2" X 4" King Post, wall plate and struts	195	Pcs		
	Timber 2" X 6" Rafter and Tie beam	193	Pcs		
	Fascia board 1" X 10" (5.2m long)	23	PC'S		
	Nails -5"	80	Kgs		
	Nails -4"	70	Kgs		
	Nails -3"	50	Kgs		
	16mm diameter bolt, 500mm long	80	Kgs		
	NOTE: The above softwood timber structure should be pressure impregnated treated				
		C/F			

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
		B/F			
2	**Roof Covering**				
	28 G Resincoated Iron sheet	630	M^2		
	Hips/Ridge and valley - 28 G resin coat	38	PC'S		
	Aluminium Roofing Nails	63	Packet		
	SUB-TOTAL ROOF STRUCTURE & COVERING				
D	**CEILING**				
	Gypsum board -9mm thick	145	PC'S		
	Plain Cornice (8ft)	123	PC'S		
	Gypsum Screw 1" 800pcs/box	11	Box		
	Gypsum powder	6	Bags		
	Fibre tape-90m	3	Pcs		
	Treated softwood Timber 2" X 2" (5.2m)	340	Pcs		
	Nails 4"	40	Kgs		
	Nails 3"	45	Kgs		
	SUB-TOTAL FOR CEILING				
E	**DOOR**				
1	**40mm thick hardwood paneled door shutter**				
	1420 x 2100mm high double door shutter	4	PC'S		
	920 x 2100mm high	3	PC'S		
	920 x 1820mm high	1	PC'S		
	720 x 1820mm high	9	PC'S		
2	**Frames (hardwood),Varnish, Glass & Burglar bar**				
	1500 x 2500mm high frame for double door (D1)	4	PC'S		
	1000 x 2500mm high door frame	3	PC'S		
	1000 x 1820mm high door frame	1	PC'S		
	800 x 1820mm high	9	PC'S		
	5mm thick clear glass to Vents	5	M^2		
	16mm barglar bars to door vent (12m)	3	Pcs		
	Brush 3"	2	Pcs		
	Sand paper (msasa) No.80	5	LM		
	Clear Varnish - 4Litres	1	TIN		
	Thinner for Varnish -1Litres	1	Litres		
3	**IronMongeries**				
	Mortice lock Three lever	8	No		
	barrel bolt with indicator bolts	9	No		
	Brass hinges - 100mm	31.5	Pairs		
	Wood Screw	1	Box		
	SUB-TOTAL FOR DOORS				

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
F	**WINDOWS**				
1	**Hardwood casement windows /Aluminium sliding Window comprising 100mm x 1.2mm thick standard aluminium profile ex-china/Turkey infill with 5mm thick glass complete with mosquito proofing panel, including all accessories, ironmongries, cutting and pinning lugs**				
	1500 X 1500mm high	20	No		
	2200 X 750mm high	5	No		
	SUB-TOTAL FOR WINDOWS				
G	**FINISHING**				
1	**Floor finishing 500x500x 10mm Porcelain Floor Tiles icluding bedding 30mm thick cement and sand**				
	Sand	20	m3		
	Cement-50kgs (42.5)	125	Bags		
	500 X 500 X 10mm thick- Non-slippery porcelain floor tiles - (1.75 sqm/Box)	250	Box		
	Epoxy - Grout (1kg/packet)	25	Bucket		
	Spacer	10	Packet		
	Skirting (600mm long; 25/Box)	20	Box		
2	**Wall Finishing**				
	Sand	36	M^3		
	Cement-50kgs (42.5)	215	Bags		
	White cement - 50kg	8	Bags		
	Gypsum powder	32	Bags		
	250 x 400mm x 9mm thick ceramic wall tiles (1.5Sqm/Box)	88	Box		
	Epoxy - Grout (1kg/packet)	15	Packet		
	Spacer	6	Packet		
	Sand paper Msasa No.120	10.0	m		
	SUB-TOTAL FOR FINISHING				
H	**PAINTING & DECORATION**				
	Emulsion Paint - 20 LTRS	15	buckets		
	Weather guard Paint - 20 LTRS	4	buckets		
	Washable paint -20 LTRS	6	buckets		
	Primer paint -20 LTRS	1	buckets		
	Solvent - 5LTRS	1	TIN		
	Brush 3''	3	Pcs		
	Roller	3	Pcs		
	Gloss paint-4LTR	2	TIN		
	Bitumen paint - 4Litres	6	TIN		
	SUB-TOTAL FOR PAINTING&DECORATION				

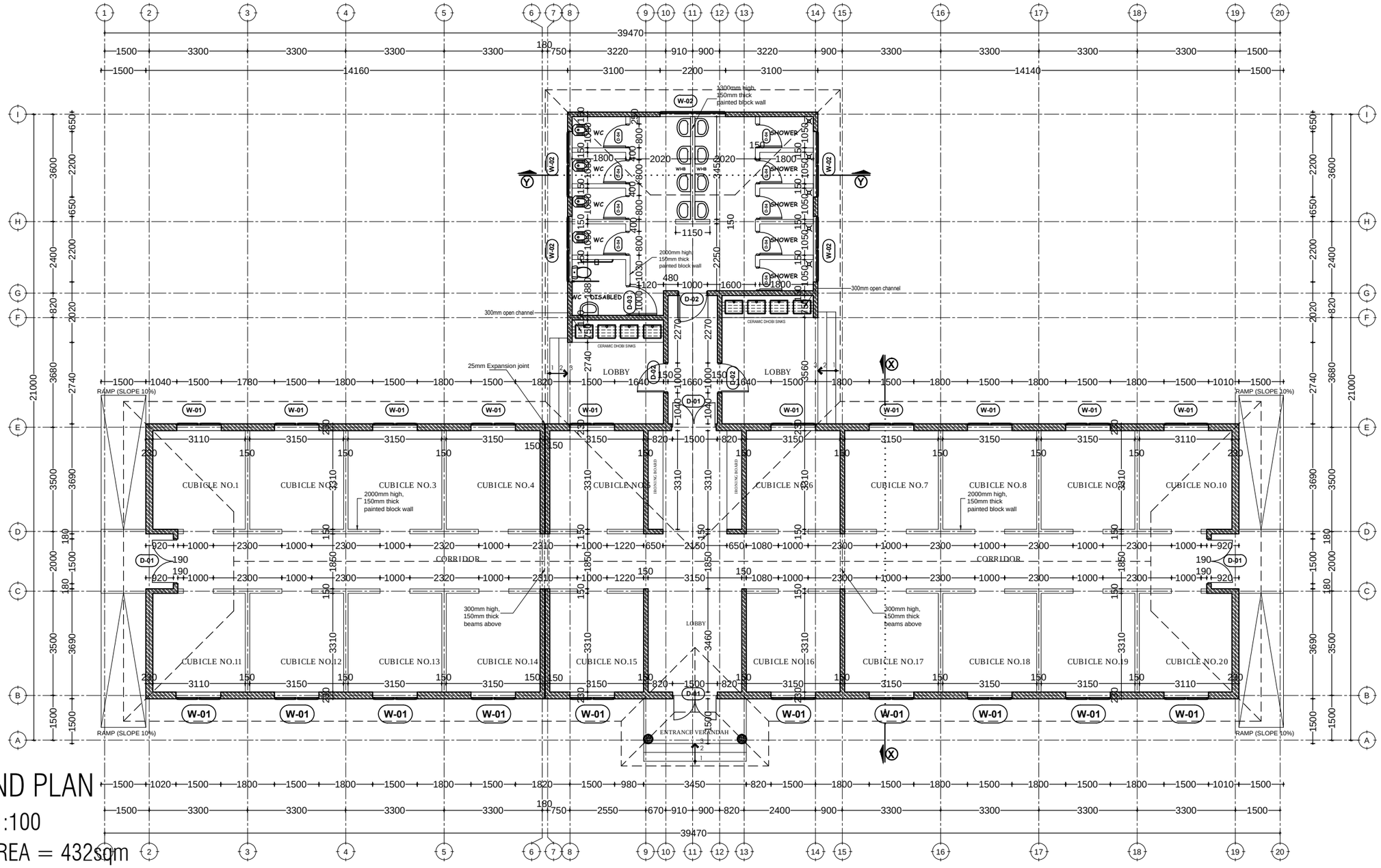
ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
J	**PLUMBING AND ENGINEERING INSTALLATIONS:**				
	Western type low level W.C suite vitrious china to B.S 3402	1	No		
	White vitreous china Asian type size 450x530x210mm	4	No		
	Disabled toilets with HWB, grab rails, mixer, floor drainer and all nesessary accessories	1	No		
	White vitreous china wash hand basin (HWB), size 750x440x200mm complete .	8	No		
	80mm Diameter high quality plastic floor drain trap built in concrete bed	8	No		
	600 x 900 x 6mm thick looking mirror	8	No		
	150mm long toilet roll holder (Ceramic), plugged and screwed to blockwall	5	No		
	20mmØ Chromium plated towel single rail, 600mm long	5	No		
	Shurtuff (Douche spray) 13mm diameter X 1000mm long flexible hose metal braided hose	5	No		
1	***COLD WATER INSTALLATION:***				
	Pipes and fittings:				
	25mmØ communication pipe HDPE to trench	70	m		
	Ditto; tee	8	No		
	Ditto; elbow	14	No		
	Ditto; male connector	8	No		
	32mmØ pipe to trench	32	m		
	Extra; elbow	5	No		
	Ditto; nipple **MM**	20	No		
	Ditto; nipple **FF**	20	No		
	Ditto; union	10	No		
	Ditto; reducing connector 32Ø × 25Ø	20	No		
	Ditto; reducing connector 25Ø × 19Ø	20	No		
	Ditto; nipple **MM**	20	No		
	Ditto; reducing connector 25Ø × 19Ø	8	No		
	Ditto; nipple **MM**	20	No		
	Ditto; reducing connector 19Ø × 13Ø	20	No		
	13mm diameter pipe in blockwall chase BS 1010 or 1212	40	m		
	Ditto; elbow.	50	No		
	Ditto; tee.	18	No		
	Extra: nipple **MM**	24	No		
	Extra: nipple **FF**	24	No		
	Ditto: union	24	No		
2	***WASTE AND VENT PIPES:***				
	UPVC pipes;Class 'C;				
	38mmØ; chase in block in concrete slab.	24	m		
	Extra; Equal tee	20	No		
	Extra; plain elbow	15	No		
	Extra; plugged elbow	15	No		

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
3	***SOIL AND PIPES:***				
	UPVC pipes and fittings; Class 'C'				
	100mmØ pipe fixed to walls	12	m		
	Ditto; laid in trenches.	72	m		
	Ditto; plugged bend 90˚.	10	No		
	Ditto; plain bend 90˚.	10	No		
	Ancillaries:				
4	***Draw off taps; stop valves; copper alloy to BS 5154 or BS***				
	13mmØ stop valve	6	No		
	13mm Ø bib taps Chrome plated	6	No		
	13mmØ angle cork	30	No		
	19mmØ HWB Bib tap chrome plated , single lever	10	No		
5	***WATER STORAGE TANKS:***				
	Water storage tank "SIMTANK"of 10000 liters or equal and aproved manufacturer	1	No		
	EQUIPMENT:				
6	***FIRE FIGHTING INSTALLATIONS:***				
	9Kg, dry powder '**NAFFCO**' or '**ANGUS**' any other equal and approved fire extinguishers	3	No		
	Stand Alone smoke detector	5	No		
	FOUL WATER DRAINAGE				
7	**MANHOLE:**				
	Construct standard manhole size 600 x 600mm average depth 750mm deep (10Nr.)				
	Cement-50kgs (42.5)	10	bag		
	Sand	3	M^3		
	Aggregate (2/3")	2	M^3		
	Cement and sand Block (450 x 230x 150)	150	no		
	Wire mesh size 2400x1200mm	1	Pcs		

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
K.	**ELECTRICAL INSTALLATION**				
	80 STUDENTS DORMITORY				
	Single fluorescent fitting Complete	34	No		
	Double switch socket	4	No		
	Main switch 8way,1PH with integral RCD 100A/300mmA ABB other equal approved	1	No		
	NB: Wiring cables shall be copper have a minimum cross section area of 1.5sqmm and shall comply with an appropriate British or Harmonized standard for either thermoplastic or thermosetting insulated electric cables.				
	Single core wire 1.5sqmm - Red /Brown	3	Roll		
	Single core wire 1.5sqmm - Black	3	Roll		
	Single core wire 1.5sqmm -green	3	Roll		
	Single core wire 2.5sqmm - red/Brown	1	Roll		
	Single core wire 2.5sqmm - black	1	Roll		
	Single core wire 2.5sqmm green	1	Roll		
	1gang 1 way switch	27	No		
	Ceiling light complete with energy saver/LED 11w	1	No		
	Earth rod approved copper 16mm not less than 1200mm	2	No		
	Earth wire 4sqmm	30	M		
	Metal box twin	4	No		
	Metal box single	27	No		
	Junction box	40	No		
	Conduit pipe	180	PC's		
	Elbow	60	PC's		
	Conduit coupling	40	PC's		
	Round cover	50	PC's		
	Round box	9	PC's		
	Fine screw	2	PACKET		
	plastic clips 22mm	4	BOX		
	Bulk head light fitting	9	PCS		
	SUB-TOTAL FOR ELECTRICAL INSTALLATION				

	GENERAL SUMMARY	**AMOUNT**
		TZS
	DOMITORY BLOCK --- 80 STUDENTS	
A.	SUB-STRUCTURE -PROVISIONAL	
B.	SUPERSTRUCTURE	
C.	ROOF STRUCTURE & COVERING	
D.	CEILING	
E.	DOOR	
F.	WINDOWS	
G.	FINISHING	
H.	PAINTING & DECORATION	
J.	PLUMBING AND ENGINEERING INSTALLATIONS:	
K.	ELECTRICAL INSTALLATION	
	TOTAL BUILDING MATERIALS CARRIED TO GENERAL SUMMARY	
	ADD:	
	LABOUR COST CARRIED TO GENERAL SUMMARY : (Improve and Fill the respective Labour form)	
	Note:	
	i. Refer attached specification and number of Furniture(s) for 80 Students Dormitory Block	
	ii. Refer General Summary for: Preliminary, Transportation and Supervision Costs	
	iii. Preliminary cover the following item:	
	- Setting out working tools, Equipments, Temporary toilets, water for the works, Scaffolding,	
	- Power for the works, Security, store, Materials test and signboard.	
	iv. Supervision cost depend on guideline of the project	
	v. Installation of Ceiling Fan is an option, depend on whether condition of specific area .	

ARCHITECTURAL DRAWINGS

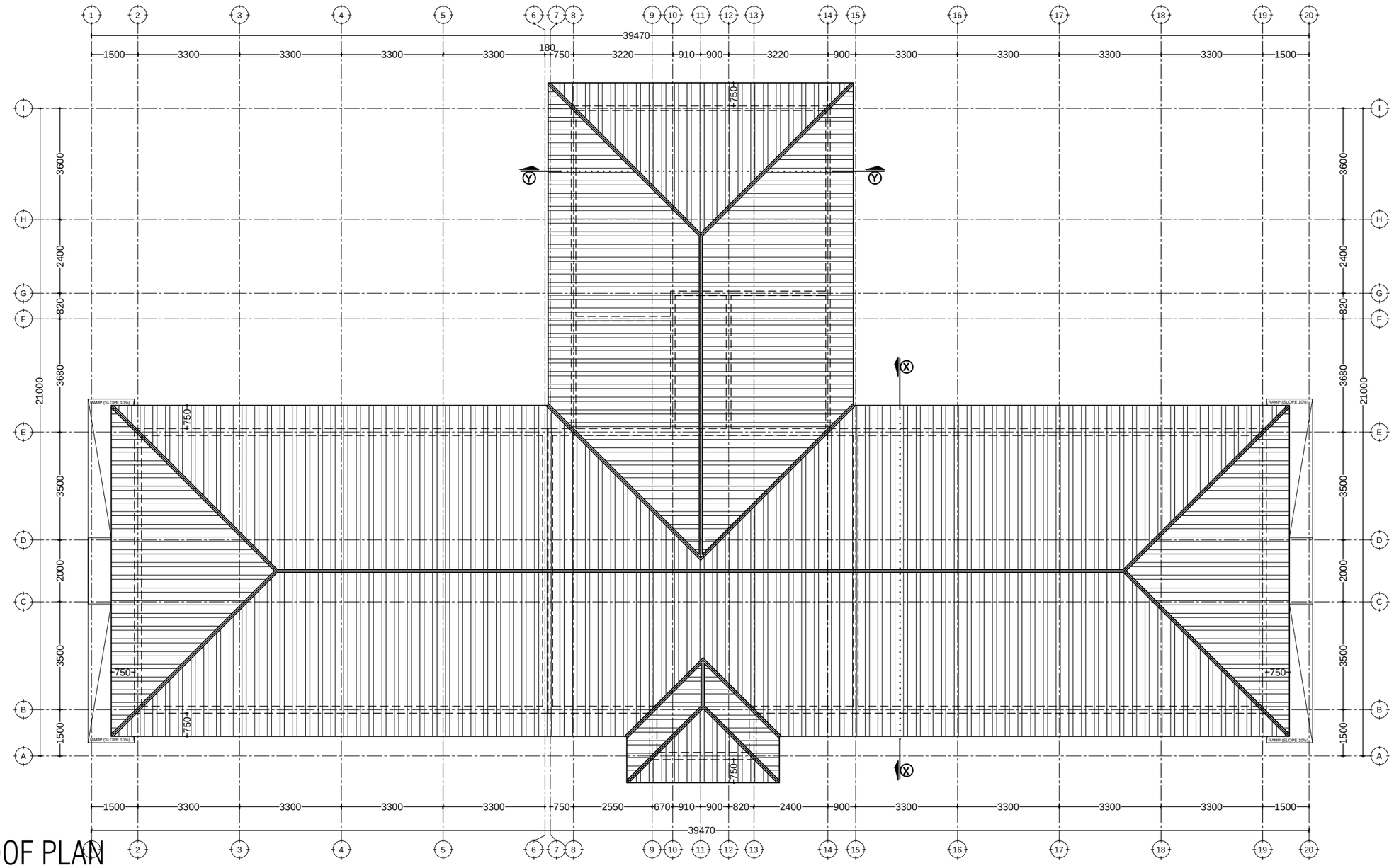


GROUND PLAN

SCALE: 1:100

TOTAL AREA = 432sqm

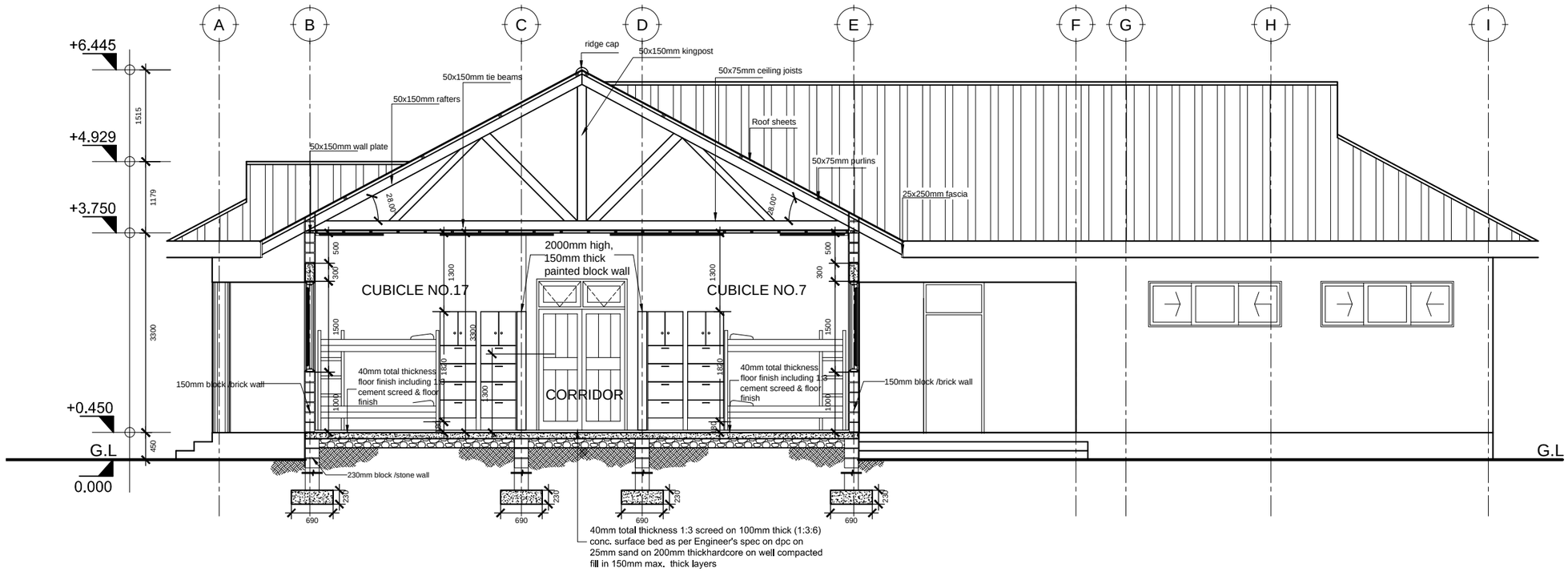
MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY ***IN COLABORATION WITH*** **PRESIDENT'S OFFICE REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT**	**PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS** **FOR** **SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM (SEQUIP)**	DRAWING TITLE: **80 STUDENTS DORMITORY** **FLOOR PLAN** DRAWING NO: **SQP/ARC/DORM - 1/06**	**DRAWN BY J.R** **CHECKED BY I.S** SCALE 1;100 *JUNE,2023*



ROOF PLAN

SCALE: 1:100

MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY ***IN COLABORATION WITH*** **PRESIDENT'S OFFICE REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT**	**PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS** **FOR** **SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM (SEQUIP)**	DRAWING TITLE: **80 STUDENTS DORMITORY** **ROOF PLAN** DRAWING NO: **SQP/ARC/DORM - 2/06**	**DRAWN BY J.R** **CHECKED BY I.S** SCALE 1;100 *JUNE,2023*

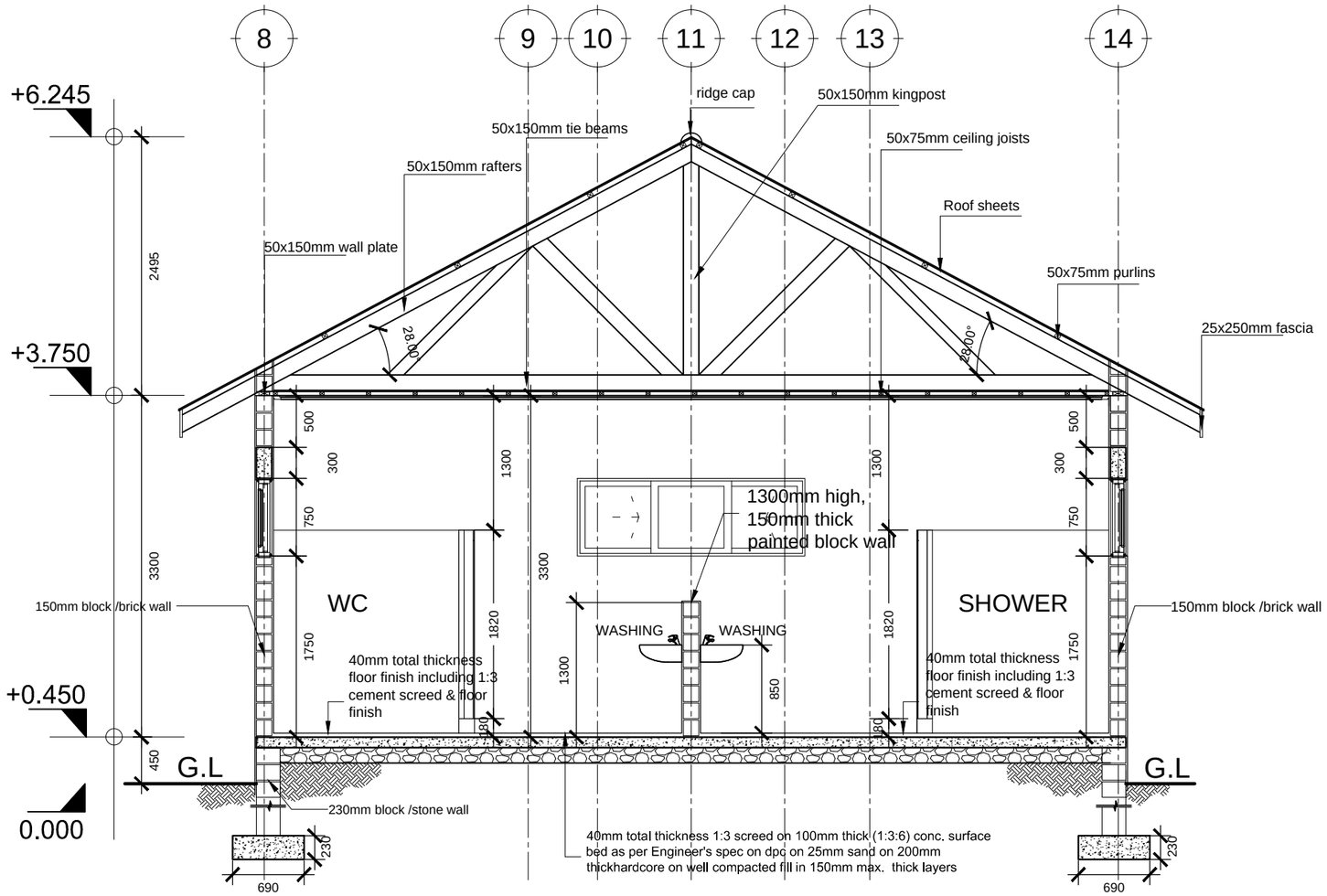


SECTION Y:Y

SCALE: 1:75

MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY ***IN COLABORATION WITH*** **PRESIDENT'S OFFICE REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT**	**PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS** **FOR** **SECONDARY EDUCATI○N QUALITY IMPROVEMENT PROGRAM (SEQUIP)**	DRAWING TITLE: **80 STUDENTS DORMITORY** **SECTION Y:Y** DRAWING NO: **SQP/ARC/DORM - 3/06**	**DRAWN BY J.R** **CHECKED BY I.S** SCALE 1;75 *JUNE,2023*

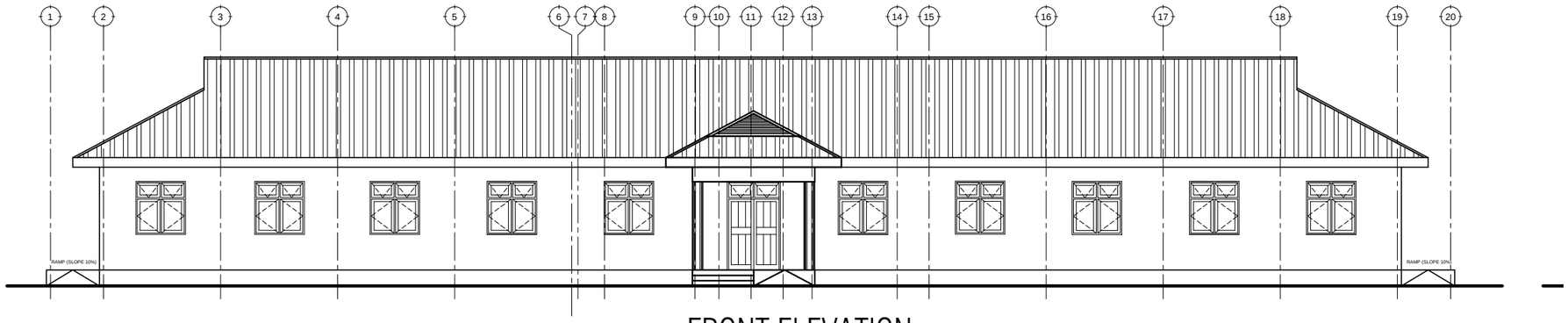
DOOR & WINDOW SCHEDULE			
NO.	WIDTH	HEIGHT	TOTAL
D1	1500mm	2500mm	4
D2	1000mm	2500mm	3
D3	1000mm	1820mm	1
D4	800mm	1820mm	9
W1	1500mm	1500mm	20
W1	2200mm	750mm	5



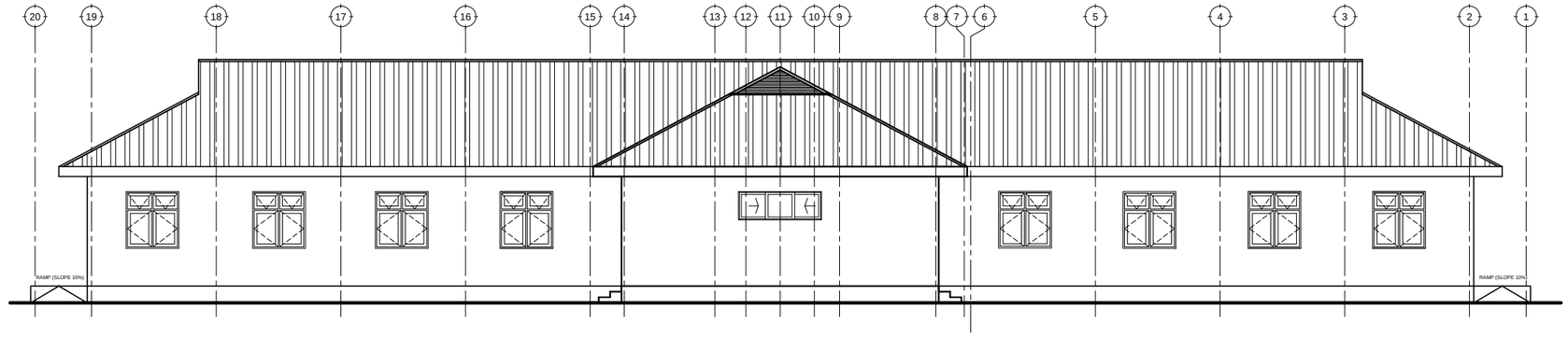
SECTION X:X

SCALE: 1:50

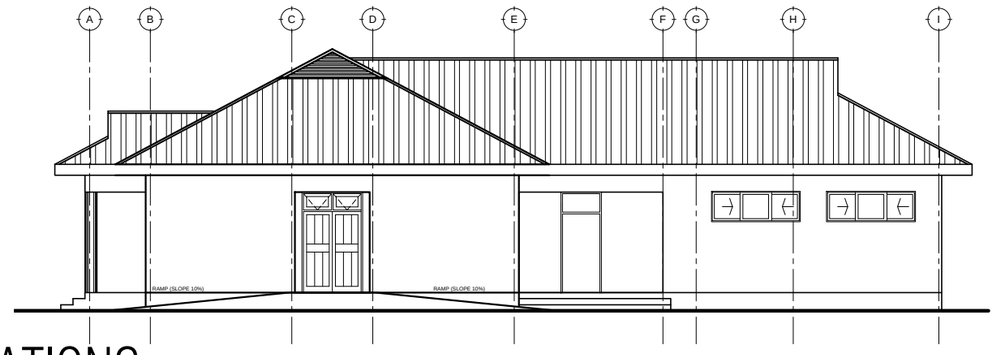
MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY ***IN COLABORATION WITH*** **PRESIDENT'S OFFICE REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT**	**PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS** **FOR** **SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM (SEQUIP)**	DRAWING TITLE: **80 STUDENTS DORMITORY** **SECTION X:X** DRAWING NO: **SQP/ARC/DORM - 4/06**	**DRAWN BY J.R** **CHECKED BY I.S** SCALE 1;50 *JUNE,2023*



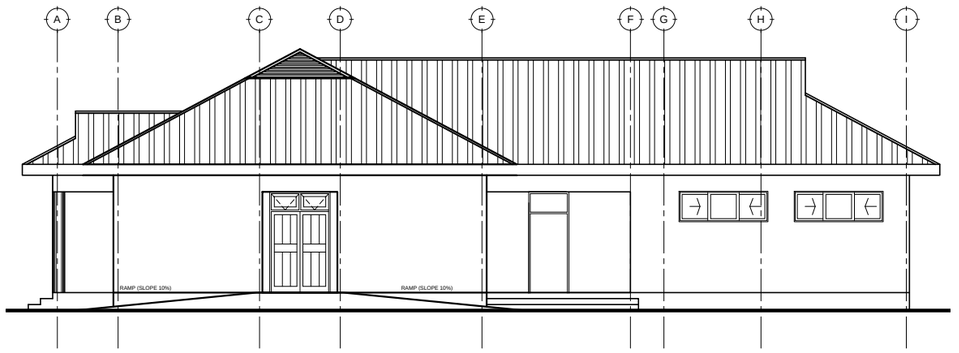
FRONT ELEVATION



FRONT ELEVATION



RIGHT SIDE ELEVATION

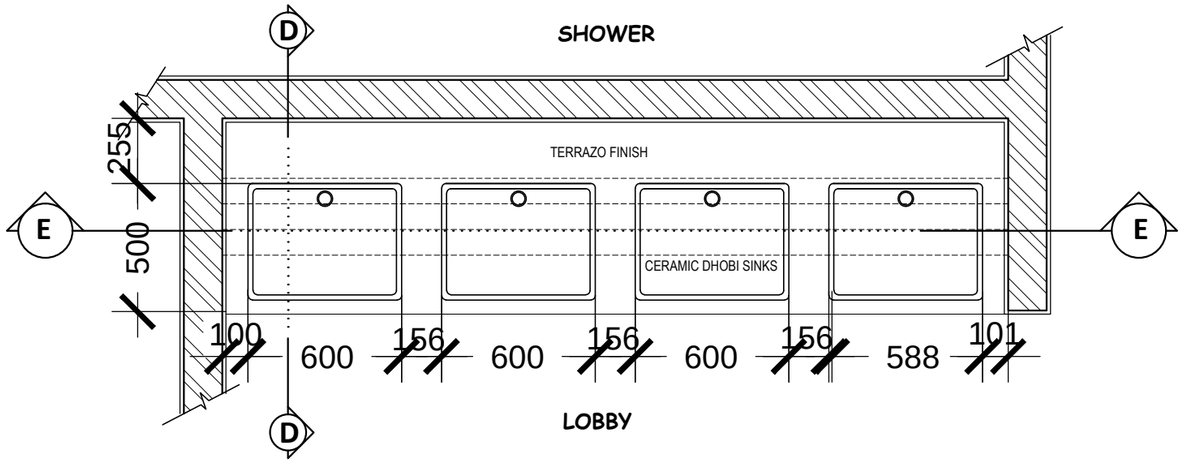


RIGHT SIDE ELEVATION

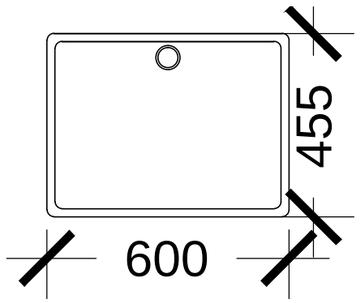
ELEVATIONS

SCALE: 1:100

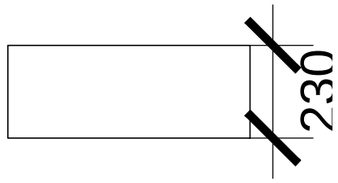
MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY ***IN COLABORATION WITH*** **PRESIDENT'S OFFICE REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT**	**PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS** **FOR** **SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM (SEQUIP)**	DRAWING TITLE: **80 STUDENTS DORMITORY** **ELEVATIONS** DRAWING NO: **SQP/ARC/DORM - 5/06**	**DRAWN BY J.R** **CHECKED BY I.S** SCALE 1;50 *JUNE,2023*



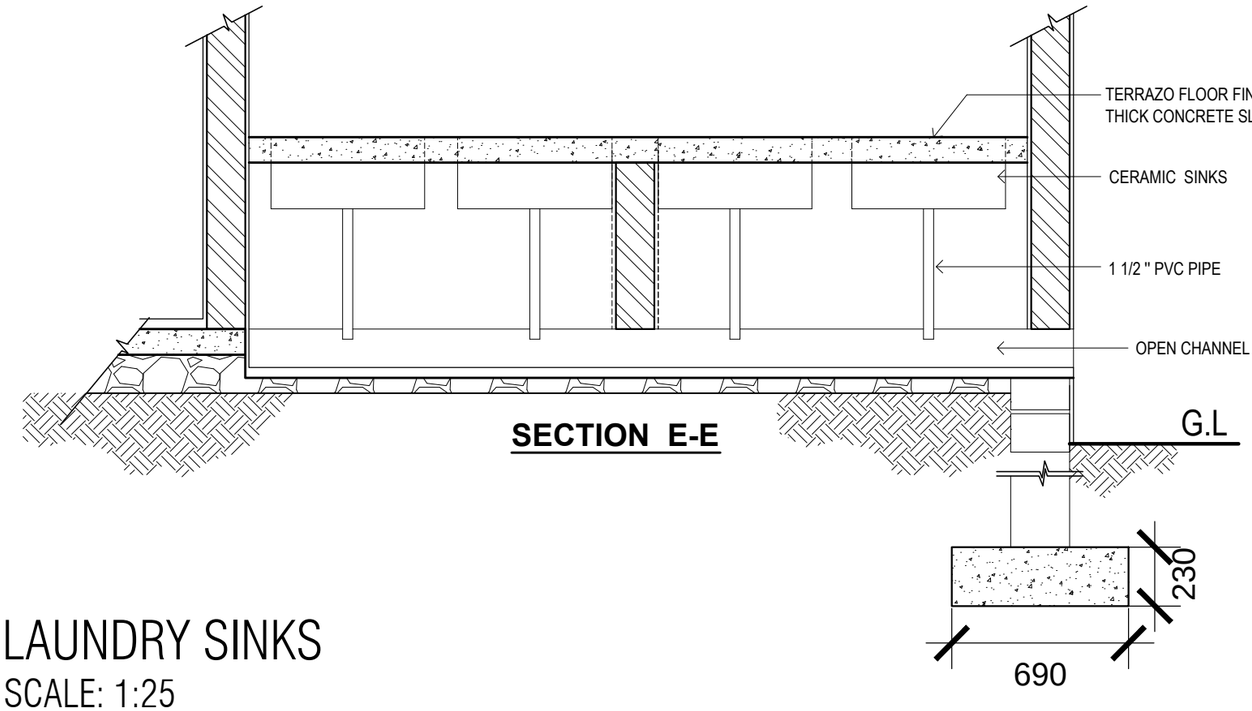
LAUNDRY SINKS LAYOUT PLAN



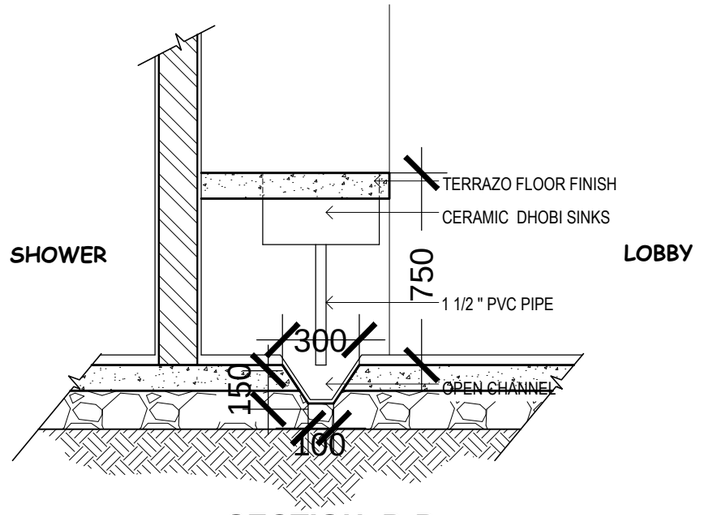
SINK PLAN



SINK ELEVATION



SECTION E-E



SECTION D-D

LAUNDRY SINKS

SCALE: 1:25

MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY ***IN COLABORATION WITH*** **PRESIDENT'S OFFICE REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT**	**PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS** **FOR** **SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM (SEQUIP)**	DRAWING TITLE: **80 STUDENTS DORMITORY** **LAUNDRY SINKS LAYOUT** DRAWING NO: **SQP/ARC/DORM - 6/06**	**DRAWN BY J.R** **CHECKED BY I.S** SCALE 1;25 *JUNE,2023*

THE UNITED REPUBLIC OF TANZANIA

PRESIDENT'S OFFICE
REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT

PROPOSED STANDARD DRAWINGS FOR SEQUIP

Schedule of Materials & Labour for Dinning Hall

PROJECT AREA

TANZANIA MAINLAND

Ministry of Education, Science and Technology,
Government City - Mtumba,
AFYA Street,
P.O Box 10,
40479 DODOMA.

President's Office,
Regional Administration,
& Local Government
Government City - Mtumba
TAMISEMI Street,
P. O. Box 1923,
41185 DODOMA.

JUNE, 2023

MOEST/PO-RALG

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
	MATERIALS				
A	**SUB-STRUCTURE -**PROVISIONAL				
1	**Strip Foundation - Grade 15 Plain (79m^3)**				
	Aggregate (3/4")	79	M^3		
	Sand	40	M^3		
	Cement-50kgs (42.5)	356	Bags		
2	**Foundation Walls (457m^2)**				
	6" Cement & Sand block - Minimum Strength 3. 5 MPa	6,398	No		
	Sand	20	M^3		
	Cement -50kgs (42.5)	107	Bags		
3	**Moram, Hardcore & Site sterilization**				
	Moram (4.5m^3 lorry)	144	Trips		
	Hardcore 150mm thick - (4.5m^3 lorry)	72	Trips		
	Sand	108	M^3		
	Aldrin solution or other and equal approved (1000mls)	15	Bottle		
4	**Blinding(4m^3) 50mm thick -grade 10, Oversite Concrete (216m^3) 100mm thick - 15 grade ,Ground Beam column and base column (95m^3) - 25 grade**				
	DPM	2,162	M^2		
	Cement -50kgs (42.5)	1,737	Bags		
	Aggregates (1/2")	299	M^3		
	Sand	149	M^3		
	Reinforcement - 16mm diameter high tensile 460N/mm2	368	PC'S		
	Reinforcement - 8mm diameter high tensile 460N/mm2	361	PC'S		
	Binding Wire - 25kg	6	Roll		
	Timber 1" X 10 " (5.2m long)	82	PC'S		
	Timber 2" X 2"	35	PC'S		
	Marine plywood 12mm thick size 2400 x 1200mm	50	PC'S		
	Nails-4"--- 45KG Per Bags	3	Bags		
	Nails-3"	2	Bags		
	20 mm styropol compressive expansion joint material or other equal and approved	24	PC'S		
	Supporting props 3m	80	PC'S		
	SUB-TOTAL SUBSTRUCTURE				
B.	**SUPERSTRUCTURE**				
1	**Walls (902m^2), beam, roof beam & Columns (146m^3)**				
	6" Cement & Sand block - Minimum Strength 3. 5 MPa	14,661	No		
	Louver Block /Vent block	765	No		
	DPC (30m long, 1m wide)	8	Roll		
	Sand	135	M^3		
	Cement-50kgs (42.5)	1,554	Bags		
	Aggregates (1/2")	122	M^3		
	Reinforcement - 16mm diameter high tensile 460N/mm2	599	PC'S		
	Reinforcement - 8mm diameter high tensile 460N/mm2	673	PC'S		

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
	Binding Wire - 25kg	10	Roll		
	Timber 1" X 10" to Sides (5.2m long)	80	PC'S		
	Timber 1" X 5" (Plates)	42	PC'S		
	Timber 2" X 2"	75	PC'S		
	Marine plywood 12mm thick size 2400 x 1200mm	131	PC'S		
	Steel supporting scalfolding(6m high) including accessories	52	PC'S		
	Supporting Props	120	PC'S		
	20 mm styropol compressive expansion joint material or other equal and approved	12	PC'S		
	SUB-TOTAL SUPER STRUCTURE				
C.	**ROOF STRUCTURE & COVERING**				
1	**Roof Structure -** Provisional				
	Timber 2 " X 3" Purlins (5.2m long)	145	PC'S		
	Timber 2" X 4" wall plate and struts(5.2m long)	155	PC'S		
	Timber 2" X 6" Rafter and Bottom beam (5.2m long)	166	PC'S		
	Fascia board 1" X 10" -ref. Semi Hardwood (5.2m long)	30	PC'S		
	Nails -5"	50	Kgs		
	Nails -4"	60	Kgs		
	Nails -3"	40	Kgs		
	16mm diameter bolt, 750mm long	376	PC'S		
	12mm diameter bolt, with and including nuts and washer	94	PC'S		
	300x150x3mm mild steel plate	94	PC'S		
	150x50x3mm mild steel plate	141	PC'S		
	NOTE: The above softwood timber structure should be pressure impregnated treated				
2	**Steel Structure -** Provisional				
	76.1 x 5.0 x 8.8 kg/m steel top and bottom chord (6m)	240	PC'S		
	48.3 x 5.0 x 5.3kg/m steel structural internal members(6m)	270	PC'S		
	33.7 x 4.0 x 2.9kg/m steel structural longitudinal tie (6m)	24	PC'S		
	150x 50 x 2x2mm Z -Purlin	780	m		
	150 x 120 x60x 10mm thick mild steel plate	38	PC'S		
	300 x 250 x10mm thick mild steel plate	38	PC'S		
	195 x 100 x75 x 10mm thick mild steel plate	38	PC'S		
	10mm thick mild steel plate with internal diameter 600mm	1	PC'S		
	200 x 400 x10mm thick mild steel plate	38	PC'S		
	75 x 80 x 6mm thick mild steel plate	532	PC'S		
	20mm Diameter Black bolts with nuts and washers	228	PC'S		
	16mm Diameter Anchor bolts 750mm long	152	PC'S		
	12mm diameter bolt, with and including nuts and washer	2,128	PC'S		
	100x80x6mm mild steel plate	532	PC'S		
3	**Roof Covering**				
	28G Resin coated Iron sheet	2,078	M^2		
	28 G Resin coated Roof ridge/Valley	20	PC'S		
	Aluminium Roofing Nails/Hooks	100	Packet		

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
4	**Roof slab and Roof concrete Gutter's**				
	Cement -50kgs (42.5)	885	Bags		
	Water proofing cement (20Litres Bucket)	15	Bucket		
	Aggregates (1/2")	93	M^3		
	Sand	46	M^3		
	Reinforcement - 12mm diameter high tensile 460N/mm2	215	PC'S		
	Reinforcement - 10mm diameter high tensile 460N/mm2	213	PC'S		
	12mm thick Marine Plywood	95	PC'S		
	Timber 1" X 10 " (5.2m long)	41	PC'S		
	Timber 2" X 2"	30	PC'S		
	Nails-4" (45kg Per Bag)	4	Bags		
	Nails-3" (45 Kg Bag)	5	Bags		
	Supporting props (5m)	150	PC'S		
	Upvc 100mm diameter down pipe; Class B	60	PC'S		
	PVC bend 90'	42	PC'S		
	PVC bend 45'	42	PC'S		
	Gutter Clamp 3"	42	PC'S		
	Connector/reducer	42	PC'S		
	Connector outer	42	PC'S		
	Corner Inner	42	PC'S		
	SUB-TOTAL ROOF STRUCTURE & COVERING				
D.	**CEILING**				
	Gypsum board -9mm thick	230	PC'S		
	Plain Cornice (8ft)	242	PC'S		
	Screw 1.25" 500pcs/box	12	Box		
	Gypsum powder -25kg	40	Bags		
	Fiber tape (90m)	6	Roller		
	Treated softwood Timber 2" X 2" (5.2 m)	400	PC'S		
	Nails 4"	50	Kgs		
	Nails 3"	45	Kgs		
	SUB-TOTAL FOR CEILING				
E.	**DOOR**				
1	**Grill door Mild steel**				
	4800 x 2100mm high complete with frame and accessories	1	PC'S		
1	**40mm thick hardwood paneled door shutter**				
	2000 x 2100mm high	6	PC'S		
	1800 x 2100mm high	9	PC'S		
	1850 x 2100mm high	1	PC'S		
	1200 x 2100mm high	2	PC'S		
	1000 x 2100mm high	3	PC'S		
	900 x 2100mm high	17	PC'S		
	800 x 2100mm high	21	PC'S		

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
2	**Frames (hardwood) & Varnish**				
	2000 x 2700mm high	6	PC'S		
	1800 x 2700mm high	9	PC'S		
	1850 x 2700mm high	1	PC'S		
	1200 x 2700mm high	2	PC'S		
	1000 x 2700mm high	3	PC'S		
	900 x 2700mm high	17	PC'S		
	800 x 2700mm high	21	PC'S		
	Brush 3"	20	Pcs		
	Sand paper (msasa) No.80	25	LM		
	Clear Varnish - 4Litres	2	TIN		
	Thinner for Varnish	2	Litres		
3	**Ironmongeries**				
	Mortice lock Three lever	35	No		
	Mortice indicator lock set two lever	21	No		
	Brass hinges - 100mm	111	Pairs		
	SUB-TOTAL FOR DOORS				
F.	**WINDOWS**				
1	**Aluminium sliding Window comprising 100mm x 1.2mm thick standard aluminium profile ex-china/Turkey infill with 5mm thick glass complete with mosquito proofing panel, including all accessories, ironmongeries, cutting and pinning lugs**				
	2000 X 1500mm high	3	PC'S		
	1500 X 1500mm high	5	PC'S		
	1500 X 2700mm high	26	PC'S		
	1500 X 1400mm high	26	PC'S		
	1800 X 2700mm high	4	PC'S		
	900 x 1030mm high	6	PC'S		
	1500 x 1200mm high	2	PC'S		
	2000 x 2700mm high	5	PC'S		
	900 x 2700mm high	1	PC'S		
	2000 x 1200mm high	2	PC'S		
	600 x 900mm high	1	PC'S		
	1500 x 1200mm high	4	PC'S		
	1200 x 2700mm high	1	PC'S		
	2000 X 1500mm high	1	PC'S		
	4530 x 2700mm high	1	PC'S		
	4520 x 2700mm high	1	PC'S		
	Fixed windows/High Level window				
	1800 x 1200mm high	10	PC'S		
	2000 x 1200mm high	6	PC'S		
	1200 x 1200mm high	2	PC'S		
	900 x 1200mm high	17	PC'S		
	1000 x 1200mm high	3	PC'S		

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
2	**25 x 4mm thick flat bar grill painted red-oxide with 25 x 25mm square pipes frame and all necessary accessories**				
	2000 X 1500mm high	3	PC'S		
	1500 X 1500mm high	5	PC'S		
	1500 X 2700mm high	26	PC'S		
	1500 X 1400mm high	26	PC'S		
	1800 X 2700mm high	4	PC'S		
	900 x 1030mm high	6	PC'S		
	1500 x 1200mm high	2	PC'S		
	2000 x 2700mm high	5	PC'S		
	900 x 2700mm high	1	PC'S		
	2000 x 1200mm high	2	PC'S		
	600 x 900mm high	1	PC'S		
	1500 x 1200mm high	4	PC'S		
	1200 x 2700mm high	1	PC'S		
	2000 X 1500mm high	1	PC'S		
	4530 x 2700mm high	1	PC'S		
	4520 x 2700mm high	1	PC'S		
	High level grills				
	1800 x 1200mm high	10	PC'S		
	2000 x 1200mm high	6	PC'S		
	1200 x 1200mm high	2	PC'S		
	900 x 1200mm high	17	PC'S		
	1000 x 1200mm high	3	PC'S		
	SUB-TOTAL FOR WINDOWS				
G.	**FINISHING**				
1	**Floor finishing**				
	Bedding/Backing; cement sand and Chipping (1:2:2); to steel finishing				
	50mm Thick granolithic floor screed steel trowlelling to smooth finishing				
	Sand	35	M^3		
	Cement-50kgs (42.5)	672	Bags		
	Chipping	36	M^3		
2	**Tiles finishing**				
	Sand	7	M^3		
	Cement-50kgs (42.5)	46	Bags		
	400 X400 X 8mm thick - Non-slippery porcelain floor tiles - (1.92sqm/Box)	83	Box		
	Grout (1kg/packet)	10	Packet		
	Spacer	4	Packet		

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
3	**Wall tiles**				
	Sand	2	M^3		
	Cement-50kgs (42.5)	12	Bags		
	250 X 400 X 8mm Wall tiles (1.5Sqm/Box)	125	Box		
4	**Wall Finishing - 15mm thick (1:4)**				
	Sand	42	M^3		
	Cement-50kgs (42.5)	302	Bags		
	White cement - 40kg	33	Bags		
	Gypsum powder -25kg	70	Bags		
	SUB-TOTAL FOR FINISHING				
H.	**PAINTING & DECORATION**				
	Emulsion Paint - 20 LTRS	94	buckets		
	Weather guard Paint - 20 LTRS	32	buckets		
	Washable paint -20 LTRS	64	buckets		
	Primer paint -20 LTRS	28	buckets		
	Solvent - 5LTRS	48	TIN		
	Brush 3"	30	Pcs		
	Roller	20	Pcs		
	Gloss paint-4LTR	10	TIN		
	Bitumen paint - 4Litres	10	TIN		
	SUB-TOTAL FOR PAINTING&DECORATION				
J	**WATER CHANNEL & PAVING BLOCK (PROVISIONAL)**				
1	**Water Channel (96m long)**				
	Cement (42.5)	64	Bags		
	Sand	8	m3		
	Aggregates	16	m3		
	2400x1200mm BRC Mesh	27	Pcs		
	25 x 50 square pipe	98	Pcs		
	Red-Oxide -5LTRS	3	TIN		
	Solvent -5LTRS	1	TIN		
	Welding electrode	4	Box		
	Gloss paint-4LTR	4	TIN		
2	**Paving Blocks**				
	Paving blocks Class 45 size 200 x 110 x 80mm thick	138	M^2		
	Sand	18	M^3		

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
	MATERIALS				
K	**ELECTRICAL INSTALLATION & AIR CONDITION**				
	DINNING/ASSEMBLY HALL				
	Single fluorescent fitting 4 FT Complete	29	No		
	High bay lighting complete with 18w LED bulb	29	No		
	LED fluorescent fitting 60mm cassette type	0	No		
	Twin switch socket floor mounted	0	No		
	Twin switch socket	22	No		
	Hand drier 40W	6	No		
	Single switch socket	0	No		
	Main switch 6way,TPN with integral RCD 100A/300mmA	1	No		
	NB: Wiring cables shall be copper have a minimum cross section area of 1.5sqmm and shall comply with an appropriate British or Harmonized standard for either thermoplastic or thermosetting insulated electric cables.				
	Single core wire 1.5sqmm - Red	9	Roll		
	Single core wire 1.5sqmm - Black	9	Roll		
	Single core wire 1.5sqmm -green	9	Roll		
	Single core wire 2.5sqmm - red	5	Roll		
	Single core wire 2.5sqmm -Black	5	Roll		
	Single core wire 2.5sqmm green	5	Roll		
	Single core wire 4sqmm -Red	30	M		
	Single core wire 4sqmm -Black	30	M		
	Single core wire 4sqmm -Green	30	M		
	16sqmm, urmoured cable	0	M		
	Ceiling fan National or other equal	16	PC's		
	3gang one way switch	2	No		
	1gang 1way switch	17	No		
	2gang 1way switch	6	No		
	Cable tray 150 x3000mm	70	PC		
	DP switch 20A	6	No		
	Cooker control unit 45A	1	No		
	Ceiling light complete with energy saver 18W	21	No		
	Earth rod approved copper 16mm not less than 1200mm	4	No		
	Earth wire 4sqmm	60	M		
	Metal box twin	22	No		
	Metal box single	31	No		
	Junction box	20	No		
	Conduit pipe	320	PC's		
	Elbow	120	PC's		
	Conduit coupling	120	PC's		
	Round cover	2	PACKET		
	Round box	16	No		
	Fine screw	2	PACKET		
	TV socket	1	No		
	Smoke ditector	0			
	plastic clips 22mm	6	Box		
	Bulk head light fitting	16	PCS		
	SUB-TOTAL FOR ELECTRICAL INSTALLATION				

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
L.	**PLUMBING AND SANITARY INSTALLATION**				
	WATER DISTRIBUTION SYSTEM				
	PPR Pipes				
	50mm Dia	29	Pcs		
	40mm Dia	11	Pcs		
	32mm Dia	18	Pcs		
	25mm Dia	46	Pcs		
	20mm Dia	36	Pcs		
	15mm Dia	93	Pcs		
	12mm Dia Flexible Pipe	64	Nos.		
	VALVES				
	50mm Dia	2	Nos.		
	40mm Dia	6	Nos.		
	32mm Dia	14	Nos.		
	20mm Dia	9	Nos.		
	15mm Dia	26	Nos.		
	15mm Dia Angle Valves	84	Nos.		
	20mm Dia WATER TAPE WITH STOP COCK/PUSH COCK	58	Nos.		
	REDUCING BUSH				
	Ø50 / 40mm	2	Nos.		
	Ø50 / 32mm	3	Nos.		
	Ø50 / 25mm	8	Nos.		
	Ø50 / 20mm	2	Nos.		
	Ø50 / 15mm	2	Nos.		
	Ø40 / 32mm	3	Nos.		
	Ø40 / 15mm	4	Nos.		
	Ø32 / 25mm	8	Nos.		
	Ø32 / 20mm	5	Nos.		
	Ø32 / 15mm	6	Nos.		
	Ø25 / 20mm	189	Nos.		
	Ø25 / 15mm	68	Nos.		
	Ø20 / 15mm	58	Nos.		
	90^0 PLAIN ELBOW				
	Ø50mm	8	Nos.		
	Ø40mm	8	Nos.		
	Ø32mm	17	Nos.		
	Ø25mm	33	Nos.		
	Ø20mm	22	Nos.		
	Ø15mm	66	Nos.		
	90 ADAPTOR ELBOW (Female)				
	Ø15mm	84	Nos.		
	90 ADAPTOR ELBOW (Male)				
	Ø15mm	18	Nos.		
	T PLAIN				
	Ø50mm	8	Nos.		
	Ø40mm	8	Nos.		
	Ø32mm	17	Nos.		
	Ø25mm	33	Nos.		
	Ø20mm	22	Nos.		

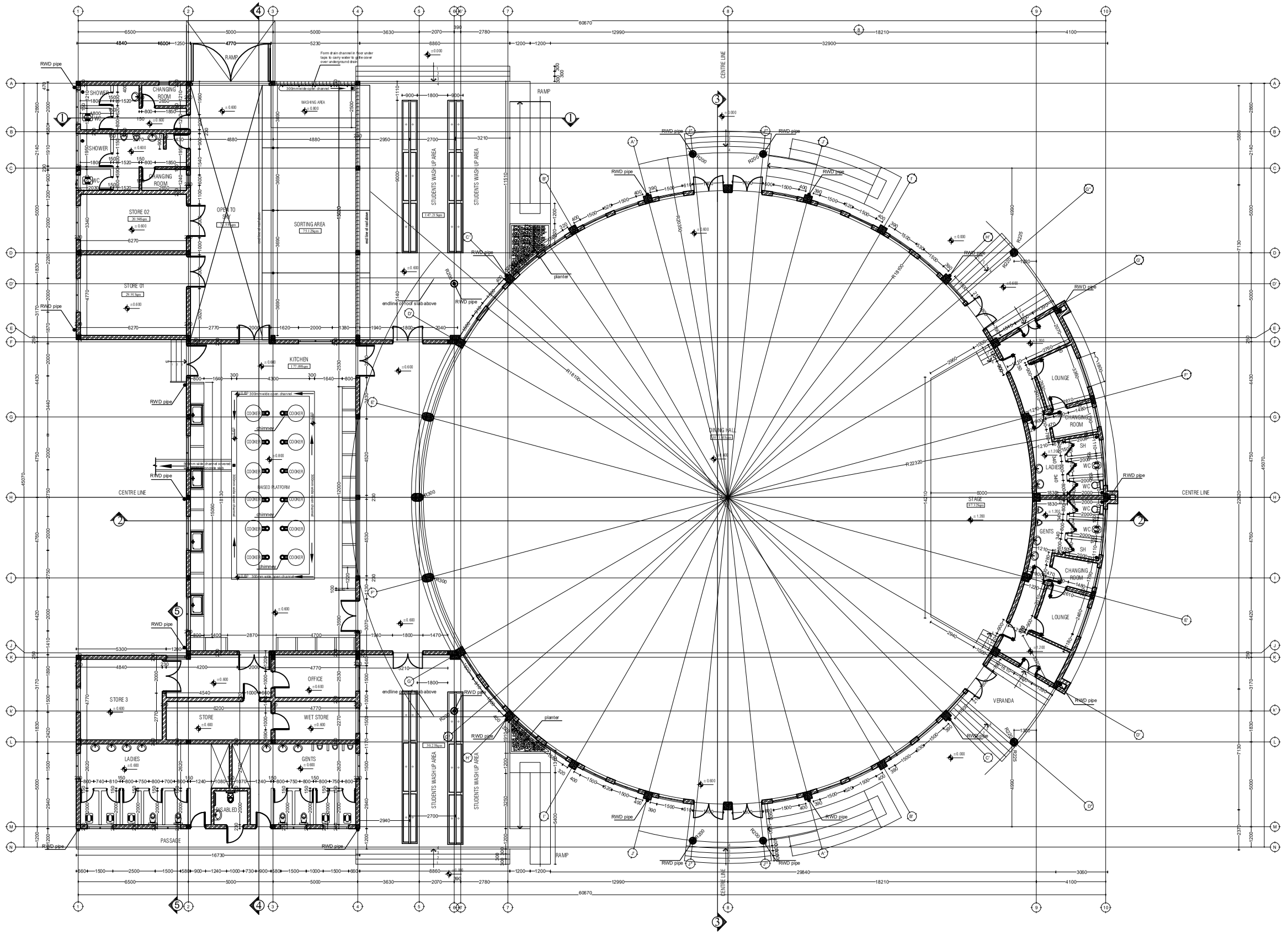
ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
	SOCKET				
	Dia. 15mm	186	Nos.		
	Dia. 20mm	72	Nos.		
	Dia. 25mm	92	Nos.		
	Dia. 32mm	28	Nos.		
	Dia. 40mm	16	Nos.		
	Dia. 50mm	58	Nos.		
	SEWARAGE				
	PIPING (uPVC PIPE)				
	150mm Dia	22	Pcs		
	100mm Dia	36	Pcs		
	50mm Dia	23	Pcs		
	40mm Dia	36	Pcs		
	32mm Dia	48	Pcs		
	Elbows, Bends Connector traps etc to suite the above installation.		Item		
	FITTINGS				
	100mm Dia Y-Tee	46	Nos.		
	50mm Dia Y-Tee	28	Nos.		
	100mm Dia Inspection Tee	18	Nos.		
	50mm Dia Inspection Tee	39	Nos.		
	SOCKET				
	150mm Dia Socket	44	Nos.		
	110mm Dia Socket	72	Nos.		
	50mm Dia Socket	46	Nos.		
	40mm Dia Socket	21	Nos.		
	32mm Dia Socket	21	Nos.		
	90^{O} ELBOW				
	110mm	17	Nos.		
	50mm	16	Nos.		
	40mm	6	Nos.		
	32mm	10	Nos.		
	45^{O} ELBOWS				
	110mm	24	Nos.		
	50mm	18	Nos.		
	40mm	11	Nos.		
	32mm	13	Nos.		
	REDUCING BUSH				
	50mm/40mm	20	Nos.		
	40mm/32mm	20	Nos.		
	REDUCING SOCKET				
	50mm/40mm	10	Nos.		
	40mm/32mm	16	Nos.		

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
	EXTERNAL SEWERAGE				
	Construction of Manhole of internal dimension 600 x 600mm, depth to invert level not exceeding 0.5m with medium duty cast iron frame and cover.	10	Nos.		
	Ditto but with Size 800mm x 800mm	8	Nos.		
	Allow for Gully trap, size 150 x 150mm	20	Nos.		
	Construction of Grease Trap of internal dimension 2,500 x 1,500mm, depth to invert level not exceeding 0.5m with medium duty cast iron frame and cover.	1	Nos.		
	RAIN WATER HARVESTING SYSTEM				
	RAIN WATER				
	Piping (uPVC PIPE)				
	100mm Dia	36	Pcs		
	100mm Dia Floor gully including all fittings.	36	Pcs		
	Elbows, bend, brackets, filters and all other fittings		Item		
	SANITARY FITTINGS				
	White Vitreous China Floor Standing Back to Wall Rimless Water Closet as manufactured by **CERA** or equivalent approved	6	Pcs		
	White Vitreous China SQUATTING PAN with TRAP as manufactured by **CERA** or approved equivalent with Dimenions 510mm x 410mm	9	Pcs		
	Wall mounted Push Type flush tank as manufactured by **KARIBA** or equivalent with 4.5 Litres Volume	9	Pcs		
	Overhead Brass Shower with Pressure Balance Valve as manufactured by **CERA** or equivalent approved	4	Pcs		
	CERA Bib Cock with Jet Spray or its equivalent approved	38	Pcs		
	1000mm x 600mm Vanity Mirror	6	Pcs		
	White Vitreous ChinaWall Hung Wash Hand Basin with Half Pedestal and quarter turn faucet as manufactured by **CERA** or its equivalent	14	Pcs		

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
	Special needs (HANDICAPPED) **WC PACK** as manfuactured by **CERA** complete with Raised height WC Pan , Wash hand Basin with faucet, and Grab Bar/Grab Rails	1	Pcs		
	100mm x 100mm PVC Floor Drain with Cover	12	Pcs		
	Allow for supply and installation of **CERA** soap dispenser with Holder or its equivalent approved	4	Pcs		
	CERA Wall Hung Urinal Bowl with push button flashing Valve or its approved equivalent	5	Pcs		
	Timber / Ceramic Urinal separator	4	Pcs		
	Stainless Steel **FRANKE Quinline Kitchen Sink** Double bowl / Single drainer Kitchen Sink for Kitchen with dimensions 1500mm x 500mm complete with basket strainer and all other accessories	2	Pcs		
	Max Sink Sink Mixer Swivel Spout Chrome as manufactured by **FIORE**	2	Pcs		
	Allow for supply and installation of Toilet Paper Holder as manufactured by **CERA**	6	Pcs		
	PORTABLE FIRE EXTINGUISHERS				
	CO2, 9ltrs bottle as manufactured by NAFFCO or equal approved.	5	Nos		
	CO2, 9kg bottle as manufactured by NAFFCO or equal approved.	5	Nos		
	Fire Blankets	1	Nos		
	SUB-TOTAL FOR PLUMBING INSTALLATION				

	GENERAL SUMMARY				**AMOUNT -TZS**
	DINNING/ASSEMBLY HALL (750 No STUDENTS)				
A.	SUB-STRUCTURE -PROVISIONAL				
B.	SUPERSTRUCTURE				
C.	ROOF STRUCTURE & COVERING				
D.	CEILING				
E.	DOOR				
F.	WINDOWS				
G.	FINISHING				
H.	PAINTING & DECORATION				
J	WATER CHANNEL & PAVING BLOCK (PROVISIONAL)				
K	ELECTRICAL INSTALLATION & AIR CONDITION				
L	PLUMBING INSTALLATION				
	TOTAL BUILDING MATERIALS CARRIED TO GENERAL SUMMARY				
	ADD:				
	LABOUR COST CARRIED TO GENERAL SUMMARY : (Improve and Fill the respective Labour form)				
	Note:				
	i. Refer attached specification and number of Furniture(s) for Dinning/Assembly Hall				
	ii. Refer General Summary for: Preliminary, Transportation and Supervision Costs				
	iii. Preliminary cover the following item:				
	- Setting out working tools, Equipments, Temporary toilets, water for the works, Scaffolding,				
	- Power for the works, Security, store, Materials test, levelling, holdings and removal of rubbish.				
	iv. Supervision cost depend on guideline of the specific project				
	v. Installation of Ceiling Fan is an option, depend on whether condition of specific area .				

ARCHITECTURAL DRAWINGS



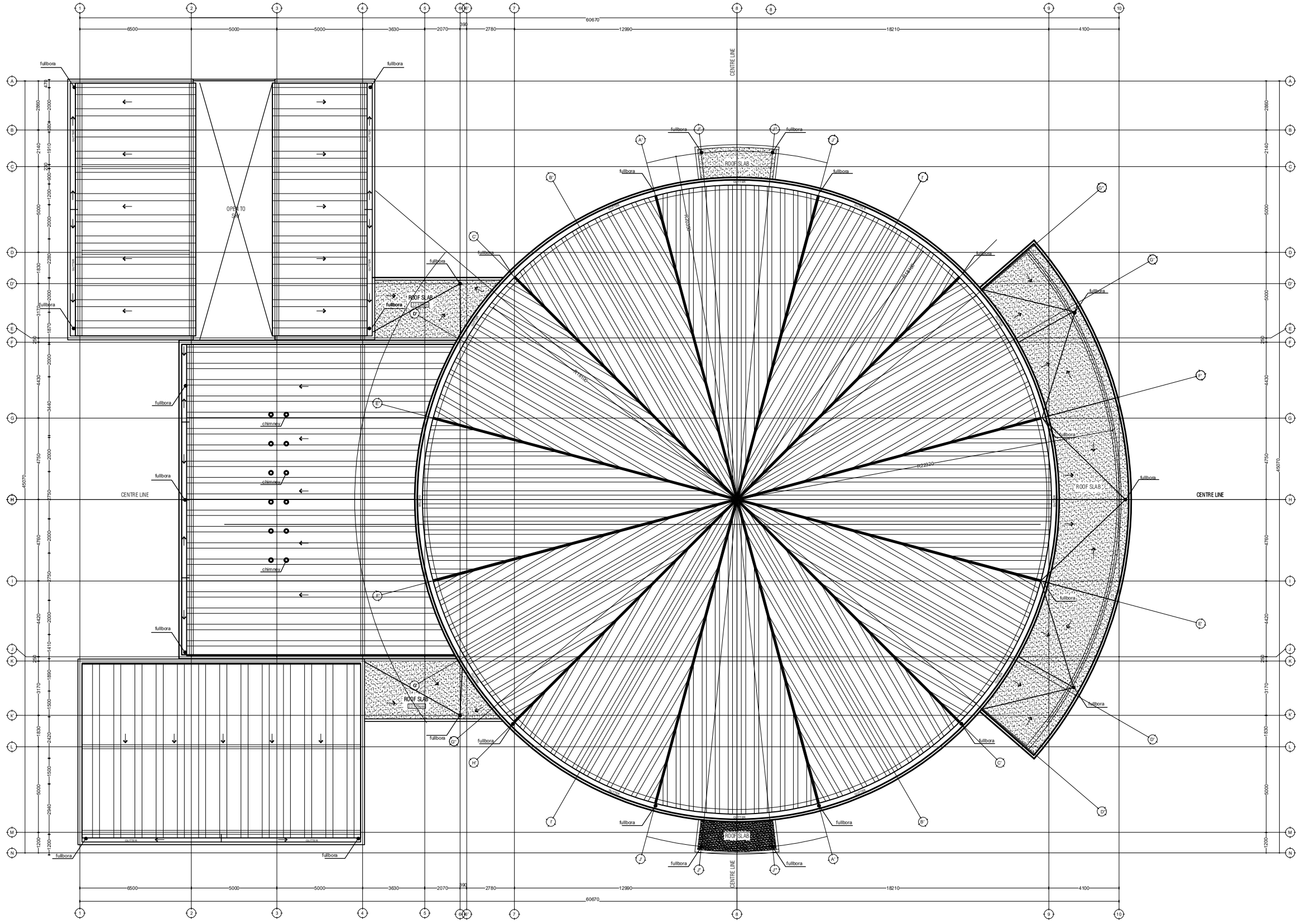
MINISTRY OF EDUCATION,SCIENCE AND TECHNOLOGY
IN COLABORATION WITH
PRESIDENT'S OFFICE REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT

PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS FOR SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM (SEQUIP)

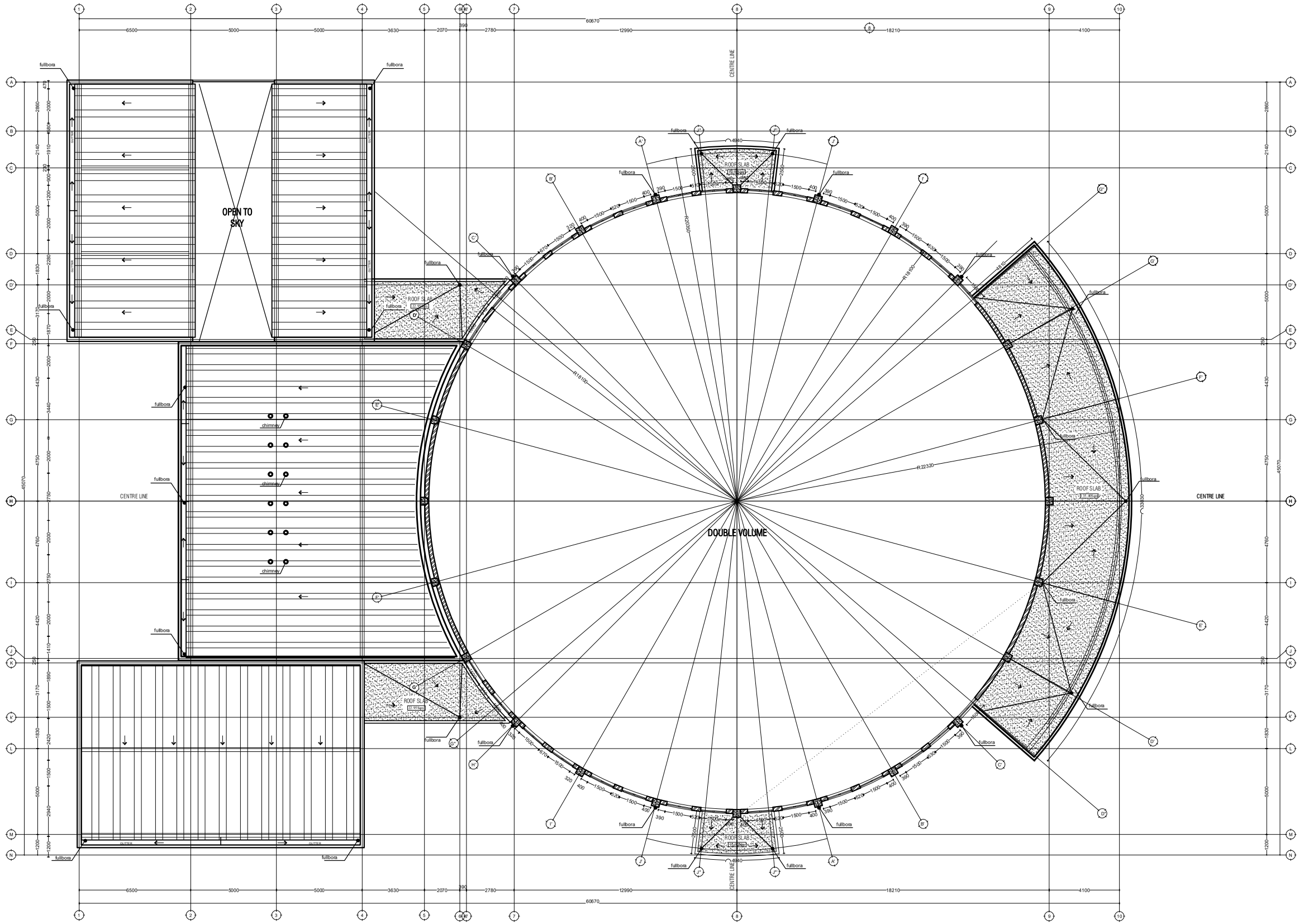
DRAWING TITLE **DINING HALL FLOOR PLAN**

DRAWING NO. **SQP/DW/01**

DRAWN BY J.R
CHECKED BY I.S, H.N, & R.M
SCALE 1:200
JUNE,2023



MINISTRY OF EDUCATION,SCIENCE AND TECHNOLOGY *IN COLABORATION WITH* **PRESIDENT'S OFFICE REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT**	**PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS FOR SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM (SEQUIP)**	DRAWING TITLE **DINING HALL ROOF PLAN -2** DRAWING NO. **SQP/DW/03**	**DRAWN BY J.R** **CHECKED BY I.S, H.N, & R.M** SCALE 1:200 JUNE,2023



MINISTRY OF EDUCATION,SCIENCE AND TECHNOLOGY
IN COLABORATION WITH
PRESIDENT'S OFFICE REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT

PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS FOR SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM (SEQUIP)

DRAWING TITLE **DINING HALL ROOF PLAN - 1**

DRAWING NO. **SQP/DW/02**

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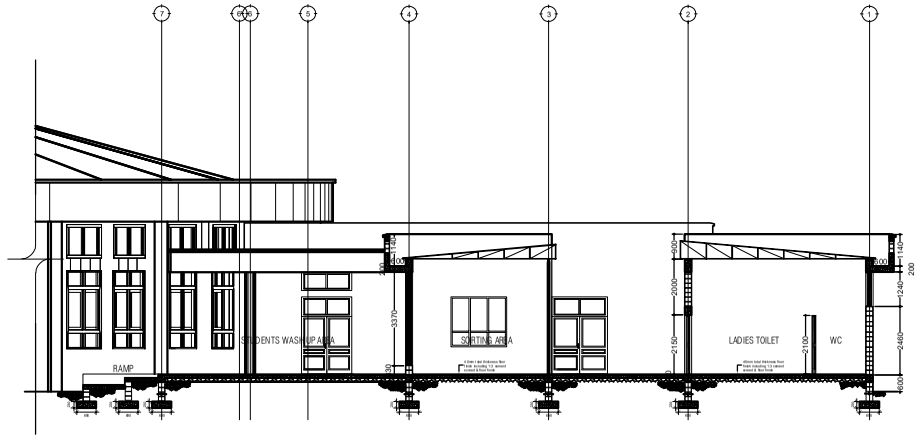
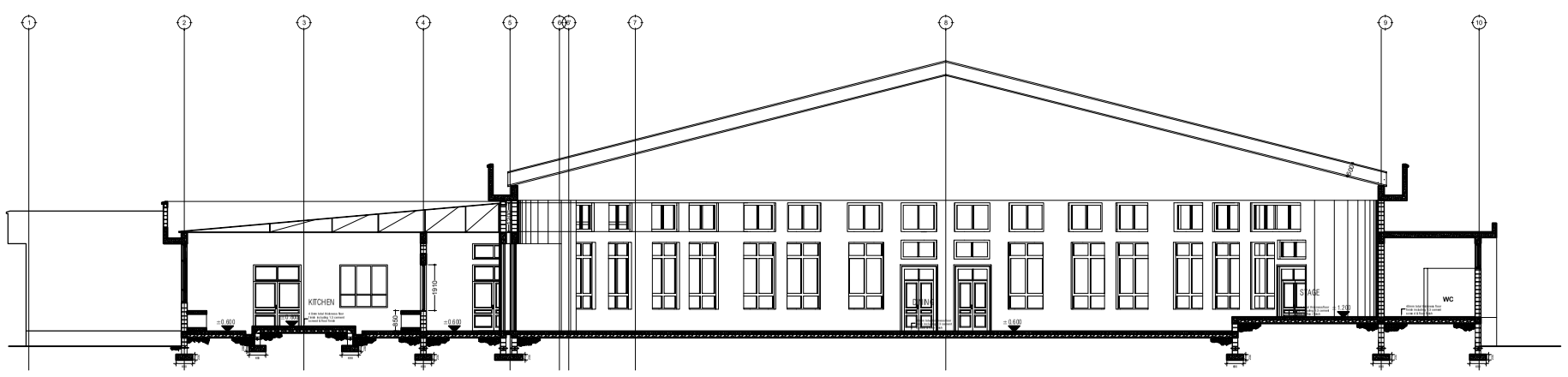
CHECKED BY I.S, H.N, & R.M
SCALE 1:200
JUNE,2023



SECTION 1:1



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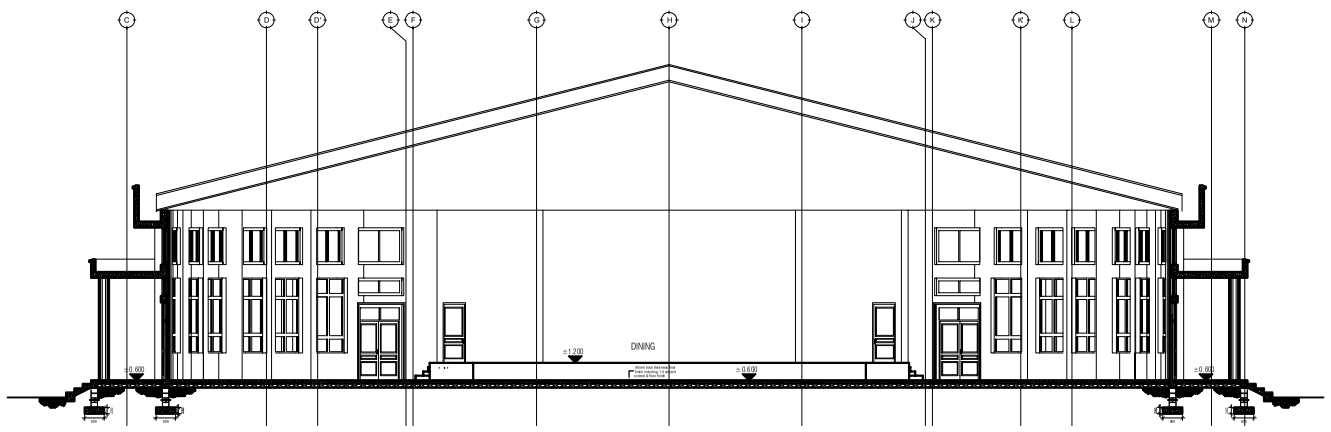
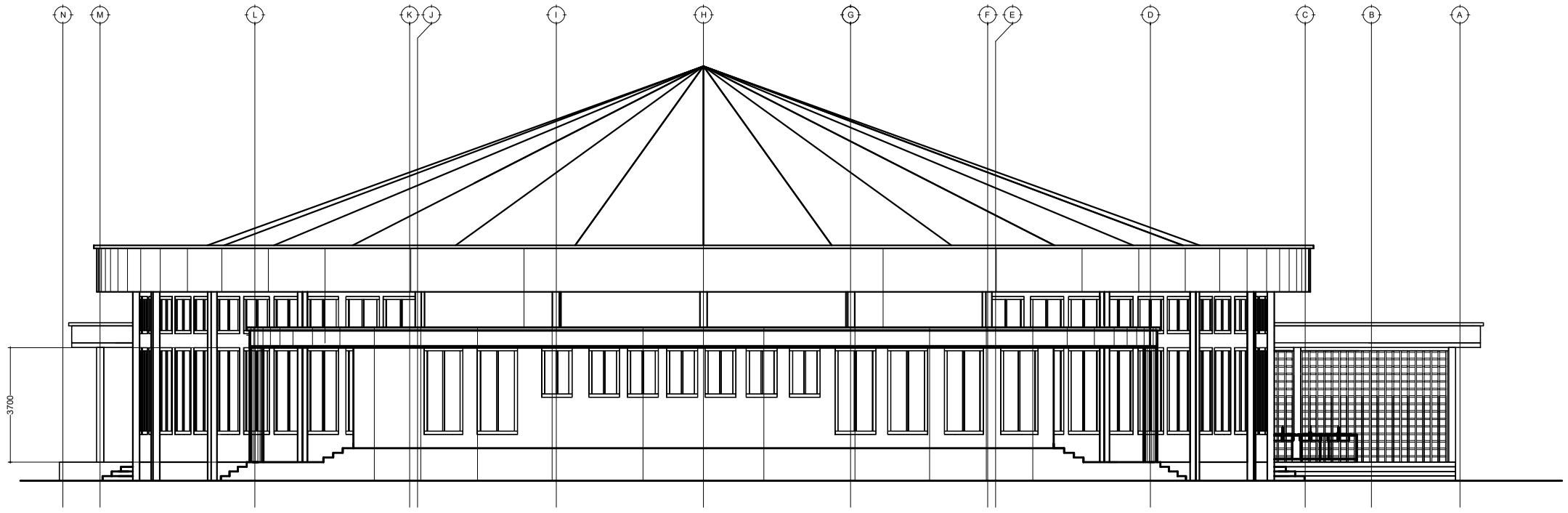


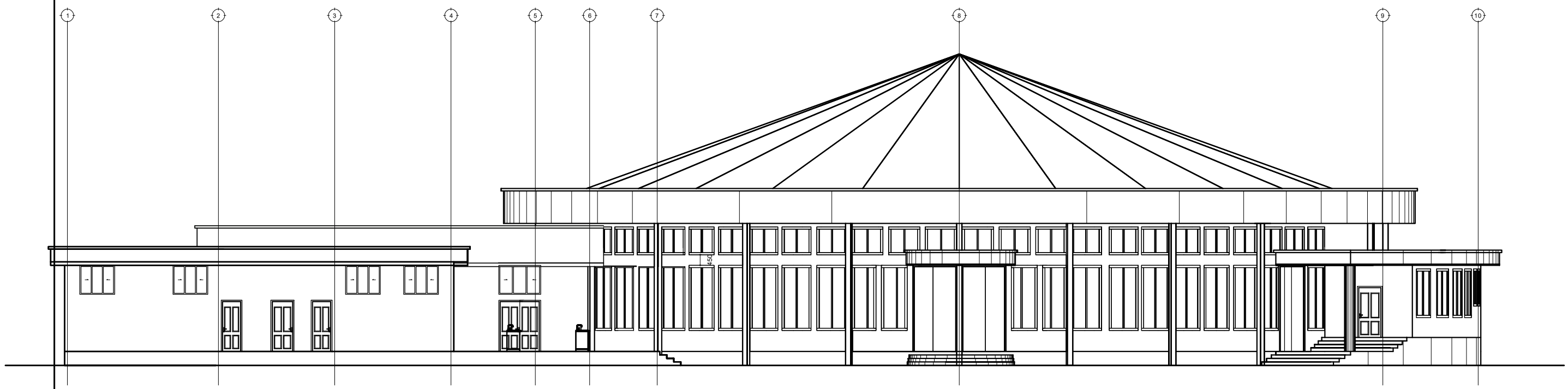
SECTION 3:3

MINISTRY OF EDUCATION,SCIENCE AND TECHNOLOGY *IN COLABORATION WITH* **PRESIDENT'S OFFICE REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT**	**PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS FOR SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM (SEQUIP)**	DRAWING TITLE **DINING HALL SECTIONS** DRAWING NO. **SQP/DW/04**	**DRAWN BY J.R** **CHECKED BY I.S, H.N, & R.M** SCALE 1:200 JUNE,2023



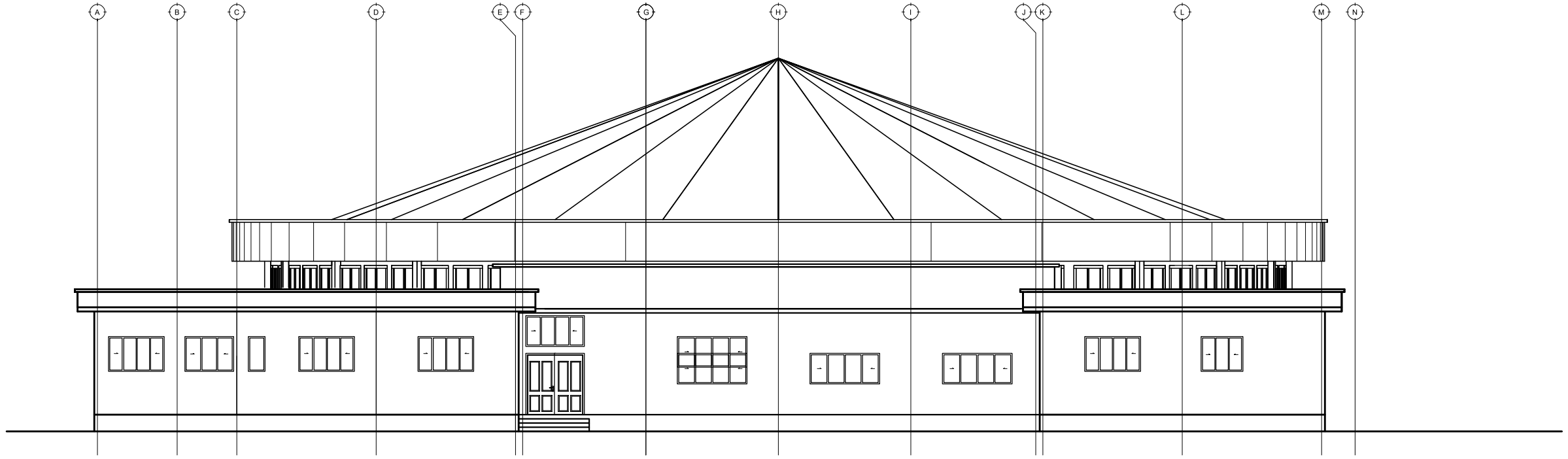
FRONT ELEVATION

MINISTRY OF EDUCATION,SCIENCE AND TECHNOLOGY *IN COLABORATION WITH* **PRESIDENT'S OFFICE REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT**	**PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS FOR SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM (SEQUIP)**	DRAWING TITLE **DINING HALL FRONT ELEVATION** DRAWING NO. **SQP/DW/05**	**DRAWN BY J.R** **CHECKED BY I.S, H.N, & R.M** SCALE 1:200 JUNE,2023



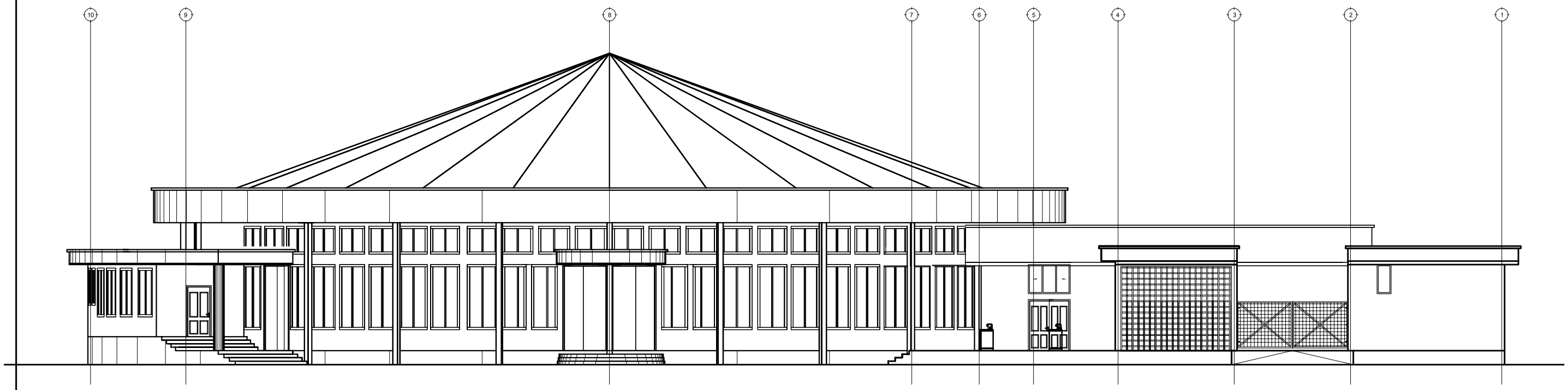
LEFT SIDE ELEVATION

MINISTRY OF EDUCATION,SCIENCE AND TECHNOLOGY *IN COLABORATION WITH* **PRESIDENT'S OFFICE REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT**	**PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS FOR SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM (SEQUIP)**	DRAWING TITLE **DINING HALL LEFT ELEVATION** DRAWING NO. **SQP/DW/08**	**DRAWN BY J.R** **CHECKED BY I.S, H.N, & R.M** SCALE 1:200 JUNE,2023



REAR ELEVATION

MINISTRY OF EDUCATION,SCIENCE AND TECHNOLOGY *IN COLABORATION WITH* PRESIDENT'S OFFICE REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT	PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS FOR SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM (SEQUIP)	DRAWING TITLE: DINING HALL REAR ELEVATION DRAWING NO.: SQP/DW/06	DRAWN BY J.R CHECKED BY I.S, H.N, & R.M SCALE 1:200 JUNE,2023



RIGHT SIDE ELEVATION

MINISTRY OF EDUCATION,SCIENCE AND TECHNOLOGY *IN COLABORATION WITH* **PRESIDENT'S OFFICE REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT**	**PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS FOR SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM (SEQUIP)**	DRAWING TITLE **DINING HALL RIGHT ELEVATION** DRAWING NO. **SQP/DW/07**	**DRAWN BY J.R** **CHECKED BY I.S, H.N, & R.M** SCALE 1:200 JUNE,2023

THE UNITED REPUBLIC OF TANZANIA

PRESIDENT'S OFFICE
REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT

PROPOSED STANDARD DRAWINGS FOR SEQUIP

Schedule of Materials & Labour for Sickbay

PROJECT AREA

TANZANIA MAINLAND

Ministry of Education, Science and Technology,
Government City - Mtumba,
AFYA Street,
P.O Box 10,
40479 DODOMA.

President's Office,
Regional Administration,
& Local Government
Government City - Mtumba
TAMISEMI Street,
P. O. Box 1923,
41185 DODOMA.

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
	MATERIALS				
A	**SUB-STRUCTURE -**PROVISIONAL				
1	**Strip Foundation - Grade 15 Plain (14m^3)**				
	Aggregate (3/4")	9	M^3		
	Sand	5	M^3		
	Cement-50kgs (42.5)	56	Bags		
2	**Foundation Walls**				
	6" Block - Cement & Sand	1,456	No		
	Sand	5	M^3		
	Cement -50kgs (42.5)	37	Bags		
	ALTENATIVE TO FOUNDATION WALL				
	***** If stone is applicable, then blockwork is not***				
	applicable. Therefore Engineer must confirm to the				
	Tenderer which item to be priced (Blockwork or				
	stone) depending on availability and suitability of				
	building materials.				
	Stone, complete with its associated mortar etc	*30*	*M^3*		
3	**Moram, Hardcore & Site sterilization**				
	Moram (4.5m^3 lorry)	8	Trips		
	Hardcore 150mm thick - (4.5m^3 lorry)	5	Trips		
	Sand	4	M^3		
	Aldrin solution or other and equal approved (1000mls)	2	Bottle		
4	**Oversite Concrete 100mm thick - 15 grade ,Ground Beam - 20 grade**				
	DPM	126	M^2		
	Cement -50kgs (42.5)	90	Bags		
	Aggregates (1/2")	15	M^3		
	Sand	8	M^3		
	Reinforcement - 12mm diameter high tensile 460N/mm2	38	PC'S		
	Reinforcement - 8mm diameter high tensile 460N/mm2	35	PC'S		
	Timber 1" X 10 " (5.2m long)	8	PC'S		
	Timber 2" X 2"(3.5m)	5	PC'S		
	Nails-4"	15	Kgs		
	Nails-3"	10	Kgs		
	Supporting props (3m)	12	PC'S		
	SUB-TOTAL SUBSTRUCTURE				

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
B.	**SUPERSTRUCTURE**				
1	**Walls & Ring beam**				
	6" Block - Cement & Sand	2,400	No		
	DPC (30m long, 1m wide)	2	Roll		
	Sand	13	M^3		
	Cement-50kgs (42.5)	94	Bags		
	Aggregates (1/2")	5	M^3		
	Reinforcement - 12mm diameter high tensile 460N/mm2	32	PC'S		
	Reinforcement - 8mm diameter high tensile 460N/mm2	30	PC'S		
	Binding Wire -1kg	3	PC'S		
	Timber 1" X 10" to Sides (5.2m long)	7	PC'S		
	Timber 1" X 5" (Plates)	5	PC'S		
	Timber 2" X 2" (3.5m)	5	PC'S		
	Supporting Props 3m	5	PC'S		
	SUB-TOTAL SUPER STRUCTURE				
	ALTENATIVE TO BLOCKWORK WALL				
	***** If brickwork is applicable, then blockwork is not***				
	applicable. Therefore Engineer must confirm to the				
	Tenderer which item to be priced (Blockwork or brickwork)				
	depending on availability and suitability of building				
	materials. Note that: Strictly do not use stretcher bond				
	when using bricks, the acceptablebond is either Flemish				
	or English or header.				
	Brickwork				
	230mm thick One brick wall	*256*	m^2		
C.	**ROOF STRUCTURE & COVERING**				
1	**Roof Structure -** Provisional				
	Timber 2 " X 3" Purlins	480	ft		
	Timber 2" X 4" Strusts	861	ft		
	Timber 2" X 6" Rafter,Kingpost and Tie beam	717	ft		
	Fascia board 1" X 10" -ref. Semi Hardwood (5.2m long)	11	PC'S		
	Nails -5"	25	Kgs		
	Nails -4"	20	Kgs		
	Nails -3"	15	Kgs		
	16mm diameter bolt, 500mm long	26	Pc's		
	NOTE: The above softwood timber structure should be pressure impregnated treated				

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
2	**Roof Covering**				
	28G resin coated Iron sheet	192	M^2		
	Ridge - 28 G	6	PC'S		
	Aluminium Roofing Nails	19	Packet		
3	**Gutter's**				
	Upvc 100mm half round (6m long)-5"	6	PC'S		
	Upvc 75mm diameter down pipe; Class B	4	PC'S		
	PVC outlet	8	PC'S		
	PVC bend 90'	8	PC'S		
	PVC bend 45'	8	PC'S		
	Gutter support bracket	8	PC'S		
	Gutter Clamp 3"	32	PC'S		
	Connector/reducer	8	PC'S		
	Connector outer	8	PC'S		
	Corner Inner	8	PC'S		
	SUB-TOTAL ROOF STRUCTURE & COVERING				
D.	**CEILING**				
	Gypsum board -9mm thick	40	PC'S		
	Plain Cornice (2.5m)	33	PC'S		
	Screw 1.25" 500pcs/box	4	Box		
	Gypsum powder - kg	7	Bags		
	Fibre tape (90m)	1	Roller		
	Treated softwood Timber 2" X 2" - 3.5m	1,320	ft		
	Nails 4"	15	Kgs		
	Nails 3"	27	Kgs		
	SUB-TOTAL FOR CEILING				

E.	**DOOR**				
1	**40mm thick hardwood paneled door shutter**				
	920 x2100mm high	6	PC'S		
	720 x2100mm high	4	PC'S		
2	**45 x 145mm Frames (hardwood),Varnish & Glass**				
	1000 x 2500mm high frame	6	PC'S		
	800 x 2500mm high frame	4	PC'S		
	Brush 3"	3	Pcs		
	5mm thick clear glass to Vents	3.0	M^2		
	13 X15 mm glass beads	21	M		
	Sand paper (msasa) No.80	5	LM		
	Clear Varnish - 4Litres	2	TIN		
	Thinner for Varnish	5	Litres		
3	**IronMongeries - ref Union**				
	Mortice lock Three lever	6	No		
	Mortice lock set - Two lever with indicator bolt	4	No		
	Brass hinges - 100mm	15.0	Pairs		
	SUB-TOTAL FOR DOORS				

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
F.	**WINDOWS**				
1	**Aluminium sliding Window comprising 100mm x 1.2mm thick**				
	1500 X 1500mm high	8	PC'S		
	1500 X 600mm high	2	PC'S		
2	**25 x 4mm thick flat bar grill painted red-oxide with 25 x 25mm square pipes frame and all necessary accessories**				
	1500 X 1500mm high -Dispencing, room	1	PC'S		
	1500 X 1500mm high -Injection room	1	PC'S		
	1500 X 1500mm high -Consulting room	1	PC'S		
	900 X 2500mm high High level to doors	3	PC'S		
	SUB-TOTAL FOR WINDOWS				
G.	**FINISHING**				
	Sand - (Lorry 4.5M3)	6	m3		
	Cement-50kgs	38	Bags		
	500 X 500 X 8mm thick - Non-slippery porcelain floor tiles - (1.75sqm/Box)	75	Box		
	Grout (1kg/packet)	8	Packet		
	Spacer	3	Packet		
	Skirting (600mm long; 25/Box)	6	Box		
2	**Wall Finishing (404m^2) -15mm thick (1:4)**				
	Sand	11	M^3		
	Cement-50kgs (42.5)	61	Bags		
	White cement - 40kg	4	Bags		
	Gypsum powder - 25kg	13	Bags		
	Sand paper Msasa No.120	1	Roll		
	SUB-TOTAL FOR FINISHING				
H.	**PAINTING & DECORATION**				
	Emulsion Paint - 20 LTRS	6	buckets		
	Weather guard Paint - 20 LTRS	2	buckets		
	Washable paint -20 LTRS	4	buckets		
	Primer paint -20 LTRS	2	buckets		
	Solvent - 5LTRS	2	TIN		
	Brush 3"	4	Pcs		
	Roller	3	Pcs		
	Gloss paint-4LTR	1	TIN		
	Bitumen paint - 4Litres	2	TIN		
	SUB-TOTAL FOR PAINTING&DECORATION				

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
J.	**ELECTRICAL INSTALLATION**				
	Singlefluorescent fitting Complete,	13	No		
	Double switch socket	8	No		
	Main switch 8way,1PH with integral RCD 100A/300mmA	1	No		
	NB: Wiring cables shall be copper have a minimum cross				
	Single core wire 1.5sqmm - Red	2	Roll		
	Single core wire 1.5sqmm - Black	2	Roll		
	Single core wire 1.5sqmm -green	2	Roll		
	Single core wire 2.5sqmm - red	1	Roll		
	Single core wire 2.5sqmm -Black	1	Roll		
	Single core wire 2.5sqmm green	1	Roll		
	Single core wire 4sqmm -Red	15	M		
	Single core wire 4sqmm -Black	15	M		
	Single core wire 4sqmm -Green	15	M		
	Ceiling fan National or other equal	6	PC's		
	3gang 1 way switch	1	No		
	1gang 1 way switch	1	No		
	2gang 1way switch	7	No		
	DP switch 20A	3	No		
	Cooker control unit 45A	1	No		
	Ceiling light complete with energy saver 18W	7	No		
	Earth rod approved copper 16mm not less than 1200mm	1	No		
	Earth wire 4sqmm	15	M		
	Metal box twin	8	No		
	Metal box single	11	No		
	Junction box	4	No		
	Conduit pipe	60	PC's		
	Elbow	10	PC's		
	Conduit coupling	10	PC's		
	Round cover	20	PC's		
	Round box	5	PC's		
	Fine screw	2	PACKET		
	plastic clips 22mm	3	BOX		
	Bulk head light fitting	4	PCS		
	Handdrier	3	No		
	SUB-TOTAL FOR ELECTRICAL INSTALLATION				

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
	PLUMBING AND SANITARY INSTALLATIONS				
	WATER DISTRIBUTION SYSTEM				
	PPR Pipes				
	25mm Dia	4	PCS		
	20mm Dia	8	PCS		
	15mm Dia	14	PCS		
	12mm Dia Flexible Pipe	19	PCS		
	VALVES				
	25mm Dia	2	PCS		
	20mm Dia	3	PCS		
	15mm Dia	9	PCS		
	15mm Dia Angle Valves	23	PCS		
	20mm Dia WATER TAPE WITH STOP COCK/PUSH COCK	1	PCS		
	REDUCING BUSH				
	Ø25 / 20mm	4	PCS		
	Ø25 / 15mm	5	PCS		
	Ø20 / 15mm	11	PCS		
	90^0 PLAIN ELBOW				
	Ø25mm	8	PCS		
	Ø20mm	14	PCS		
	Ø15mm	18	PCS		
	90 ADAPTOR ELBOW (Female)				
	Ø15mm	28	PCS		
	90 ADAPTOR ELBOW (Male)				
	Ø15mm	9	PCS		
	T PLAIN				
	Ø25mm	8	PCS		
	Ø20mm	11	PCS		
	Ø15mm	14	PCS		
	SOCKET				
	Dia. 15mm	26	PCS		
	Dia. 20mm	12	PCS		
	Dia. 25mm	5	PCS		
	SEWARAGE				
	PIPING (uPVC PIPE)				
	100mm Dia	12	PCS		
	50mm Dia	5	PCS		
	40mm Dia	5	PCS		
	32mm Dia	5	PCS		
	Elbows	46	PCS		
	Bend	28	PCS		
	Bracket	35	PCS		
	Filter	17	PCS		
	FITTINGS				
	100mm Dia Y-Tee	6	PCS		
	50mm Dia Y-Tee	6	PCS		

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
	100mm Dia Inspection Tee	8	PCS		
	50mm Dia Inspection Tee	9	PCS		
	SOCKET				
	110mm Dia	12	PCS		
	50mm Dia	8	PCS		
	40mm Dia	8	PCS		
	32mm Dia	6	PCS		
	90^{O} ELBOW				
	110mm	5	PCS		
	50mm	4	PCS		
	40mm	5	PCS		
	32mm	3	PCS		
	45^{O} ELBOWS				
	110mm	7	PCS		
	50mm	4	PCS		
	40mm	5	PCS		
	32mm	6	PCS		
	REDUCING BUSH				
	50mm/40mm	9	PCS		
	40mm/32mm	6	PCS		
	REDUCING SOCKET				
	50mm/40mm	8	PCS		
	40mm/32mm	9	PCS		
	SANITARY FITTINGS				
	White Vitreous China SQUATTING PAN with TRAP as manufactured by with Dimenions 510mm x 410mm , complete with flush tank 9litres	3	PCS		
	Overhead Brass Shower with Pressure Balance Valve	1	PCS		
	Overhead Shower with Single Lever Faucet Mixer	1	PCS		
	Bib Cock with Jet Spray or its equivalent approved	3	PCS		
	1000mm x 600mm Vanity Mirror	5	PCS		

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
	White Vitreous ChinaWall Hung Wash Hand Basin with Half Pedestal and quarter turn faucet a	5	PCS		
	Soap dispenser with Holder	6	PCS		
	White Vitreous Chinahower Tray or its equivalent with Dimensions 800mm x 700mm	1	PCS		
	Toilet Paper Holder	3	PCS		
	PORTABLE FIRE EXTINGUISHERS				
	CO2, 9ltrs bottle	1	PCS		
	CO2, 9kg bottle	1	PCS		
	SUB-TOTAL FOR ELECTRICAL INSTALLATION				

	GENERAL SUMMARY				**AMOUNT -TZS**
	SICKBAY BLOCK				
A.	SUB-STRUCTURE -PROVISIONAL				
B.	SUPERSTRUCTURE				
C.	ROOF STRUCTURE & COVERING				
D.	CEILING				
E.	DOOR				
F.	WINDOWS				
G.	FINISHING				
H.	PAINTING & DECORATION				
J.	ELECTRICAL INSTALLATION				
K	PLUMBING INSTALLATION				
	TOTAL BUILDING MATERIALS CARRIED TO GENERAL SUMMARY				
	ADD:				
	LABOUR COST CARRIED TO GENERAL SUMMARY : (Improve and Fill the respective Labour form)				
	Note:				
	i. Refer attached specification and number of Furniture(s) for Sick bay				
	ii. Refer General Summary for: Preliminary, Transportation and Supervision Costs				
	iii. Preliminary cover the following item:				
	- Setting out working tools, Equipments, Temporary toilets, water for the works, Scaffolding,				
	- Power for the works, Security, store, Materials test and signboard.				
	iv. Supervision cost depend on guideline of the project				
	v. Installation of Ceiling Fan is an option, depend on whether condition of specific area .				

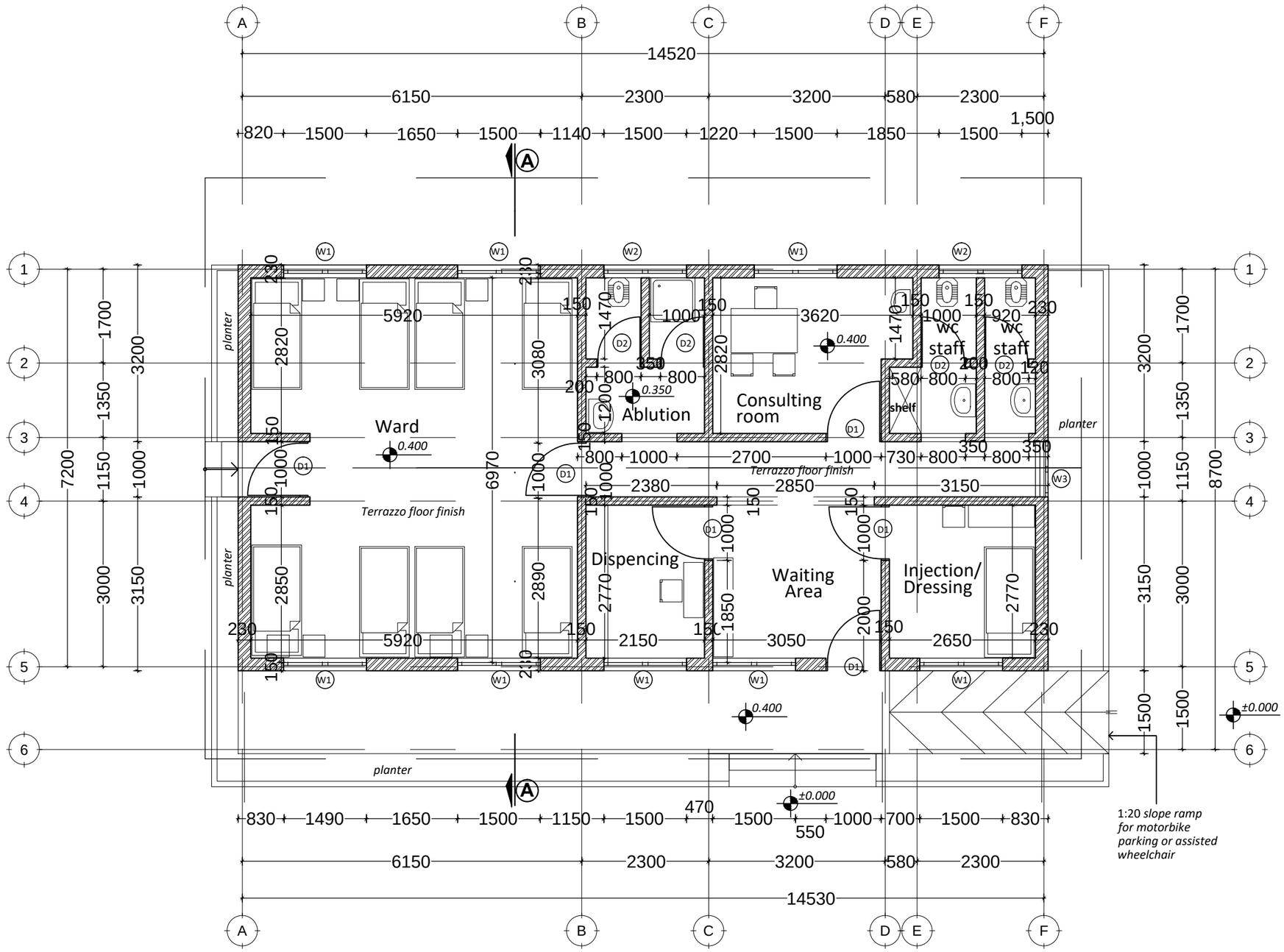
ARCHITECTURAL DRAWINGS

SICK BAY

ARCHITECTURAL DRAWING

JUNE 2023

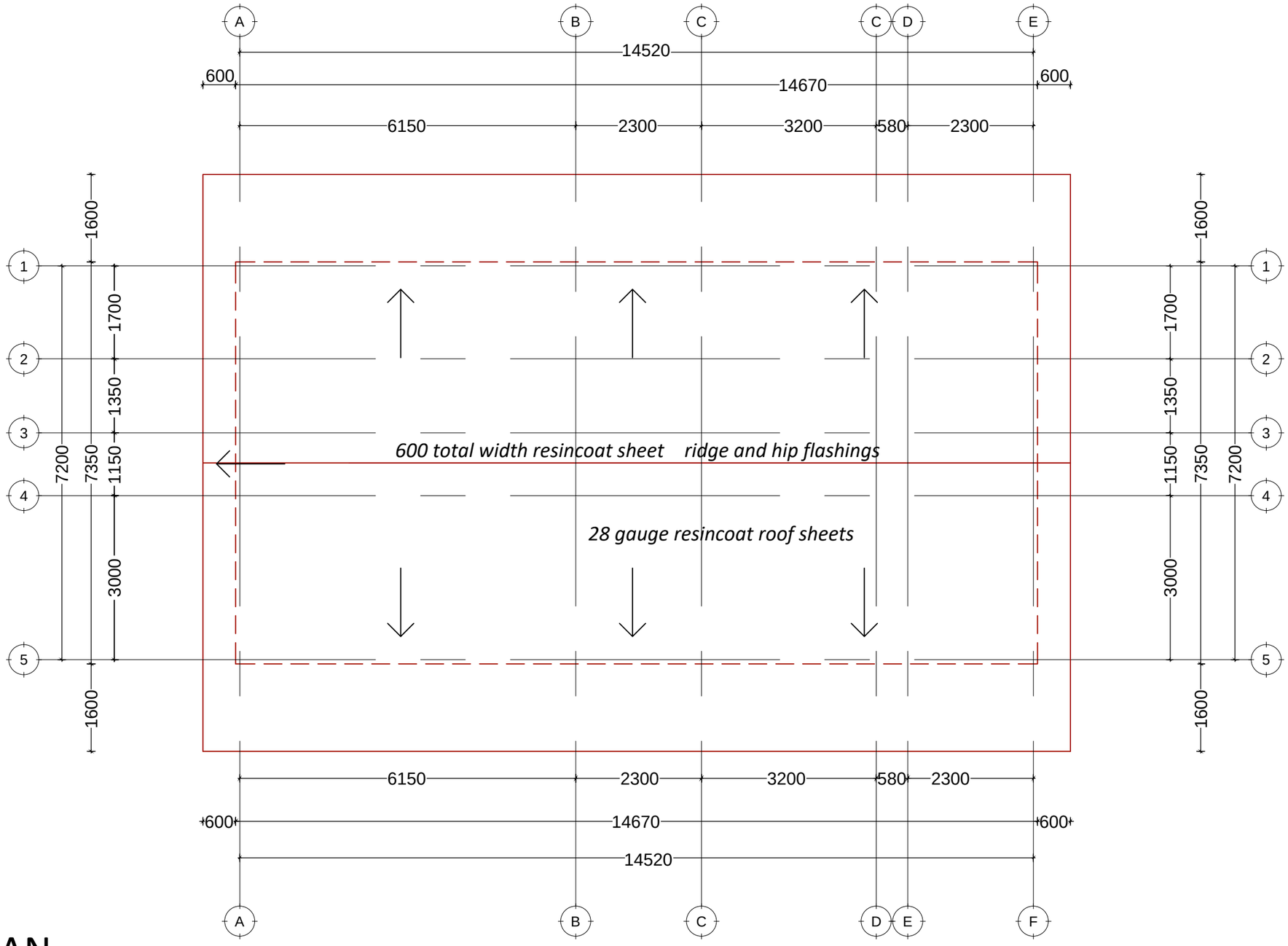
MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY (MoEST) *IN COLABORATION WITH* **PRESIDENT'S OFFICE REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT (PO - RALG)**	**PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS** FOR **SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM (SEQUIP)**	DRAWING TITLE **SICK BAY** DRAWING NO. **SQP/ARC/SB/01**	**DRAWN BY J.R** **CHECKED BY I.S** SCALE 1;200 *JUNE,2023*



GROUND PLAN

BLDG NO. 3

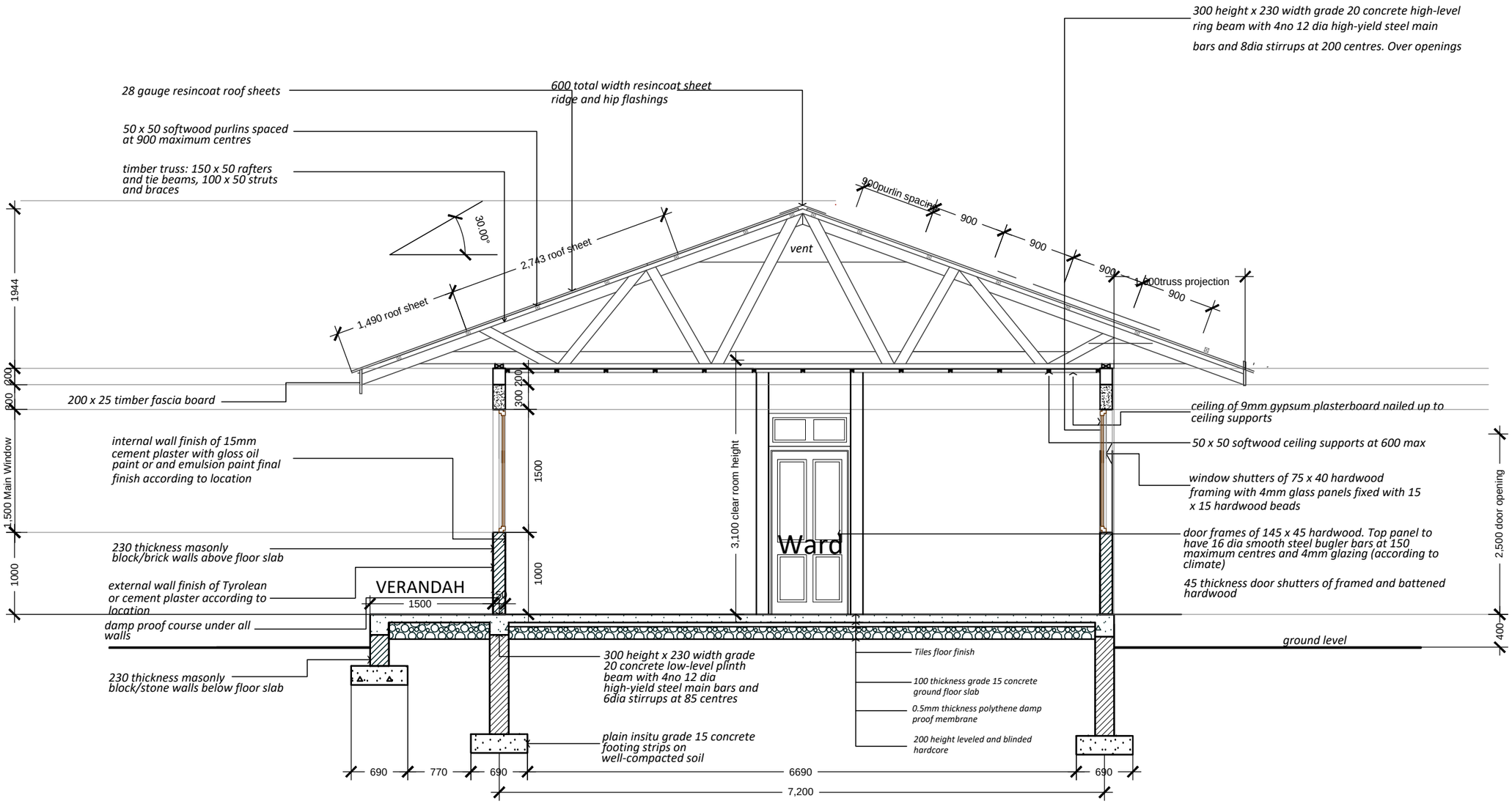
MINISTRY OF EDUCATION,SCIENCE AND TECHNOLOGY (MoEST) *IN COLABORATION WITH* **PRESIDENT'S OFFICE REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT (PO - RALG)**	**PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS** FOR **SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM (SEQUIP)**	DRAWING TITLE **SICK BAY GROUND PLAN** DRAWING NO. **SQP/ARC/SB/02**	**DRAWN BY J.R** **CHECKED BY I.S** SCALE 1;100 *JUNE,2023*



ROOF PLAN

BLDG NO. 3

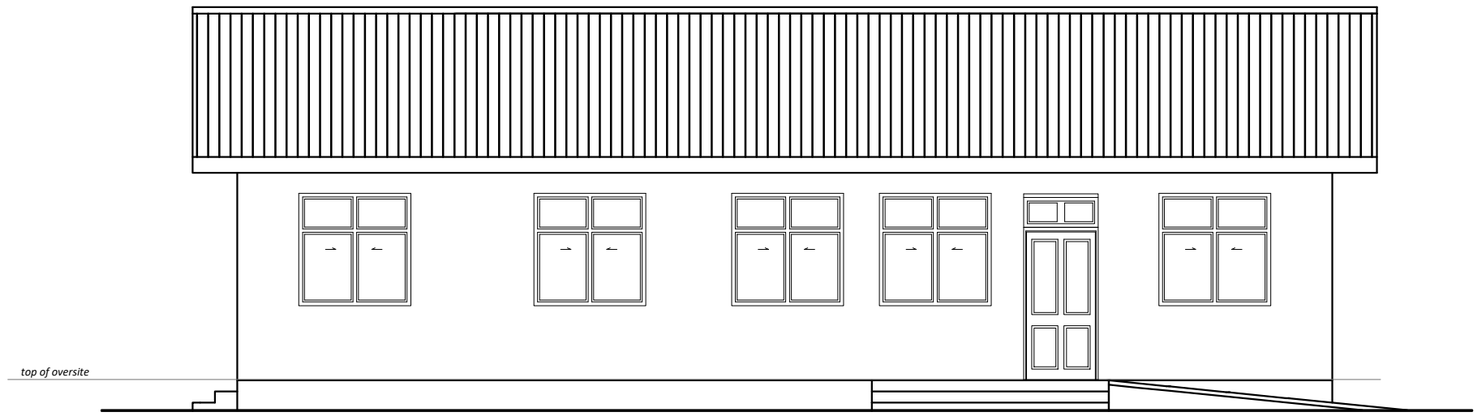
MINISTRY OF EDUCATION,SCIENCE AND TECHNOLOGY (MoEST) *IN COLABORATION WITH* **PRESIDENT'S OFFICE REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT (PO - RALG)**	**PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS** FOR **SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM (SEQUIP)**	DRAWING TITLE **SICK BAY ROOF PLAN** DRAWING NO. **SQP/ARC/SB/03**	**DRAWN BY J.R** **CHECKED BY I.S** SCALE 1;200 *JUNE,2023*



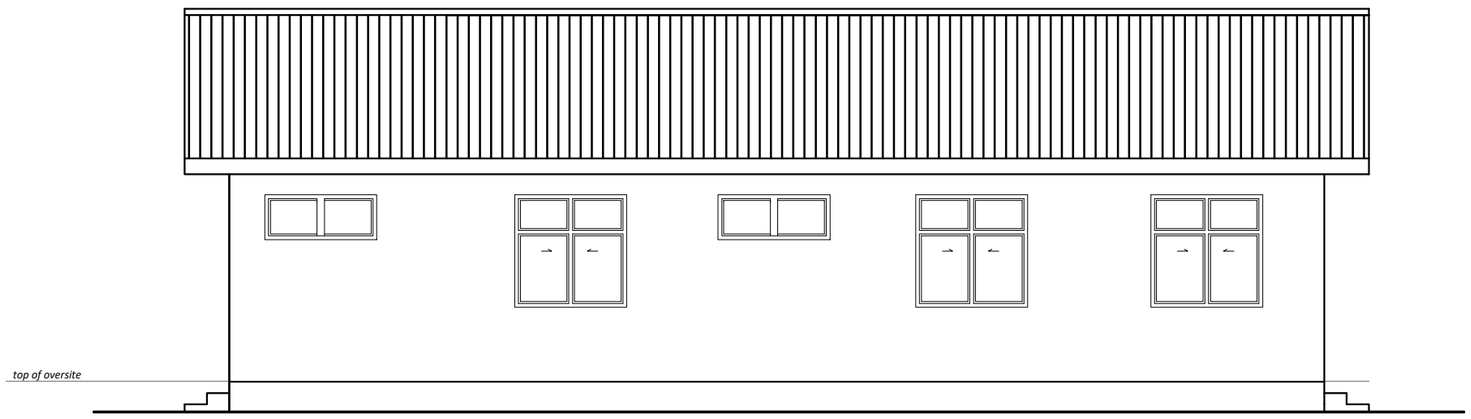
SECTION A-A

BLDG NO. 3

MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY (MoEST) *IN COLABORATION WITH* **PRESIDENT'S OFFICE REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT (PO - RALG)**	**PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS** FOR **SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM (SEQUIP)**	DRAWING TITLE **SICK BAY SECTION** DRAWING NO. **SQP/ARC/SB/04**	DRAWN BY J.R CHECKED BY I.S SCALE 1;200 *JUNE,2023*



front elevation

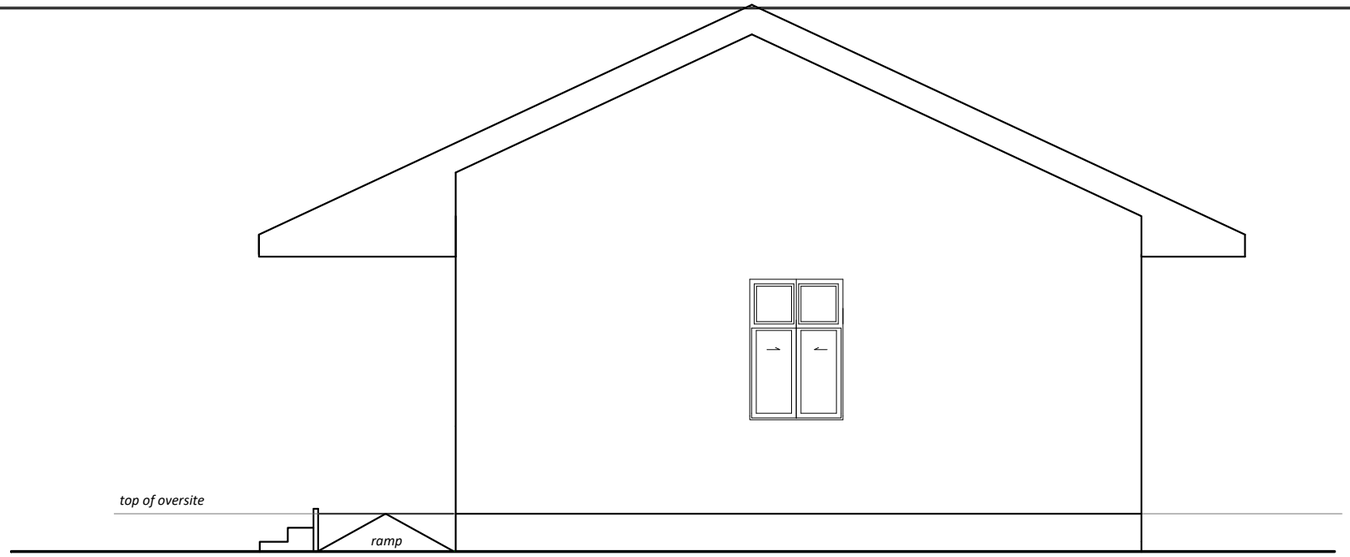


rear elevation

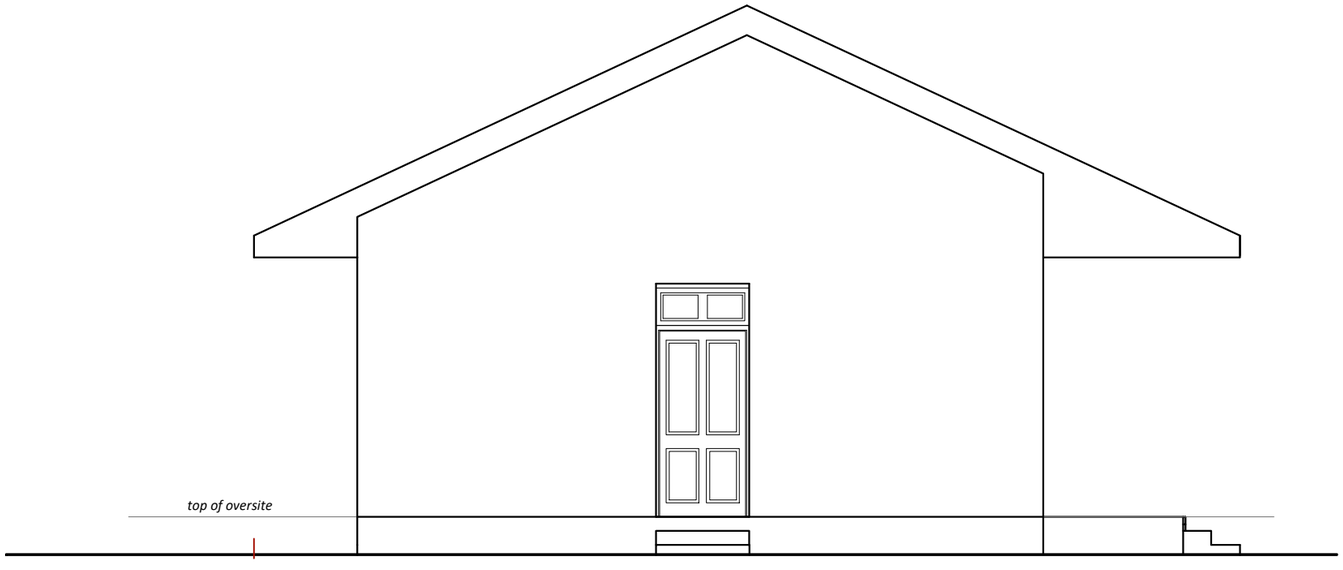
ELEVATIONS

BLDG NO. 3

MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY (MoEST) *IN COLABORATION WITH* **PRESIDENT'S OFFICE REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT (PO - RALG)**	**PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS** FOR **SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM (SEQUIP)**	DRAWING TITLE **SICK BAY ELEVATIONS** DRAWING NO. **SQP/ARC/SB/05**	**DRAWN BY J.R** **CHECKED BY I.S** SCALE 1;200 *JUNE,2023*



right side elevation



ELEVATIONS

left side elevation

BLDG NO. 3

MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY (MoEST) *IN COLABORATION WITH* **PRESIDENT'S OFFICE REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT (PO - RALG)**	**PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS** FOR **SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM (SEQUIP)**	DRAWING TITLE **SICK BAY ELEVATIONS** DRAWING NO. **SQP/ARC/SB/06**	**DRAWN BY J.R** **CHECKED BY I.S** SCALE 1;200 *JUNE,2023*

SCHEDULE OF FINISHES

S/N	ELEMENTS	LOCATION	BASE FINISH	FINAL FINISH
1	WALLS	External walls	15mm thick cement and sand plaster ratio (1:3)	2-coat bitumen paint to all plinth
			24mm 2-coat Tyrolean rendering	Colour in Tyrolean mix above the plinth level
		Internal walls and Verandah	15mm thick cement and sand plaster ratio (1:3)	1 coat white cement skim,1 emulsion under coat, 2 coats gloss oil paint up to dado line 1500 above the ground
				1 coat white cement skim,1 emulsion under coat, 2 coats acrylic emulsion 1500 above the Dado line
		Internal walls toilets	15mm thick cement and sand plaster ratio (1:3)	Ceramic wall tiles up to dado line 1800 above the ground
				1 coat white cement skim,1 emulsion under coat, 2 coats acrylic emulsion 1800 above the Dado line
2	FLOORS	External Floors	30mm thick cement and sand plaster ratio (1:4) bedding	Non slippery porcelain floor tiles
		Internal Floors	30mm thick cement and sand plaster ratio (1:4) bedding	
3	CEILING	In 1 storey building (timber roof structure)	9mm thick Gypsum ceiling; fixed to brandering using screws including joint tapes gypsum powder.	Prepare and apply 1 undercoat and 2 finishing coats of Emulsion paint

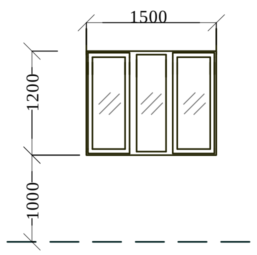
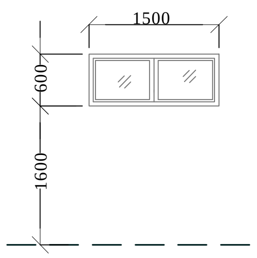
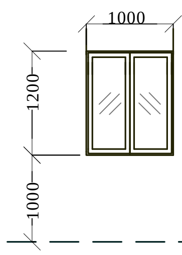
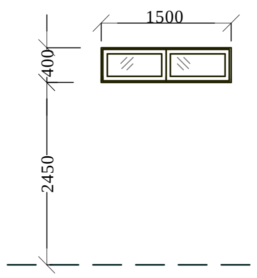
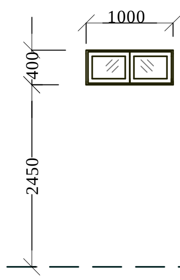
MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY (MoEST)
IN COLABORATION WITH
PRESIDENT'S OFFICE REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT (PO - RALG)

PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS
FOR
SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM (SEQUIP)

DRAWING TITLE **SICK BAY**
SCHEDULE OF FINISHES
DRAWING NO. **SQP/ARC/SB/07**

DRAWN BY J.R
CHECKED BY I.S
SCALE 1;200
JUNE,2023

WINDOW SCHEDULE

LOCATION	Refer to Ground Plan	Refer to Ground Plan	Refer to Ground Plan	Refer to Ground Plan	Refer to Ground Plan
	Type: W-01	Type: W-01	Type: W-03	Type: High level window	Type: High level window
ELEVATION					
Reference/ Location	Ground Floor: Nos. 8 First Floor: Nil **Total Req.8**	Ground Floor: Nos. 2 First Floor: Nil **Total Req.2**	Ground Floor: Nos. 1 First Floor: Nil **Total Req.1**	Ground Floor: Nos. 10 First Floor: Nil **Total Req.10**	Ground Floor: Nos. 3 First Floor: Nil **Total Req.3**
Specification and Finishes.	Casement window frame145mm x 45mm Mkongo hardwood frames polished fixed glazed panes with 5mm thick clear glass including all necessary accessories, ironmongery, cutting and pinning lugs and bedding frame in cement mortar	Casement window frame145mm x 45mm Mkongo hardwood frames polished fixed glazed panes with 5mm thick clear glass including all necessary accessories, ironmongery, cutting and pinning lugs and bedding frame in cement mortar	Casement window frame145mm x 45mm Mkongo hardwood frames polished fixed glazed panes with 5mm thick clear glass including all necessary accessories, ironmongery, cutting and pinning lugs and bedding frame in cement mortar	Casement window frame145mm x 45mm Mkongo hardwood frames polished fixed glazed panes with 5mm thick clear glass including all necessary accessories, ironmongery, cutting and pinning lugs and bedding frame in cement mortar	Casement window frame145mm x 45mm Mkongo hardwood frames polished fixed glazed panes with 5mm thick clear glass including all necessary accessories, ironmongery, cutting and pinning lugs and bedding frame in cement mortar

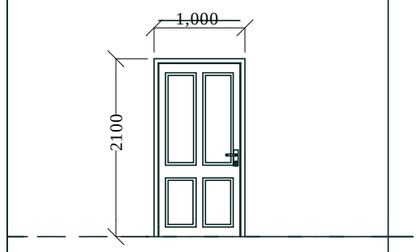
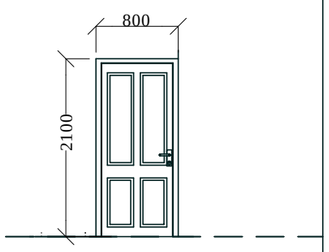
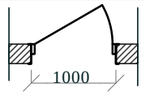
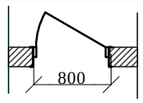
MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY (MoEST)
IN COLABORATION WITH
PRESIDENT'S OFFICE REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT (PO - RALG)

PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS
FOR
SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM (SEQUIP)

DRAWING TITLE **SICK BAY**
WINDOW SCHEDULE
DRAWING NO. **SQP/ARC/SB/08**

DRAWN BY J.R
CHECKED BY I.S
SCALE 1;200
JUNE,2023

DOOR SCHEDULE

LOCATION	Refer to Ground to Fifth Floor Plan			Refer to Ground to Fifth Floor Plan		
	Type D-01			Type D-02		
ELEVATION						
PLAN						
Reference/ Location	Ground Floor	Nos. 6	**Total Req.6**	Ground Floor	Nos. 4	**Total Req.4**
	First Floor	Nil		First Floor	Nil	
Specification and finishes	**Iron mongery:** 3pairs 150mm long brass butt hinges 1nos. 3 lever UNION mortice lockset complete - 2nos. UNION rubber door stoppers 38mm dia. **Specifications:** 40mm thick;1000mm x 2500mm high Mkongo hardwood panelled door comprising of 125mm wide stiles and top rail; 180mm wide bottom rail; polished 3 coats of polyurethane varnish. 145mm x 45mm Mkongo hardwood frames polished 3 coats of polyurethane varnish			**Iron mongery:** 3pairs 150mm long brass butt hinges 1nos. 3 lever UNION mortice lockset complete **Specifications:** 40mm thick;900mm x 2500mm high Mkongo hardwood panelled door comprising of 125mm wide stiles and top rail; 180mm wide bottom rail; polished 3 coats of polyurethane varnish. 145mm x 45mm Mkongo hardwood frames polished 3 coats of polyurethane varnish		

MINISTRY OF EDUCATION,SCIENCE AND TECHNOLOGY (MoEST) *IN COLABORATION WITH* **PRESIDENT'S OFFICE REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT (PO - RALG)**	**PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS** FOR **SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM (SEQUIP)**	DRAWING TITLE **SICK BAY DOOR SCHEDULE** DRAWING NO. **SQP/ARC/SB/09**	**DRAWN BY J.R** **CHECKED BY I.S** SCALE 1;200 *JUNE,2023*

SCHEDULE OF MATERIALS

THE UNITED REPUBLIC OF TANZANIA

PRESIDENT'S OFFICE
REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT

PROPOSED STANDARD DRAWINGS FOR SEQUIP

Schedule of Materials & Labour for 16 Stances Toilet Block (Girl's National Schools)

PROJECT AREA

TANZANIA MAINLAND

Ministry of Education, Science and Technology,
Government City - Mtumba,
AFYA Street,
P.O Box 10,
40479 DODOMA.

President's Office,
Regional Administration,
& Local Government
Government City - Mtumba
TAMISEMI Street,
P. O. Box 1923,
41185 DODOMA.

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
	MATERIALS				
A	**SUB-STRUCTURE -**PROVISIONAL				
1	**Strip Foundation - Grade 15 Plain (5.43M3)**				
	Aggregate (3/4")	6	M^3		
	Sand	3	M^3		
	Cement-50kgs (42.5)	22	Bags		
2	**Foundation Walls (37m2)**				
	6" Cement & Sand block - Minimum Strength 3. 5 MPa	512	No		
	Sand	2	M^3		
	Cement -50kgs (42.5)	9	Bags		
	ALTENATIVE TO FOUNDATION WALL				
	** If stone is applicable, then blockwork is not applicable.				
	Therefore Engineer must confirm to the Tenderer				
	which item to be priced (Blockwork or Stone) depending				
	on availability and suitability of building materials.				
	Stone, complete with its cement and sand mortar (1:4)	10	M^3		
3	**Moram, Hardcore & Site sterilization (12M3)**				
	Moram ($4.5m^3$ lorry)	3	Trips		
	Hardcore 150mm thick ($4.5m^3$ lorry)	4	Trips		
	Sand	2	M^3		
	Aldrin solution or other and equal approved (1000mls)	1	Bottle		
4	**Oversite Concrete 100mm thick - 15 grade 7.3M3 and Ground Beam - 20 grade (4m3)**				
	Cement -50kgs (42.5)	51	Bags		
	Aggregates (1/2")	12	M^3		
	Sand	6	M^3		
	Reinforcement - 12mm diameter high tensile 460N/mm2	18	PC'S		
	Reinforcement - 8mm diameter high tensile 460N/mm2	15	PC'S		
	A252 Mesh 200 x200x6.16kg/m2	1	PC'S		
	Timber 1" X 8 " (5.2m long)	10	PC'S		
	Timber 2" X 2"	6	PC'S		
	Nails-4"	10	Kg		
	Nails-3"	10	Kg		
	Supporting props (3m)	10	PC'S		
	SUB-TOTAL SUBSTRUCTURE				

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
B.	**SUPERSTRUCTURE**				
1	**Walls & Ring beam**				
	6" Cement & Sand block - Minimum Strength 3. 5 MPa	1,908	No		
	Sand	13	M^3		
	Cement-50kgs (42.5)	54	Bags		
	Aggregates (1/2")	3	M^3		
	Reinforcement - 12mm diameter high tensile 460N/mm2	16	PC'S		
	Reinforcement - 8mm diameter high tensile 460N/mm2	12	PC'S		
	Binding Wire	5	Kg		
	Timber 1" X 10" to Sides (5.2m long) - re use of sunstructure	0	PC'S		
	Timber 1" X 5" (Plates)-	4	PC'S		
	Timber 2" X 2" (3.5m)	10	PC'S		
	Supporting Props	8	PC'S		
	SUB-TOTAL SUPER STRUCTURE				
	ALTENATIVE TO BLOCKWORK WALL				
	*** If brickwork is applicable, then blockwork is not applicable.*				
	Therefore Engineer must confirm to the Tenderer which item				
	to be priced (Blockwork or brickwork) depending on availability				
	and suitability of building materials. Note that: Strictly do not				
	use stretcher bond when using bricks, the acceptable				
	bond is either Flemish or English or header.				
	150mm thick One brick wall	212	m^2		
C.	**ROOF STRUCTURE & COVERING**				
1	**Roof Structure -** Provisional				
	Timber 2 " X 3" Purlin	320	ft		
	Timber 2" X 4" Strusts	103	ft		
	Timber 2" X 6" Rafter, andTie beam	459	ft		
	Timber 2 " X 4" Wall plate	126	ft		
	Fascia board 1" X 10" (5.2m long)	9	PC'S		
	Nails -4" & 3"	20	Kg		
	16mm Anchor Bolts, 250mm long	14	Nr.		
	12mm diameter bolts with washer and nuts	7	Nr.		
	20mm diameter of bolts	7	Nr.		
	150 x 150 x 100x3mm mild steel plate	7	Nr.		
	NOTE: The above softwood timber structure should be				
2	**Roof Covering**				
	28G Resin coated Iron sheet	100	M^2		
	Hips/Ridge and valley - 28 G resin coated	4	PC'S		
	Roofing Nails	5	Packet		

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
3	**Gutter's**				
	Upvc 100mm half round (6m long)-5"	5	PC'S		
	Upvc 100mm diameter down pipe; Class C	3	PC'S		
	PVC outlet	4	PC'S		
	Gutter support bracket	7	PC'S		
	PVC bend 90'	4	PC'S		
	PVC bend 45'	4	PC'S		
	Gutter Clamp 3"	12	PC'S		
	Connector/reducer	3	PC'S		
	Connector outer	4	PC'S		
	Corner Inner	4	PC'S		
	SUB-TOTAL ROOF STRUCTURE & COVERING				
D.	**CEILING**				
	Gypsum board -9mm thick	26	PC'S		
	Plain Cornice (2.5m)	30	PC'S		
	Screw 1.25" 500pcs/box	2	Box		
	Gypsum powder - 25kg	5	Bags		
	Fibre tape (90m)	1	Roller		
	Treated softwood Timber 2" X 2"	848	ft		
	Nails 4"/3'	20	kg		
	PVC pipe class B; 100mm diameter venti pipe 3m	1	PC'S		
	SUB-TOTAL FOR CEILING				
E.	**DOOR**				
1	**40mm thick hardwood paneled door shutter**				
	920 x 2100mm high door	3	pc's		
	720 x 2100mm high	15	pc's		
2	**Frames (hardwood),Varnish & Glass**				
	1000 x2750mm high	3	pc's		
	800 x2200mm high	15	pc's		
	Brush 3"and 2.5"	5	pc's		
	Sand paper (msasa) No.80	8	LM		
	Clear Varnish - 4Litres	2	TIN		
	Thinner for Varnish	6	Litres		
3	**IronMongeries**				
	Mortice lock Three lever	3	No		
	Mortice lock Two lever with indicator bolts	15	No		
	Brass hinges - 100mm	27	Pairs		
	SUB-TOTAL FOR DOORS				

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
F.	**WINDOWS**				
	25 x 4mm thick flat bar grill painted red-oxide with 25 x 25mm square pipes frame and all necessary accessories				
	Overall size 900 x 500 mm high	22	No.		
	SUB-TOTAL FOR WINDOWS				
G.	**FINISHING**				
1	**Terrazo Floor finishing (78m2)**				
	Sand	1	M^3		
	Cement-50kgs (42.5)	35	Bags		
	Chipping White	1	M3		
	Red chipping	1	M3		
	Pink chipping	1	M3		
	Black	1	M3		
	Terrazo colour (user's selection)	2	Bags		
	Concrete nail 1"	3	Packet		
	Tina, Polish,& Hardina for Terrazo	2	Set		
	2mm thick plastic Strips	96	M		
2	**Wall Finishing -15mm thick (1:4)**				
	400 x 250mm ceramic Wall tiles	96	Box		
	Grouts (20Pkt per Box)	2	Box		
	Sand	14	M^3		
	Cement-50kgs (42.5)	50	Bags		
	White cement - 40kg	10	Bags		
	Gypsum powder -25kg	10	Bags		
	Sand paper Msasa No.120	10	m		
	SUB-TOTAL FOR FINISHING				
H.	**PAINTING & DECORATION**				
	Emulsion Paint - 20 LTRS	15	buckets		
	Weather guard Paint - 20 LTRS	2	buckets		
	Washable paint -20 LTRS	2	buckets		
	Primer paint -20 LTRS	2	buckets		
	Solvent - 5LTRS	2	TIN		
	Brush 3"	3	Pcs		
	Roller	3	Pcs		
	Gloss paint-4LTR	2	TIN		
	Bitumen paint - 4Litres	2	TIN		
	SUB-TOTAL FOR PAINTING&DECORATION				

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
J.	**INCINERATOR**				
	Fire brick 65 X 110X230mm	270	Nr.		
	Fire cement	9	Bag		
	Burnt brick 65 x 110x230mm	1,000	Nr.		
	Clay soil	2	M3		
	Sand	5	M^3		
	Cement-50kgs (42.5)	30	Bags		
	Agregates 1/2'	5	M3		
	Lime 25kg	3	Bags		
	450 x 200mm Peeping door mildsteel complete as per drawing	1	Nr.		
	Steel metal door size 800 x 600mm high ditto	1	Nr.		
	450 x 150mm mild steel pipe for Ashes filter ditto	1	Nr.		
	Mild steel Flue cover (Flexible openable)	1	Nr.		
	200mm diameter metal Chimney Pipe 7m high including cover	1	Nr.		
	SUB-TOTAL FOR INCINERATOR				
A.	**ELECTRICAL INSTALLATION**				
	Single fluorescent fitting Complete	7	No		
	NB: Wiring cables shall be copper have a minimum cross section area of 1.5sqmm and shall comply with an appropriate British or Harmonized standard for either thermoplastic or thermosetting insulated electric cables				
	Single core wire 1.5sqmm - Red	0.5	Roll		
	Single core wire 1.5sqmm - Black	0.5	Roll		
	Single core wire 1.5sqmm -green	0.5	Roll		
	1gang 1way switch	1	No		
	2gang 1way switch	2	No		
	Junction box	20	No		
	Conduit pipe	100	PC's		
	Elbow	30	PC's		
	Conduit coupling	20	PC's		
	Round cover	36	PC's		
	Round box	16	PC's		
	Fine screw	2	Packet		
	plastic clips 22mm	3	Box		
	SUB-TOTAL ELECTRICAL				

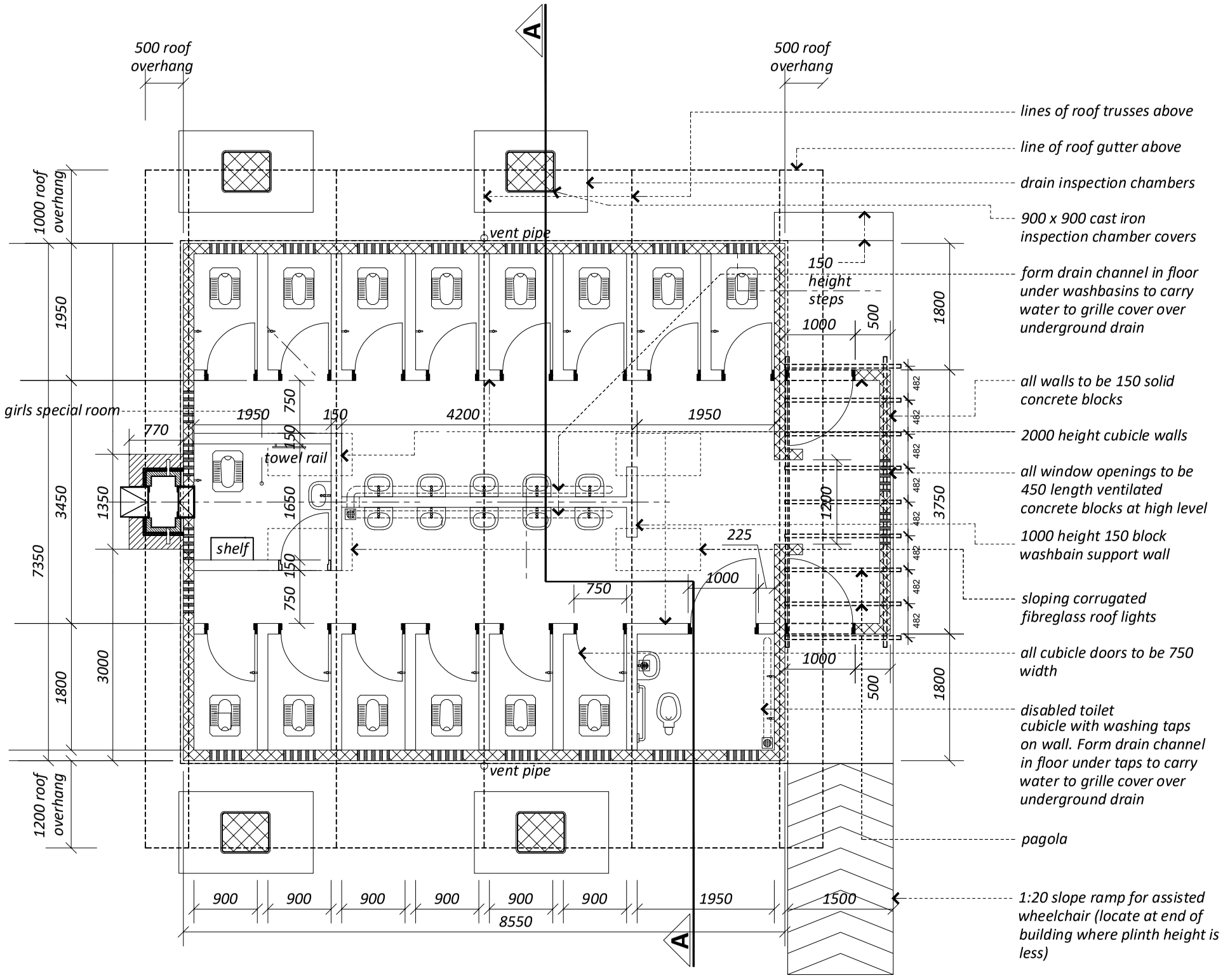
ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
K	**PLUMBING AND SANITARY INSTALLATION**				
	WATER DISTRIBUTION SYSTEM				
	PPR Pipes				
	40mm Dia	4	pcs		
	32mm Dia	13	pcs		
	25mm Dia	8	pcs		
	20mm Dia	3	pcs		
	15mm Dia	19	pcs		
	12mm Dia Flexible Pipe	30	pcs		
	VALVES				
	40mm Dia	4	pcs		
	32mm Dia	9	pcs		
	20mm Dia	14	pcs		
	15mm Dia	10	pcs		
	15mm Dia Angle Valves	41	pcs		
	20mm Dia water tape with stopcock/push	18	pcs		
	REDUCING BUSH				
	Ø40 / 32mm	8	pcs		
	Ø40 / 25mm	6	pcs		
	Ø40 / 20mm	2	pcs		
	Ø40 / 15mm	2	pcs		
	Ø32 / 25mm	9	pcs		
	Ø32 / 20mm	9	pcs		
	Ø32 / 15mm	43	pcs		
	Ø25 / 20mm	23	pcs		
	Ø25 / 15mm	17	pcs		
	Ø20 / 15mm	29	pcs		
	90^0 PLAIN ELBOW				
	Ø40mm	6	pcs		
	Ø32mm	6	pcs		
	Ø25mm	9	pcs		
	Ø20mm	22	pcs		
	Ø15mm	62	pcs		
	90 ADAPTOR ELBOW (Female)		pcs		
	Ø15mm	55	pcs		
	90 ADAPTOR ELBOW (Male)				
	Ø15mm	14	pcs		

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
	T PLAIN				
	Ø40mm	6	pcs		
	Ø32mm	36	pcs		
	Ø25mm	14	pcs		
	Ø20mm	24	pcs		
	SOCKET				
	Dia. 15mm	88	pcs		
	Dia. 20mm	29	pcs		
	Dia. 25mm	21	pcs		
	Dia. 32mm	38	pcs		
	Dia. 40mm	14	pcs		
	SEWARAGE				
	PIPING (uPVC PIPE)				
	150mm Dia	4	pcs		
	100mm Dia	9	pcs		
	50mm Dia	13	pcs		
	40mm Dia	13	pcs		
	32mm Dia	12	pcs		
	Elbows, Bends Connector traps etc to suite the above installation.				
	FITTINGS				
	100mm Dia Y-Tee	24	pcs		
	50mm Dia Y-Tee	14	pcs		
	100mm Dia Inspection Tee	12	pcs		
	50mm Dia Inspection Tee	9	pcs		
	SOCKET				
	150mm Dia	8	pcs		
	110mm Dia	21	pcs		
	50mm Dia	11	pcs		
	40mm Dia	17	pcs		
	32mm Dia	19	pcs		
	90^{O} ELBOW				
	110mm	12	pcs		
	50mm	12	pcs		
	40mm	10	pcs		
	32mm	12	pcs		
	45^{O} ELBOWS				
	110mm	10	pcs		
	50mm	12	pcs		
	40mm	9	pcs		
	32mm	9	pcs		
	REDUCING BUSH				
	50mm/40mm	78	pcs		
	40mm/32mm	78	pcs		

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
	REDUCING SOCKET				
	50mm/40mm	27	pcs		
	40mm/32mm	17	pcs		
	SCHEDULE NO. 4, SANITARY FITTINGS				
	White Vitreous China SQUATTING PAN with TRAP with Dimenions 510mm x 410mm				
	Wall mounted Push Type flush tank with 4.5 Litres Volume	16	pcs		
	Bib Cock with Jet Spray or its equivalent	2	pcs		
	1000mm x 600mm Vanity Mirror	2	pcs		
	White Vitreous ChinaWall Hung Wash Hand Basin with Half Pedestal and quarter turn faucet	16	pcs		
	Special needs (HANDICAPPED) **WC** complete with Raised height WC Pan , Wash hand Basin with faucet, and Grab Bar/Grab Rails	2	pcs		
	100mm x 100mm PVC Floor Drain with Cover	2	pcs		
	Soap dispenser with Holder or its equivalent	2	pcs		
	Toilet Paper Holder	1	pcs		
	SUB-TOTAL PLUMBING INSTALLATION				

	GENERAL SUMMARY				**AMOUNT -TZS**
	TOILET BLOCK				
A.	SUB-STRUCTURE -PROVISIONAL				
B.	SUPERSTRUCTURE				
C.	ROOF STRUCTURE & COVERING				
D.	CEILING				
E.	DOOR				
F.	WINDOWS				
G.	FINISHING				
H.	PAINTING & DECORATION				
J	INCINARATOR				
K	ELECTRICAL INSTALLATION				
L.	PLUMBING AND GAS INSTALLATION				
	TOTAL BUILDING MATERIALS CARRIED TO GENERAL SUMMARY				
	ADD:				
	LABOUR COST CARRIED TO GENERAL SUMMARY : (Improve and Fill the respective Labour form)				
	Note:				
	i Refer General Summary for: Preliminary, Transportation and Supervision Costs				
	ii. Preliminary cover the following item:				
	- Setting out working tools, Equipments, Temporary toilets, water for the works, Scaffolding,				
	- Power for the works, Security, store, Materials test, levelling, holdings and removal of rubbish.				
	iii. Supervision cost depend on guideline of the specific project				

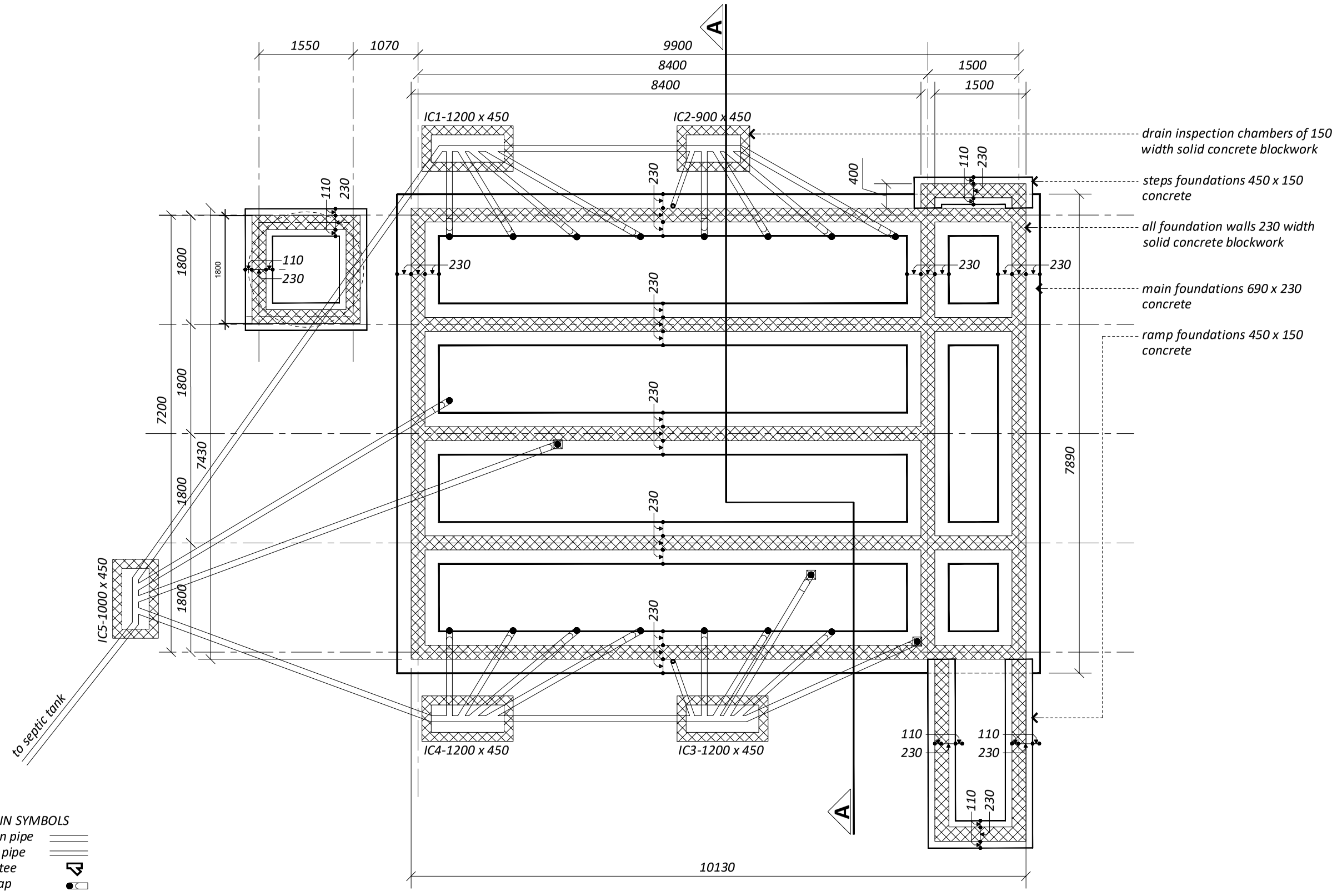
ARCHITECTURAL DRAWINGS



floor plan

BLDG NO. 10

MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY *IN COLABORATION WITH* **PRESIDENT'S OFFICE REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT**	**PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS FOR SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM (SEQUIP)**	DRAWING TITLE **PIPED WATER TOILET FOR 320 GIRLS FLOOR PLAN** DRAWING NO. **SQP/ARC/TLT/02**	DRAWN BY J.R CHECKED BY I.S SCALE 1;200 *JUNE,2023*



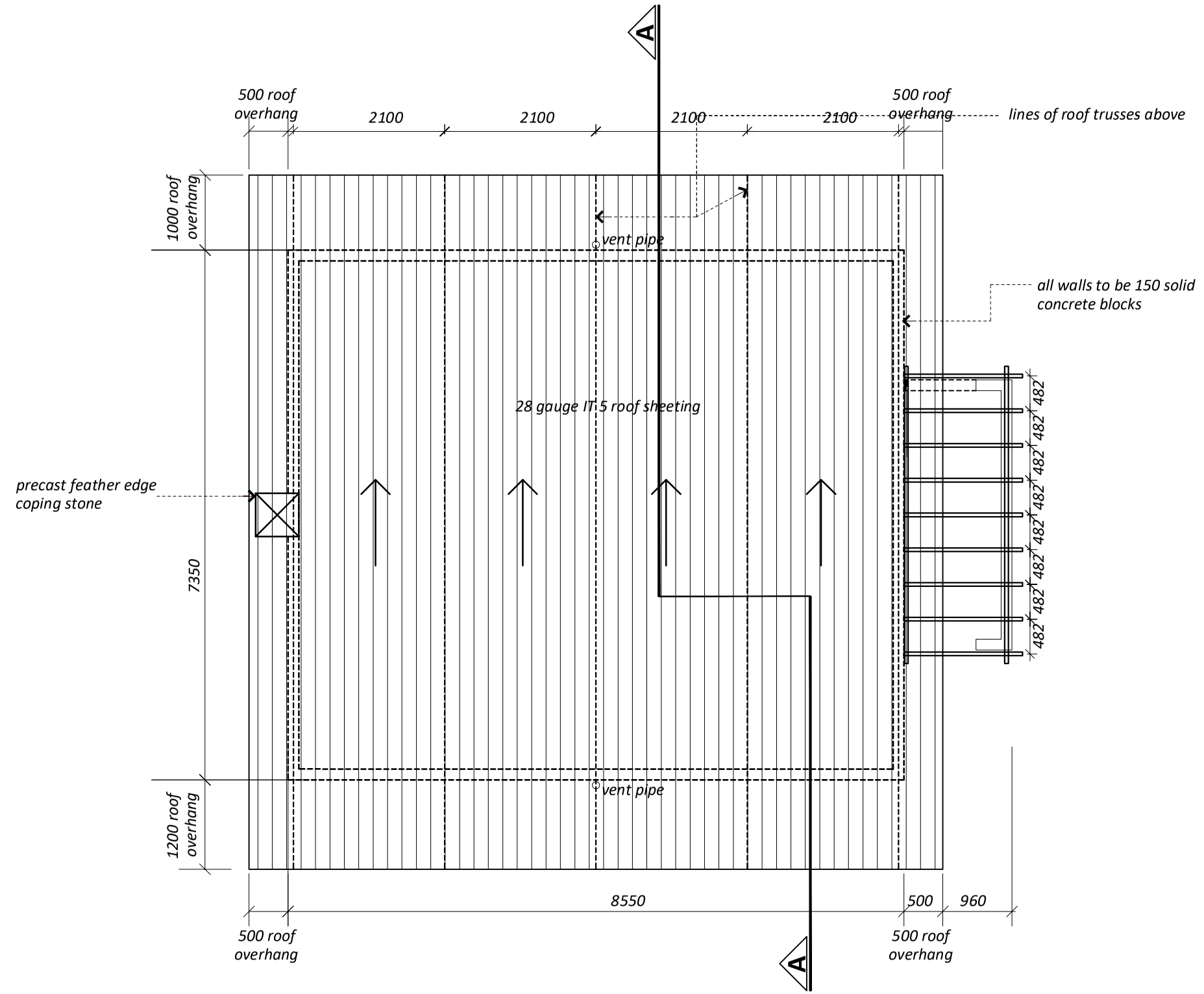
KEY TO DRAIN SYMBOLS

- 100 dia drain pipe
- 75 dia drain pipe
- 100 dia 45° tee
- 100 dia P-trap
- 75 dia P-trap
- 75 dia vent pipe
- floor drain grille cover

foundation plan

BLDG NO. 10

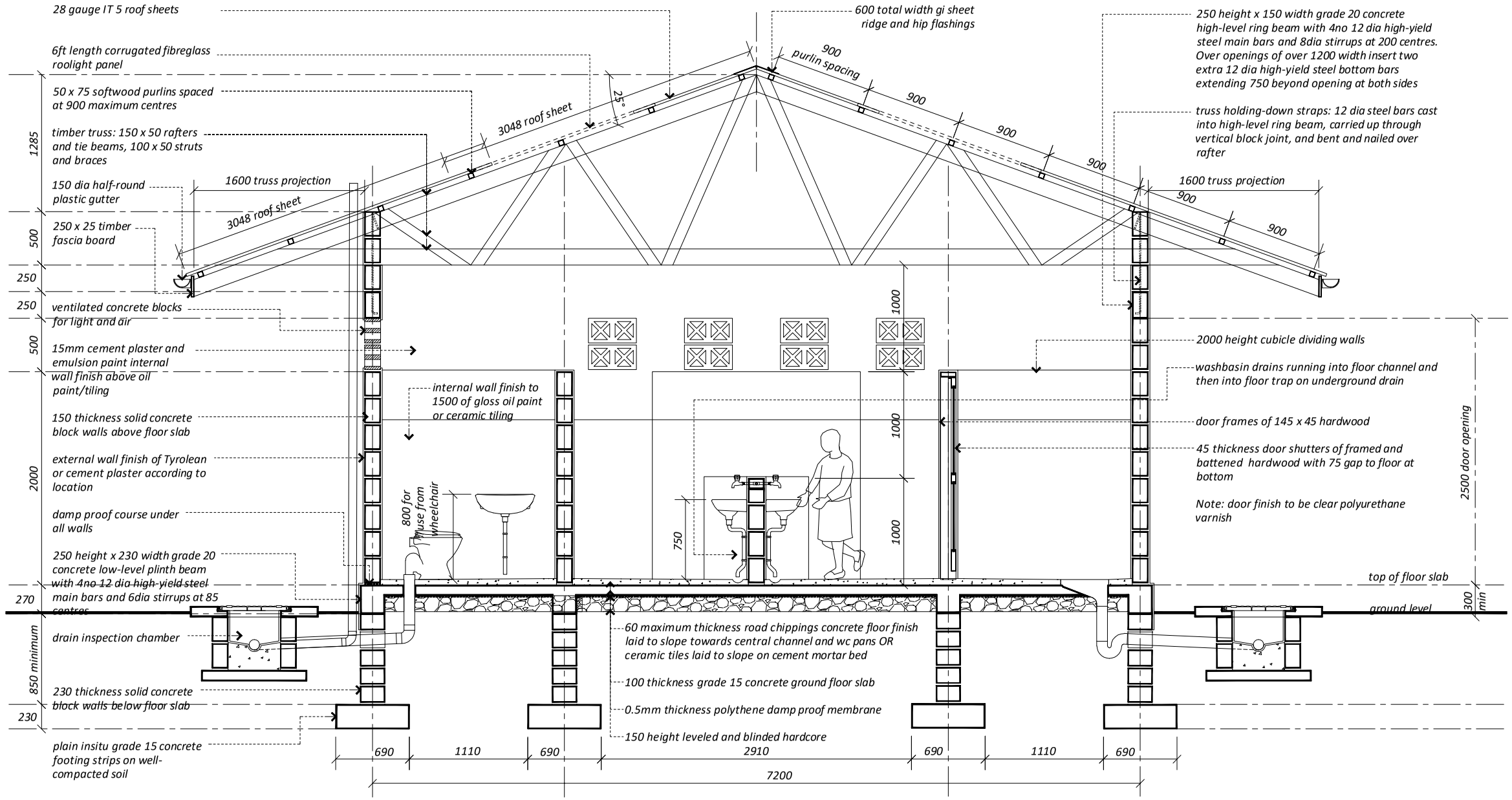
MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY *IN COLABORATION WITH* **PRESIDENT'S OFFICE REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT**	**PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS FOR SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM (SEQUIP)**	DRAWING TITLE **PIPED WATER TOILET FOR 320 GIRLS FOUNDATION PLAN** DRAWING NO. **SQP/ARC/TLT/04**	DRAWN BY J.R CHECKED BY I.S SCALE 1;200 *JUNE,2023*



roof plan

BLDG NO. 10

MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY *IN COLABORATION WITH* **PRESIDENT'S OFFICE REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT**	**PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS FOR SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM (SEQUIP)**	DRAWING TITLE **PIPED WATER TOILET FOR 320 GIRLS ROOF PLAN** DRAWING NO. **SQP/ARC/TLT/03**	DRAWN BY J.R CHECKED BY I.S SCALE 1;200 *JUNE,2023*



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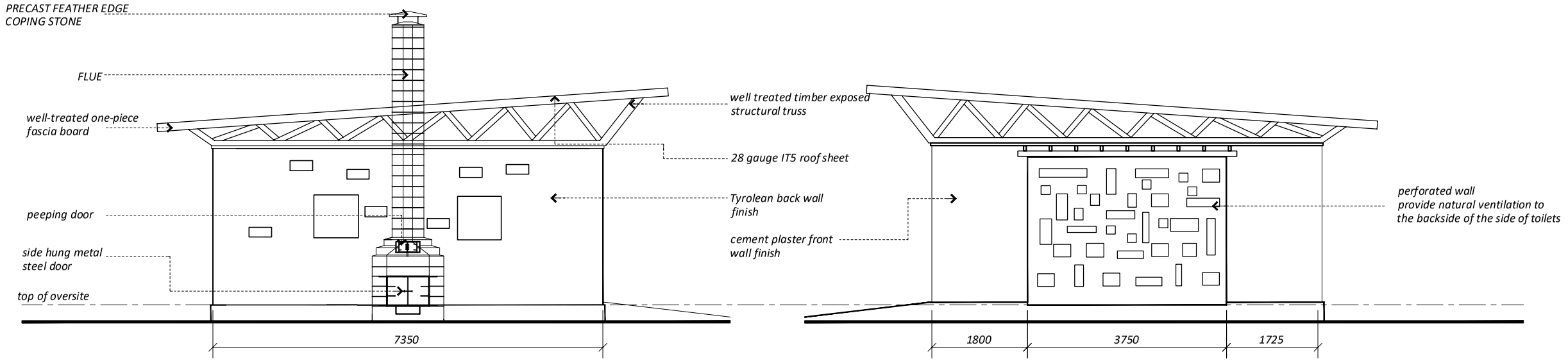
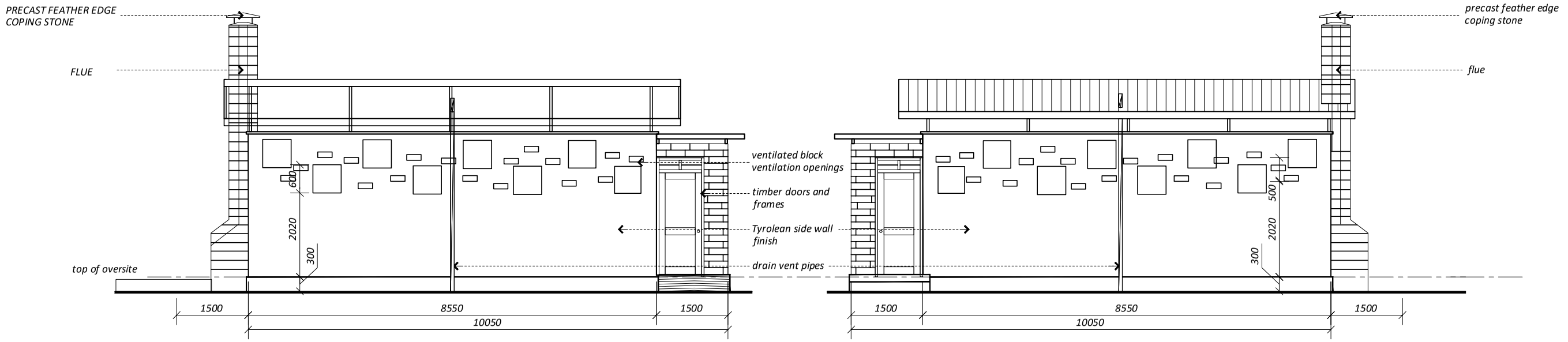
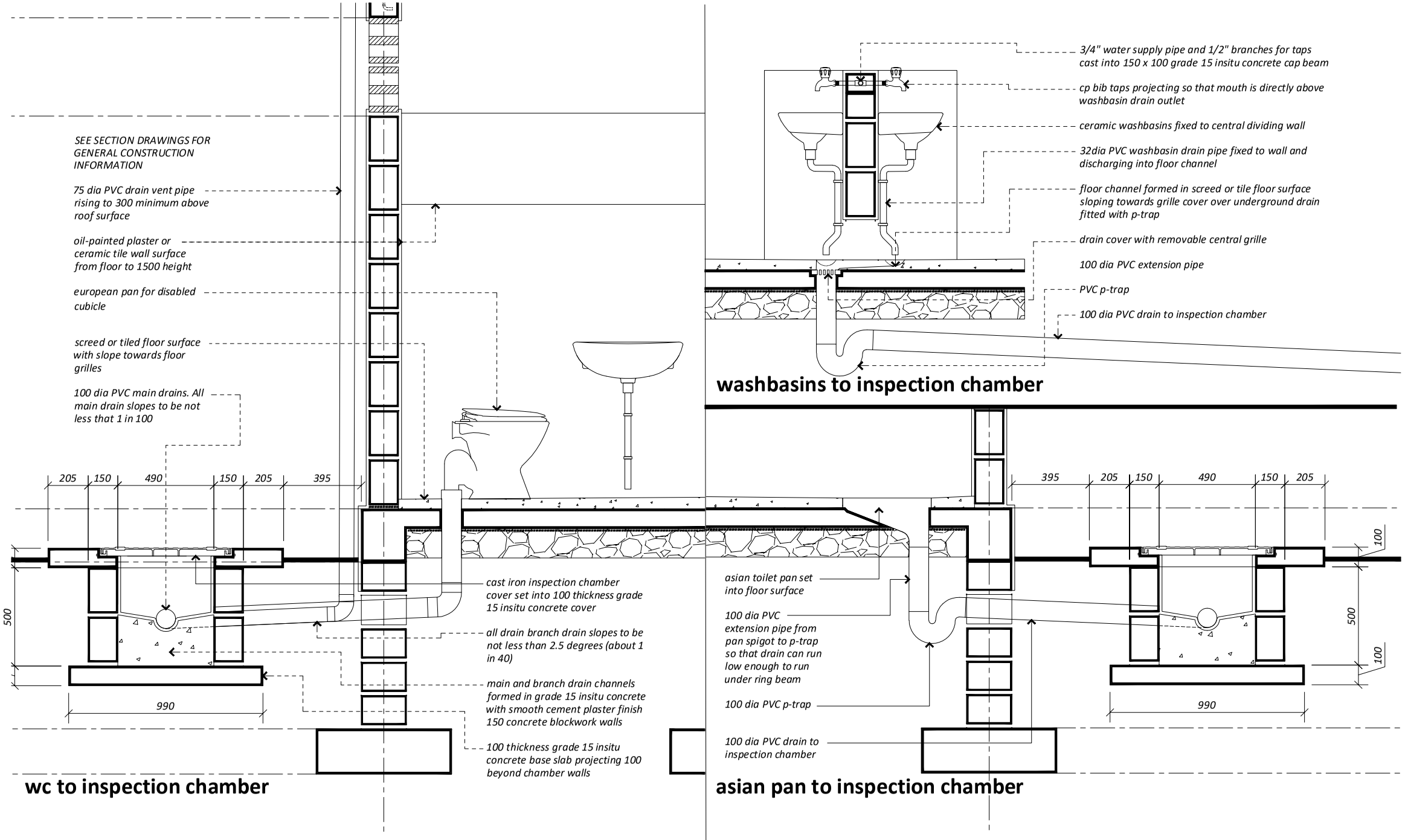
MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY *IN COLABORATION WITH* **PRESIDENT'S OFFICE REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT**	**PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS FOR SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM (SEQUIP)**	DRAWING TITLE **PIPED WATER TOILET FOR 320 GIRLS SECTION** DRAWING NO. **SQP/ARC/TLT/05**	**DRAWN BY J.R** **CHECKED BY I.S** SCALE 1;200 *JUNE*,2023





BLDG NO. 10

MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY *IN COLABORATION WITH* **PRESIDENT'S OFFICE REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT**	**PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS FOR SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM (SEQUIP)**	DRAWING TITLE **PIPED WATER TOILET FOR 320 GIRLS ELEVATIONS** DRAWING NO. **SQP/ARC/TLT/06**	**DRAWN BY J.R** **CHECKED BY I.S** SCALE 1;200 *JUNE*,2023

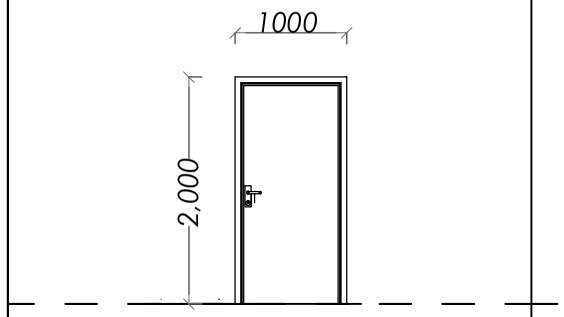
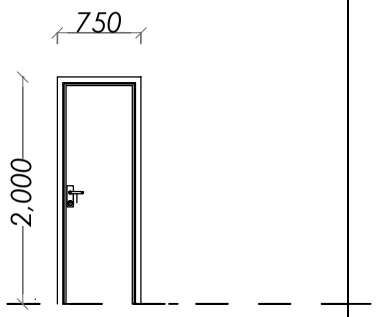
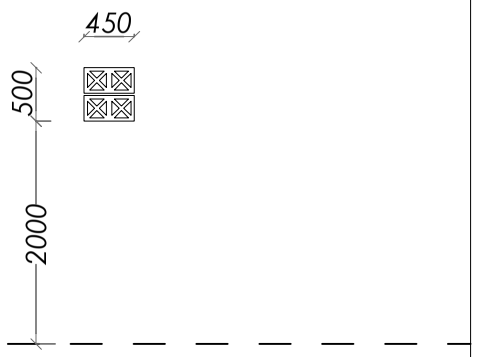
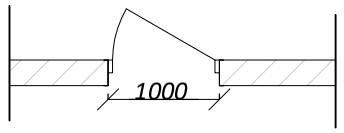
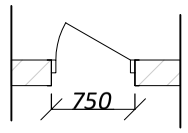
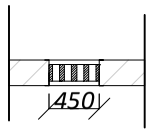


BLDG NO. 10

MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY *IN COLABORATION WITH* **PRESIDENT'S OFFICE REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT**	**PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS FOR SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM (SEQUIP)**	DRAWING TITLE **PIPED WATER TOILET FOR 320 GIRLS DETAILS** DRAWING NO. **SQP/ARC/TLT/07**	**DRAWN BY J.R** **CHECKED BY I.S** SCALE 1;200 *JUNE*,2023

DOOR AND WINDOW SCHEDULE

WINDOW SCHEDULE

LOCATION	Refer to Ground to Fifth Floor Plan	Refer to Ground to Fifth Floor Plan	Refer to Ground Plan
	Type D-01	Type D-02	Type W-01
ELEVATION			
PLAN			
Reference/ Location	Ground Floor — Nos. 3 First Floor — Nil **Total Req.3**	Ground Floor — Nos. 15 First Floor — Nil **Total Req.15**	Ground Floor — Nos. 22 First Floor — Nil **Total Req.22**
Specification and finishes	**Iron mongery:** 5 pairs 150mm long brass butt hinges 3 nos. 3 lever UNION mortice lockset complete - 3 nos. 150mm long aluminium flush bolts **Specifications:** 40mm thick;1000mm x 2000mm high Mkongo hardwood panelled door comprising of 125mm wide stiles and top rail; 180mm wide bottom rail; polished 3 coats of polyurethane varnish. 145mm x 45mm Mkongo hardwood frames polished 3 coats of polyurethane varnish top light provide 6mm clear glass, 16mm m.s horizontal ioxide bars with 50mm x 25mm hardwood beads	**Iron mongery:** 23pairs 150mm long brass butt hinges 15nos. 3 lever UNION mortice lockset complete - 15nos. 150mm long aluminium flush bolts **Specifications:** 40mm thick;750mm x 2000mm high Mkongo hardwood panelled door comprising of 125mm wide stiles and top rail; 180mm wide bottom rail; polished 3 coats of polyurethane varnish. 145mm x 45mm Mkongo hardwood frames polished 3 coats of polyurethane varnish top light provide 6mm clear glass, 16mm m.s horizontal ioxide bars with 50mm x 25mm hardwood beads	Ventilated concrete blocks bedded and jointed in cement/sand mortar. Finished with one under coat and two full coats of oil paint

door & window schedule

BLDG NO. 10

MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY *IN COLABORATION WITH* **PRESIDENT'S OFFICE REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT**	**PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS FOR SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM (SEQUIP)**	DRAWING TITLE **PIPED WATER TOILET FOR 320 GIRLS** **DOOR AND WINDOW SCHEDULE** DRAWING NO. **SQP/ARC/TLT/08**	DRAWN BY J.R CHECKED BY I.S SCALE 1;200 *JUNE,2023*

SCHEDULE OF FINISHES

S/N	ELEMENTS	LOCATION	BASE FINISH	FINAL FINISH
1	WALLS	External walls toilets	15mm thick cement and sand plaster ratio (1:3)	2-coat bitumen paint to all plinth
			24mm 2-coat Tyrolean rendering	Colour in Tyrolean mix above the plinth level
		Internal walls and Verandah	Nil	Nil
				Nil
		Internal walls toilets	15mm thick cement and sand plaster ratio (1:3)	1 coat white cement skim,1 emulsion under coat, 2 coats gloss oil paint above the ground
2	FLOORS	External Floors toilets	Nil	300 x 300 x 8mm thick Non Slipery Ceramic floor tiles bedded to cement and sand base mortar (1:4) ; and jointing with grouting
		Internal Floors toilets		
3	REINFORCED STRUCTURE	External Columns	Nil	Nil
		Internal Columns and all beams	Nil	Nil
4	CEILING	In 2 storey building (Concrete slab ceiling)	Nil	Nil
		In 1 storey building (timber roof structure)	Nil	Nil
		Eave ceiling	Nil	Nil
5	STAIRS & RAMPS	handrails and brackets	Nil	Nil

BLDG NO. 10

MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY *IN COLABORATION WITH* **PRESIDENT'S OFFICE REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT**	**PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS FOR SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM (SEQUIP)**	DRAWING TITLE **PIPED WATER TOILET FOR 320 GIRLS** **SCHEDULE OF FINISHES** DRAWING NO. **SQP/ARC/TLT/09**	**DRAWN BY J.R** **CHECKED BY I.S** SCALE 1;200 *JUNE*,2023

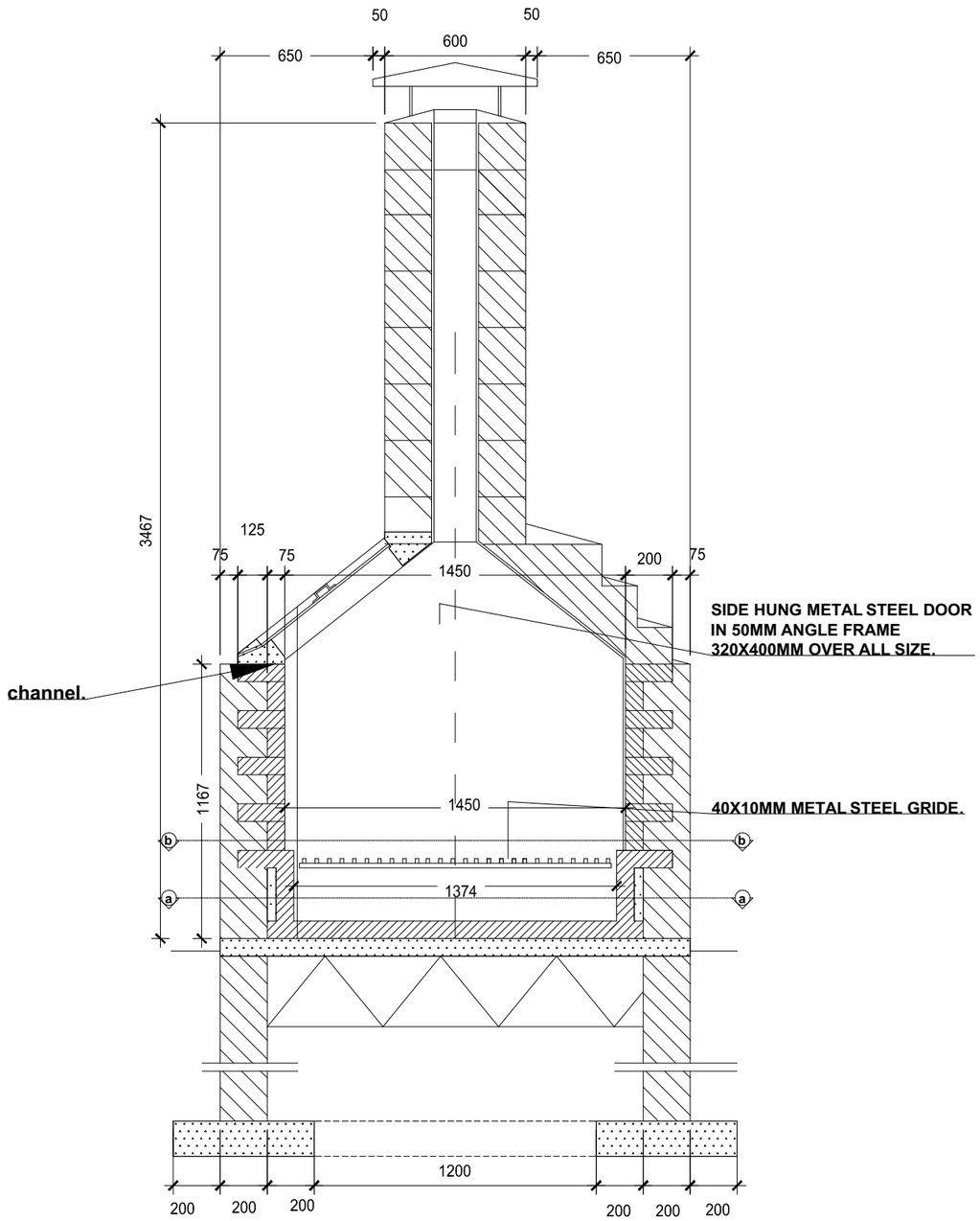
ARCHITECTURAL DRAWINGS

Drawing Print Set for

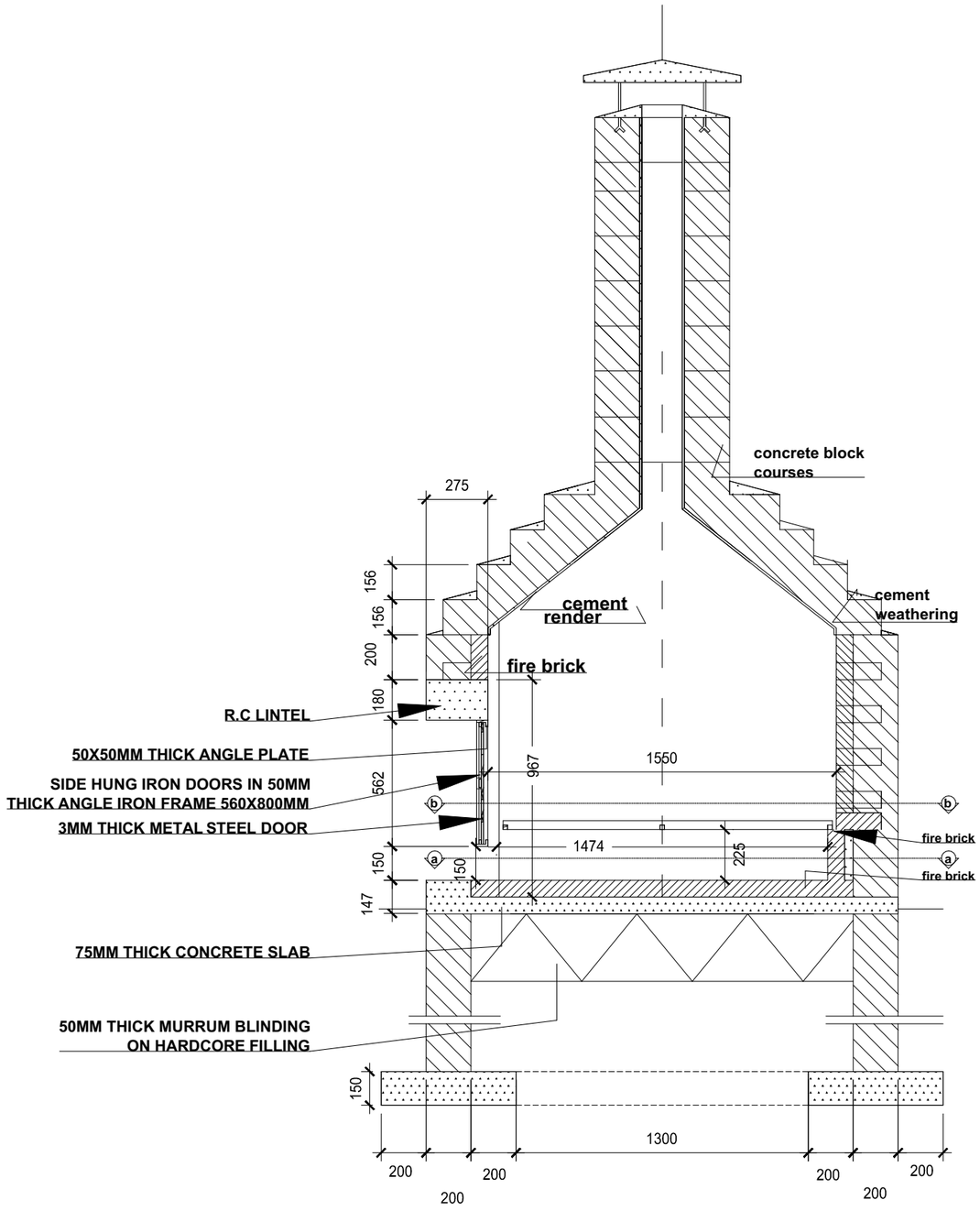
INCINERATOR

JUNE; 2023

MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY **PHYSICAL FACILITIES STANDARDS SECTION**	**PRIMARY & SECONDARY DESIGN GUIDELINES**	DRAWING TITLE **INCINERATOR** **SECTION - REVISED 2023** DRAWING NO. **SDP/ARC/CRB 1/00**	**DRAWN BY: JCR** **CHECKED BY NM** SCALE 1;25 JUNE,2023



cross section c-c



cross section d-d

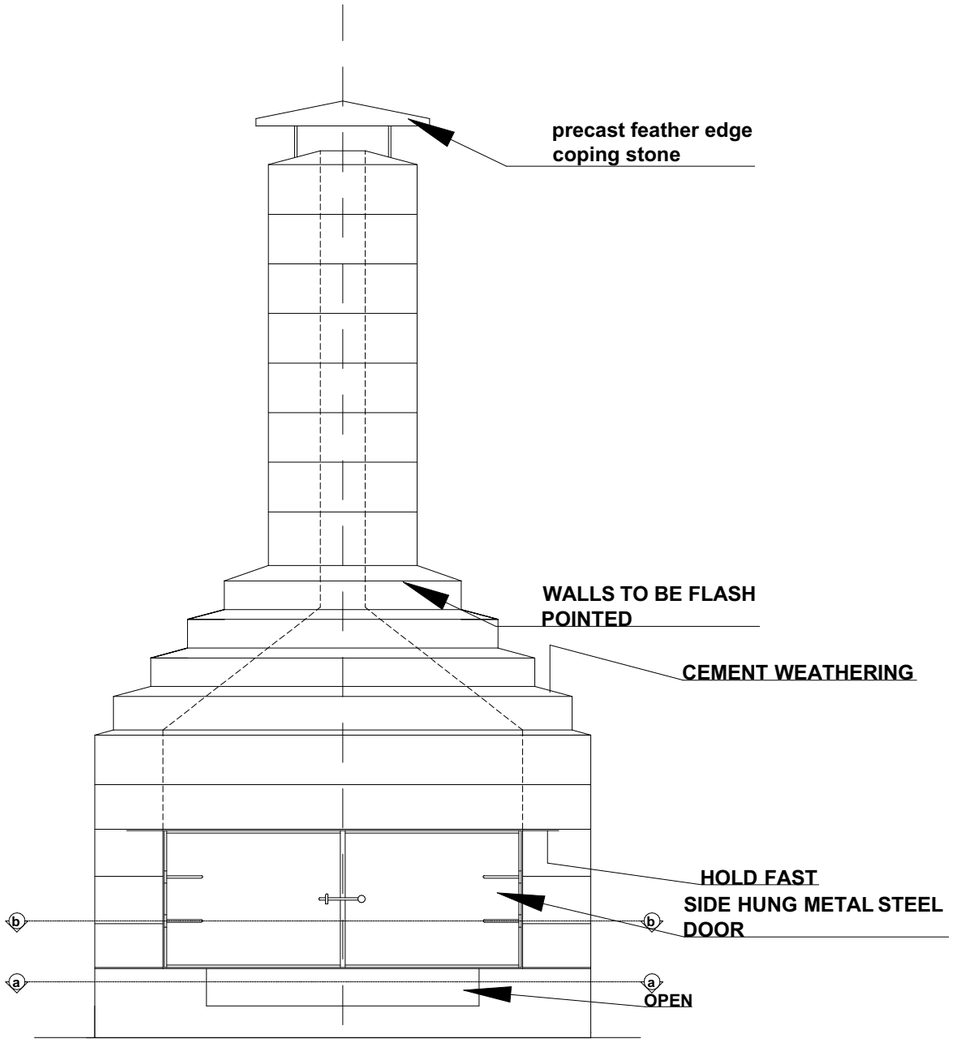
MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY
PHYSICAL FACILITIES STANDARDS SECTION

PRIMARY & SECONDARY DESIGN GUIDELINES

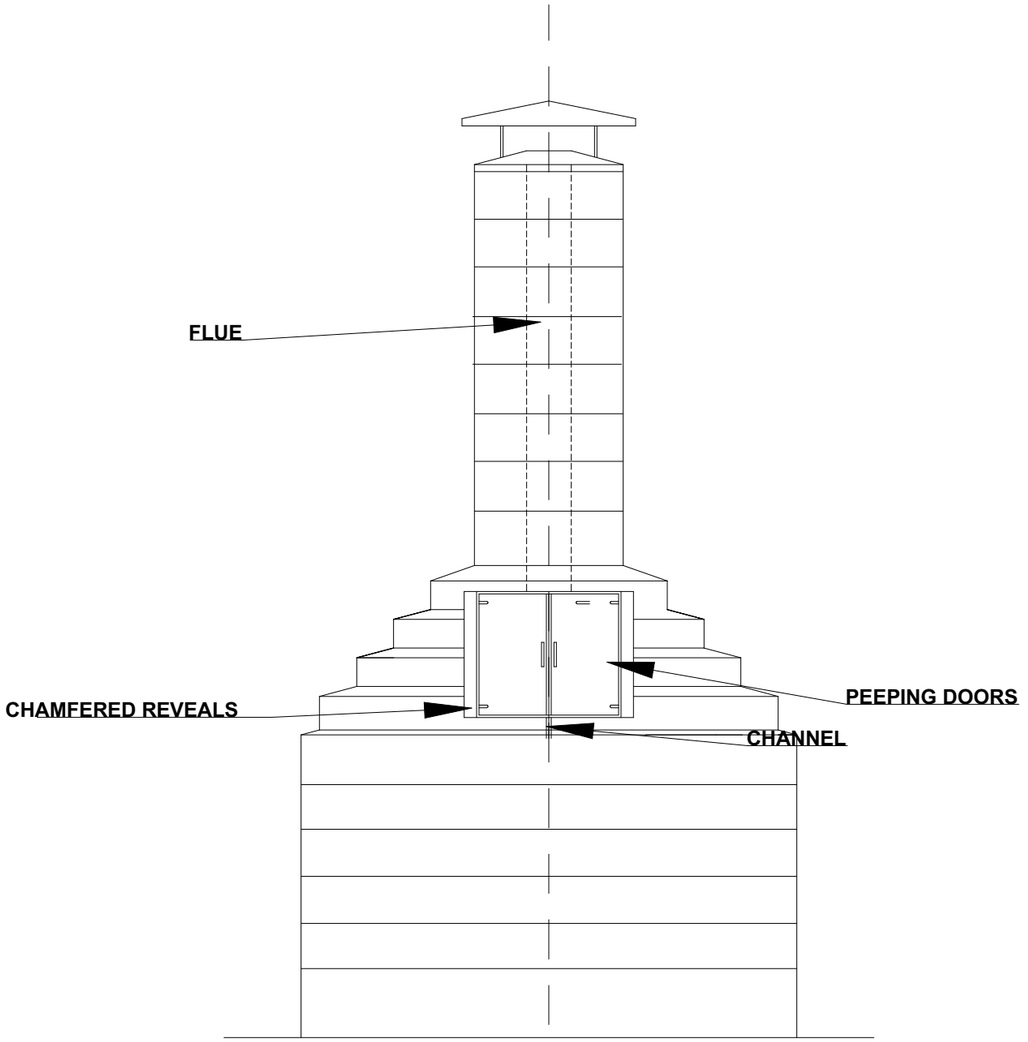
DRAWING TITLE **INCINERATOR**
SECTION - REVISED 2023

DRAWING NO. **SDP/ARC/CRB 1/02**

DRAWN BY: JCR
CHECKED BY NM
SCALE 1;25
JUNE,2023

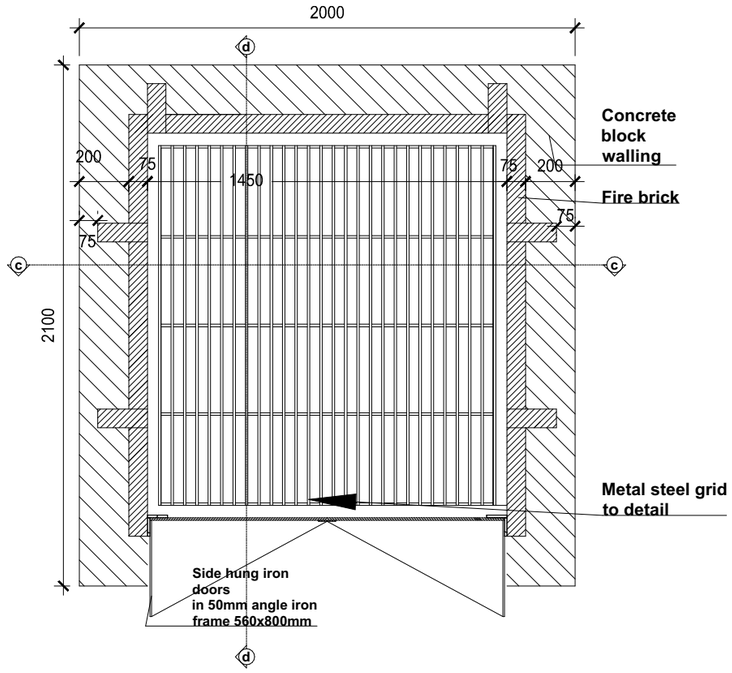


front elevation

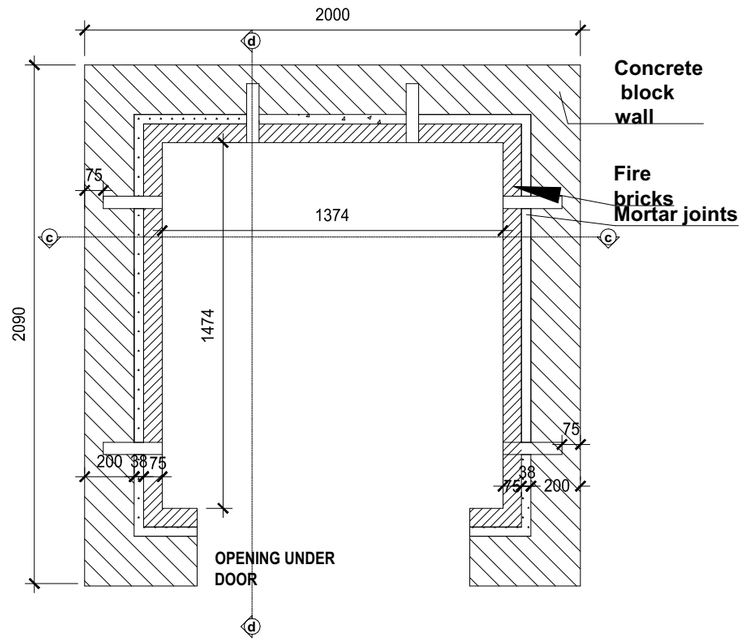


back elevation

MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY PHYSICAL FACILITIES STANDARDS SECTION	**PRIMARY & SECONDARY DESIGN GUIDELINES**	DRAWING TITLE **INCINERATOR** **ELEVATIONS - REVISED 2023** DRAWING NO. **SDP/ARC/CRB 1/03**	**DRAWN BY: JCR** **CHECKED BY NM** SCALE 1;25 JUNE,2023



PLAN AT b-b



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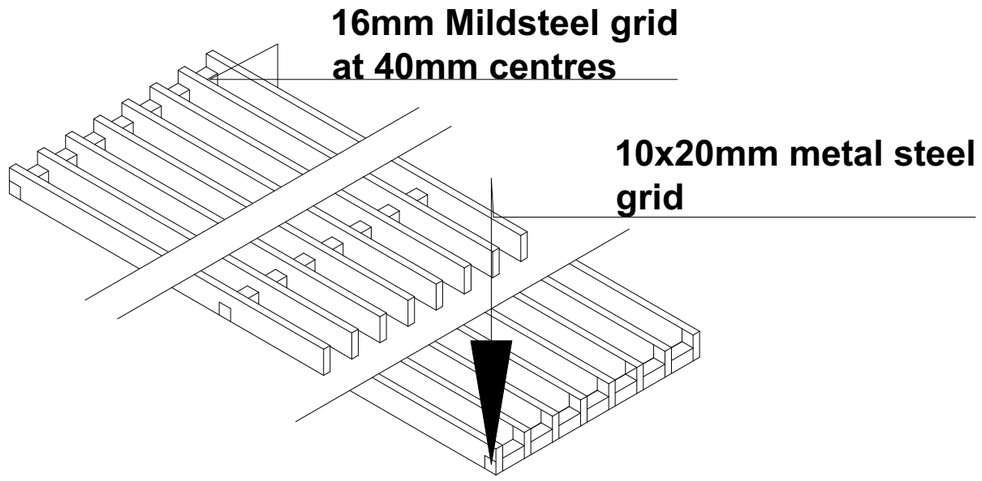

Isometric view of grid

MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY **PHYSICAL FACILITIES STANDARDS SECTION**	**PRIMARY & SECONDARY DESIGN GUIDELINES**	DRAWING TITLE **INCINERATOR** **PLAN & DETAILS REVISED 2023** DRAWING NO. **SDP/ARC/CRB 1/01**	**DRAWN BY: JCR** **CHECKED BY NM** SCALE 1;25 JUNE; 2023

SCHEDULE OF MATERIALS

THE UNITED REPUBLIC OF TANZANIA

PRESIDENT'S OFFICE
REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT

PROPOSED STANDARD DRAWINGS FOR SEQUIP

Schedule of Materials & Labour for Incinarator

PROJECT AREA

TANZANIA MAINLAND

Ministry of Education, Science and Technology,
Government City - Mtumba,
AFYA Street,
P.O Box 10,
40479 DODOMA.

President's Office,
Regional Administration,
& Local Government
Government City - Mtumba
TAMISEMI Street,
P. O. Box 1923,
41185 DODOMA.

SCHEDULE OF MATERIALS FOR THE CONSTRUCTION OF INCINERATOR

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
	MATERIALS				
A	**SUB-STRUCTURE -**PROVISIONAL				
1	**Strip Foundation - Grade 15 Plain**				
	Aggregate (3/4")	0.5	M3		
	Sand	0.45	M3		
	Cement-50kgs(42.5)	2	Bags		
2	**Foundation Walls**				
	6" Cement & Sand block - Minimum Strength 3. 5 MPa	70	No		
	Sand	1	M3		
	Cement -50kgs	5	Bags		
3	**Moram, Hardcore & Site sterilization**				
	Moram (4.5m3 lorry)	1	M3		
	Hardcore (4.5m3 lorry)	1	Trips		
	Adrian 0.5% solution applied at a rate of 7 liters per square meter- 500mls	1	Bottle		
4	**Concrete work - Grade 20**				
	Cement -50kgs(42.5)	27	Bags		
	Aggregates (1/2")	2	M3		
	Sand	1	M3		
	Reinforcement - 12mm diameter high tensile 460N/mm2	1	PC'S		
	Reinforcement - 8mm diameter high tensile 460N/mm2	1	PC'S		
	Timber 1" X 8 " (3.6m long)	3	PC'S		
	Timber 2" X 2" (3.6m long)	2	PC'S		
	Nails-4"	1	Kgs		
	Nails-3"	1	Kgs		
	Supporting props	3	PC'S		
5	**Blocks. Fire Bricks & Ring beam & Metal works**				
	6" Cement & Sand block - Minimum Strength 3. 5 MPa	80	No		
	Sand	1	M3		
	Cement-50kgs(42.5)	5	Bags		
	Fire bricks 230mm x 115 x 75mm thick	320	pcs		
	Refactory fire cement	3	bag		
	Refactory fire clay 25kg @ bag	1	bag		
	Chimney shaft stainless steel rolled plate 4mm thick, 7.7 ft length	1	Pcs		
	Steel rods Stainless steel for grate fabrication 12mm thick @ 4m length	2	Pcs		

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
	Simple grate of fire bars 16mm welded inserted in the combustion chamber	1	Pcs		
	Welding rods stainless steel	10	Kg		
	Grinding disk	2	Pcs		
	Cutting disk	4	Pcs		
	Metal hinges Rough iron	2	Pcs		
	Fuel pipe Stainless steel 6 inches thick, 0.5m length	1	Pcs		
	Fuel tape	1	Pcs		
	800mm wide x 562mmhigh side hang metal steel door	1	Pcs		
	Stainless steel sheet Top plate and 2 Ash remove chambers 5mm thick, 1200mm x 2400mm	1	Pcs		
	Angle lines galvanised for top plate fabrication and its frame 5mm thick @ 2ft length	2	Pcs		
	TOTAL BUILDING MATERIALS CARRIED TO GENERAL SUMMARY				
	ADD:				
	LABOUR COST CARRIED TO GENERAL SUMMARY : (Improve and Fill the respective Labour form)				
	Note:				
	i Refer General Summary for: Preliminary, Transportation and Supervision Costs				
	ii. Preliminary cover the following item:				
	- Setting out working tools, Equipments, Temporary toilets, water for the works, Scaffolding,				
	- Power for the works, Security, store, Materials test, levelling, holdings and removal of rubbish.				
	iii. Supervision cost depend on guideline of the specific project				

THE UNITED REPUBLIC OF TANZANIA

PRESIDENT'S OFFICE
REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT

PROPOSED STANDARD DRAWINGS FOR SEQUIP

Schedule of Materials & Labour for Computer Block – Gable Type

PROJECT AREA

TANZANIA MAINLAND

Ministry of Education, Science and Technology,
Government City - Mtumba,
AFYA Street,
P.O Box 10,
40479 DODOMA.

President's Office,
Regional Administration,
& Local Government
Government City - Mtumba
TAMISEMI Street,
P. O. Box 1923,
41185 DODOMA.

JUNE, 2023

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ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
	MATERIALS				
A	**SUB-STRUCTURE -**PROVISIONAL				
1	**Strip Foundation - Grade 15 Plain**				
	Aggregate (3/4")	13	M^3		
	Sand	7	M^3		
	Cement-50kgs (42.5)	64	Bags		
2	**Foundation Walls**				
	6" Cement & Sand block - Minimum Strength 3. 5 MPa	1,320	No		
	Sand	5.0	M^3		
	Cement -50kgs (42.5)	25	Bags		
	ALTENATIVE TO FOUNDATION WALL				
	***** If stone is applicable, then blockwork is not***				
	applicable. Therefore Engineer must confirm to the				
	Tenderer which item to be priced (Blockwork or				
	stone) depending on availability and suitability of				
	building materials.				
	Stone, complete with its cement and sand mortar (1:4)	*23*	M^3		
3	**Moram, Hardcore & Site sterilization**				
	Moram ($4.5m^3$ lorry)	8	Trips		
	Hardcore 200mm thick - ($4.5m^3$ lorry)	7	Trips		
	Sand	5	M^3		
	Aldrin solution or other and equal approved (1000mls)	2	Bottle		
4	**Oversite Concrete 100mm thick - 15 grade ,Ground Beam and base column - 20 grade**				
	DPM	156	M^2		
	Cement -50kgs (42.5)	112	Bags		
	Aggregates (1/2")	18	M^3		
	Sand	10	M^3		
	Reinforcement - 12mm diameter high tensile 460N/mm2	32	PC'S		
	Reinforcement - 8mm diameter high tensile 460N/mm2	31	PC'S		
	A252 Mesh 200 x 200x 6.16kg/m2	4	PC'S		
	Binding Wire - 25kg	1	Roll		
	Timber 1" X 10 " (5.2m long)	10	PC'S		
	Timber 2" X 2"(5.2m long)	6	PC'S		
	Nails-4"	8	Kgs		
	Nails-3"	8	Kgs		
	Supporting props -3m	6	PC'S		
	SUB-TOTAL SUBSTRUCTURE				

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
B.	**SUPERSTRUCTURE**				
1	**Walls & Ring beam & Columns**				
	6" Cement & Sand block - Minimum Strength 3. 5 MPa	2,553	No		
	DPC (30m long, 1m wide)	2	Roll		
	Sand	11	M^3		
	Cement-50kgs (42.5)	87	Bags		
	Aggregates (1/2")	4.0	M^3		
	Reinforcement - 12mm diameter high tensile 460N/mm2	30	PC'S		
	Reinforcement - 8mm diameter high tensile 460N/mm2	26	PC'S		
	Binding Wire - 25kg	1	Roll		
	Timber 1" X 10" to Sides (5.2m long)	10	PC'S		
	Timber 1" X 5" (Plates) (5.2m long)	4	PC'S		
	Timber 2" X 2" (5.2m long)	10	PC'S		
	Supporting props -3m	10	PC'S		
	SUB-TOTAL SUPER STRUCTURE				
	ALTENATIVE TO BLOCKWORK WALL				
	*** If brickwork is applicable, then blockwork is not applicable*				
	Therefore Engineer must confirm to the Tenderer which				
	item to be priced (Blockwork or brickwork) depending on				
	availability and suitability of building materials.				
	Note that: Strictly do not use stretcher bond				
	when using bricks, the acceptablebond is either Flemish				
	or English or header.				
	Brickwork				
	230mm thick One brick wall	*160*	m^2		
	150mm thick One brick wall	*35*	m^2		
C.	**ROOF STRUCTURE & COVERING**				
1	**Roof Structure - 5.2M** Provisional				
	Timber 2 " X 3" Purlins	42	PC'S		
	Timber 2" X 4" King Post, wall plate and struts	58	PC'S		
	Timber 2" X 6" Rafter and Tie beam	57	PC'S		
	Fascia board 1" X 10" -ref. Semi Hardwood (5.2m long)	11	PC'S		
	Nails -5"	50	Kgs		
	Nails -4"	45	Kgs		
	Nails -3"	45	Kgs		
	16mm diameter bolt, 500mm long	26	Kgs		
	NOTE: The above softwood timber structure should be pressure impregnated treated				
2	**Roof Covering**				
	28 G Resincoated Iron sheet	235	M^2		
	Ridge - 28 G (3m long)	7	PC'S		
	Roofing Nails	23	Packet		

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
3	**Gutter's**				
	Upvc 100mm half round (6m long)-5"	6	PC'S		
	Upvc 75mm diameter down pipe; Class B	6	PC'S		
	PVC outlet	8	PC'S		
	Gutter support bracket	32	PC'S		
	PVC bend 90'	8	PC'S		
	PVC bend 45'	8	PC'S		
	Gutter Clamp 3"	8	PC'S		
	Connector/reducer	8	PC'S		
	Connector outer	8	PC'S		
	Corner Inner	8	PC'S		
	SUB-TOTAL ROOF STRUCTURE & COVERING				
D.	**CEILING**				
	Gypsum board -9mm thick	54	PC'S		
	Plain Cornice (8ft)	33	PC'S		
	Screw 1.25" 500pcs/box	2	Box		
	Gypsum powder -25kg	8	Bags		
	Fibre tape (90m)	2	Roller		
	Treated softwood Timber 2" X 2" -(5.2m)	120	PC'S		
	Nails 4"	30	Kgs		
	Nails 3"	40	Kgs		
	SUB-TOTAL FOR CEILING				
E.	**DOOR**				
1	**40mm thick hardwood paneled door shutter**				
	1200 x 2100mm high double door shutter	1	PC'S		
	900 x 2100mm high	2	PC'S		
2	**Frames (hardwood) & Varnish**				
	1200 x 2500mm high	1	PC'S		
	900 x 2500mm high	2	PC'S		
	5mm thick clear glass to Vents	2	m2		
	Brush 3"	3	Pcs		
	Sand paper (msasa) No.80	3	LM		
	Clear Varnish - 4Litres	2	TIN		
	Thinner for Varnish	4	Litres		
3	**IronMongeries - ref Union**				
	Mortice lock Three lever	3	No		
	Brass hinges - 100mm	6	Pairs		
	Wood Screw	1	Box		
	SUB-TOTAL FOR DOORS				

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
F.	**WINDOWS**				
1	**Aluminium sliding Window comprising 100mm x 1.2mm thick standard aluminium profile ex-china/Turkey infill with 5mm thick glass complete with mosquito proofing panel, including all accessories, ironmongries, cutting and pinning lugs**				
	1500 X 1500mm high	12	PC'S		
2	**25 x 4mm thick flat bar grill painted red-oxide with 25 x 25mm square pipes frame and all necessary accessories**				
	1500 X 1500mm high	12	PC'S		
	1200 x 2500mm high	1	PC'S		
	900 x 2500mm high to doors	1	PC'S		
	SUB-TOTAL FOR WINDOWS				
G.	**FINISHING**				
1	**Floor finishing -**				
	Bedding/Backing; cement sand and Chipping (1:2:2); to steel finishing				
	50mm Thick granolithic floor screed steel trowlelling to smooth finishing				
	Sand	4.0	M^3		
	Cement-50kgs (42.5)	46	Bags		
	Chipping	4	M^3		
2	**Wall Finishing - 15mm thick (1:4)**				
	Sand	4.5	M^3		
	Cement-50kgs (42.5)	31	Bags		
	White cement - 40kg	6	Bags		
	Gypsum powder -25kg	10	Bags		
	SUB-TOTAL FOR FINISHING				
H.	**PAINTING & DECORATION**				
	Emulsion Paint - 20 LTRS	7	buckets		
	Weather guard Paint - 20 LTRS	2	buckets		
	Washable paint -20 LTRS	3	buckets		
	Primer paint -20 LTRS	2	buckets		
	Solvent - 5LTRS	2	TIN		
	Brush 3"	2	Pcs		
	Roller	2	Pcs		
	Gloss paint-4LTR	3	TIN		
	Bitumen paint - 4Litres	4	TIN		
	SUB-TOTAL FOR PAINTING&DECORATION				

ITEM	DESCRIPTION	QTY	UNIT	PRICE-TZS	AMOUNT
J.	**ELECTRICAL INSTALLATION**				
	Single fluorescent fitting Complete	17	No		
	Double switch socket	12	No		
	Main switch 6way,1PH with integral RCD 100A/300mmA	1	No		
	NB: Wiring cables shall be copper have a minimum cross section area of 1.5sqmm and shall comply with an appropriate British or Harmonized standard for either thermoplastic or thermosetting insulated electric cables.				
	Single core wire 1.5sqmm - Brown	1	R0ll		
	Single core wire 1.5sqmm - Black	1	Roll		
	Single core wire 1.5sqmm -green	1	Roll		
	Single core wire 2.5sqmm - Brown	1	Roll		
	Single core wire 2.5sqmm - Black	1	Roll		
	Single core wire 2.5sqmm green	1	Roll		
	Ceiling fan National or other equal	8	PC's		
	3gang 1way switch	1	No		
	1gang 1way switch	1	No		
	2gang 1 way switch	2	No		
	4gang 1 way switch	1	No		
	DP switch 20A	1	No		
	Earth rod approved copper 16mm not less than 1200mm	1	No		
	Earth wire 4sqmm	20	M		
	Metal box twin	12	No		
	Metal box single	20	No		
	Junction box	10	No		
	Conduit pipe	60	PC's		
	Elbow	10	PC's		
	Conduit coupling	10	PC's		
	Round cover	15	PC's		
	Round box	5	PC's		
	Fine screw	1	Packet		
	Data socket	8	No		
	CAT 6 UTP cable (300m)	1	Roll		
	Smoke ditector	2	No		
	plastic clips 22mm	2	Box		
	Flow mounted double switch socket completn with cover	5	PC's		
	SUB-TOTAL FOR ELECTRICAL INSTALLATION				

	GENERAL SUMMARY				**AMOUNT -TZS**
	COMPUTER BLOCK - GABLE TYPE				
A.	SUB-STRUCTURE -PROVISIONAL				
B.	SUPERSTRUCTURE				
C.	ROOF STRUCTURE & COVERING				
D.	CEILING				
E.	DOOR				
F.	WINDOWS				
G.	FINISHING				
H.	PAINTING & DECORATION				
J.	ELECTRICAL INSTALLATION				
	TOTAL BUILDING MATERIALS CARRIED TO GENERAL SUMMARY				
	ADD:				
	LABOUR COST CARRIED TO GENERAL SUMMARY : (Improve and Fill the respective Labour form)				
	Note:				
	i. Refer attached specification and number of Furniture(s) for Computer Block				
	ii. Refer General Summary for: Preliminary, Transportation and Supervision Costs				
	iii. Preliminary cover the following item:				
	- Setting out working tools, Equipments, Temporary toilets, water for the works, Scaffolding,				
	- Power for the works, Security, store, Materials test and signboard.				
	iv. Supervision cost depend on guideline of the project				
	v. Installation of Ceiling Fan is an option, depend on whether condition of specific area .				

ARCHITECTURAL DRAWINGS

COMPUTER BLOCK

ARCHITECTURAL DRAWING

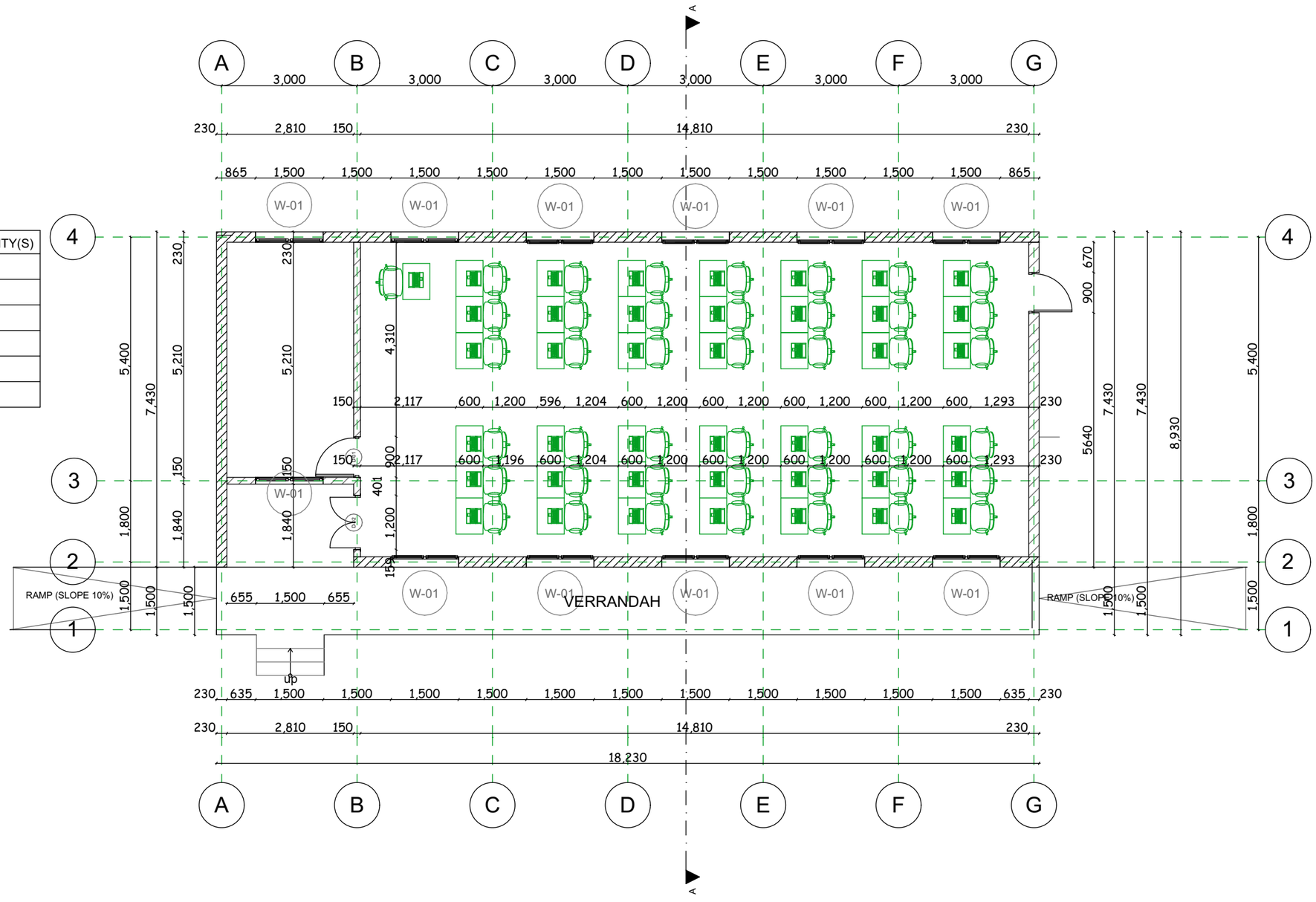
Computer

JUNE 2023

MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY ***IN COLLABORATION WITH*** **PRESIDENT'S OFFICE REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT**	**PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS FOR SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM**	DRAWING TITLE:COMPUTER BLOCK DRAWING NO: ARC/CMP/00	Date	June, 2023
			Drawn by	IAS
			Checked by	JR
			Scale	To fit

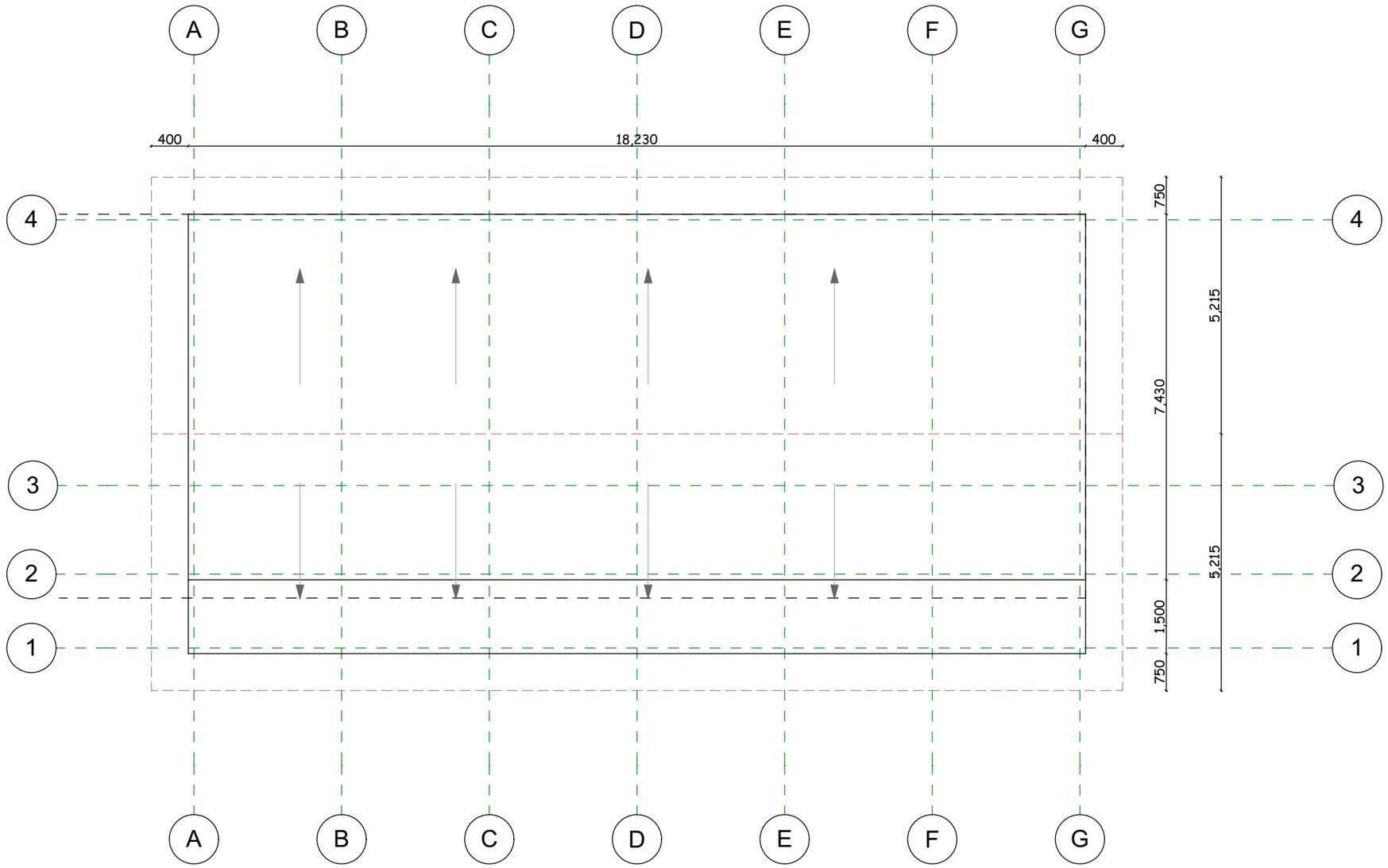
WINDOW SCHEDULE

WINDOW TYPE	HEIGHT x WIDTH	QUANTITY(S)
W 01	1500mm x 1500mm	12
TOTAL		12
DOOR SCHEDULE		
D 1	2500mm x 900mm	2
D 2	2500mm x 1200mm	1
TOTAL		3

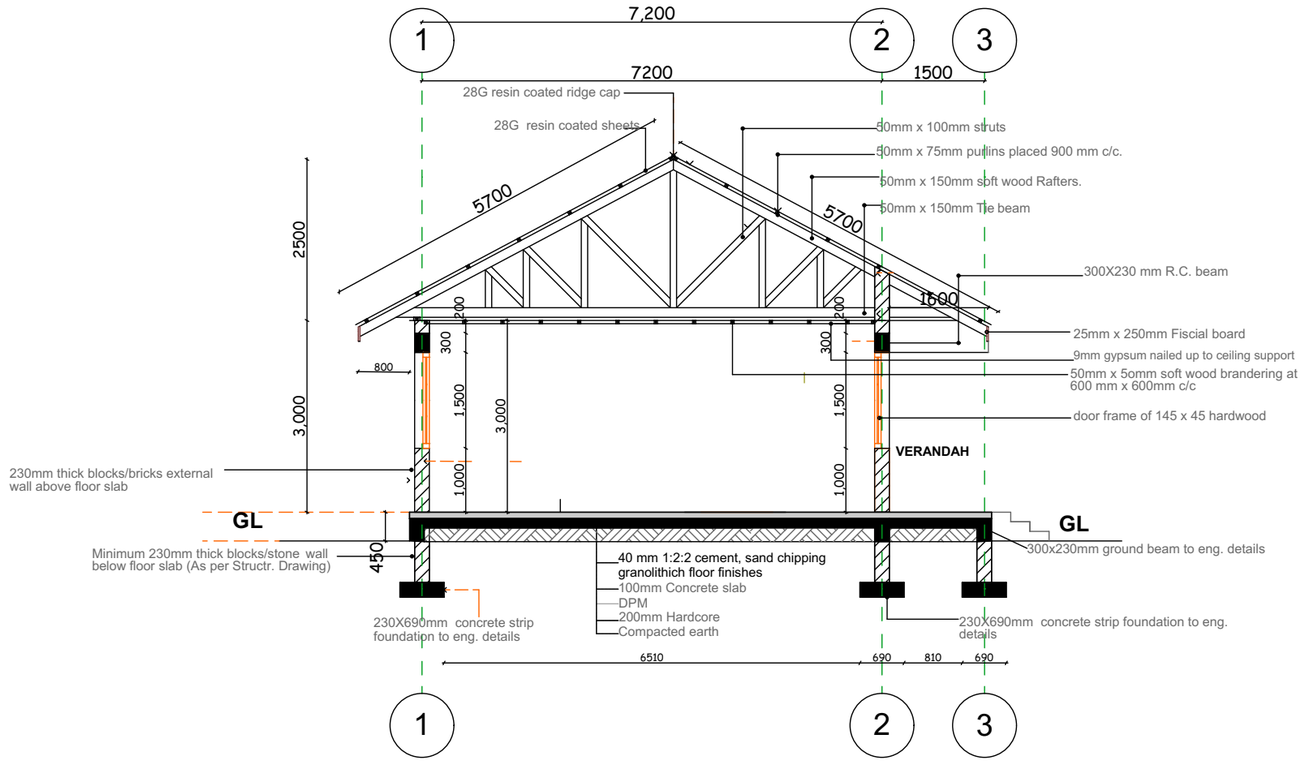


TOTAL FLOOR AREA = 163 SQM

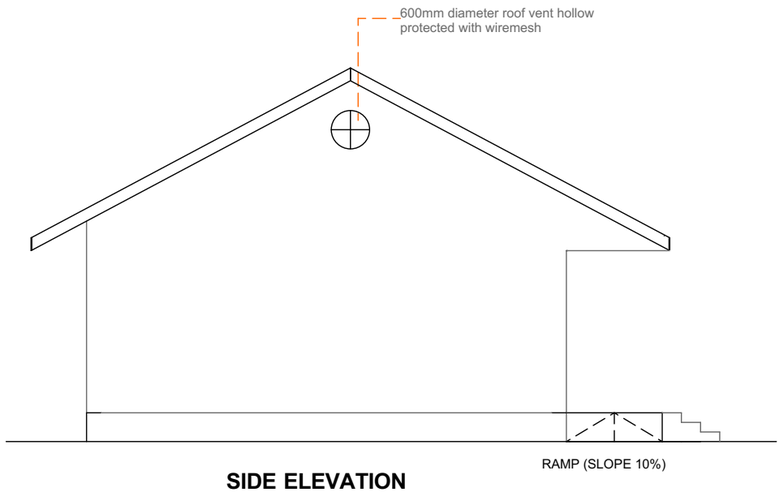
MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY *IN COLLABORATION WITH* **PRESIDENT'S OFFICE REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT**	**PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS FOR SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM**	DRAWING TITLE:COMPUTER BLOCK GABLED **FLOOR PLAN GABLE** DRAWING NO: ARC/CMPG/01	Date: June,2023 Drawn by: IAS Checked by: JR Scale: To fit



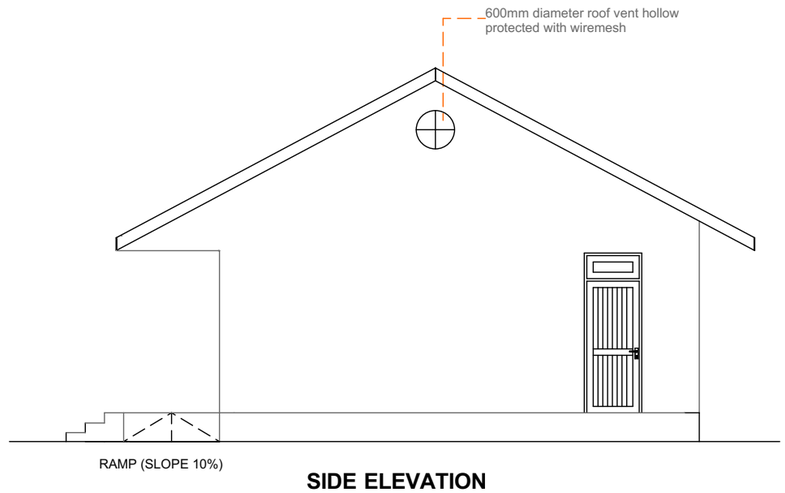
MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY *IN COLLABORATION WITH* **PRESIDENT'S OFFICE REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT**	**PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS FOR SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM**	DRAWING TITLE:COMPUTER BLOCK GABLED **ROOF PLAN GABLE** DRAWING NO: ARC/CMPG/02	Date: June, 2023 Drawn by: IAS Checked by: JR Scale: To fit



TYPICAL SECTION

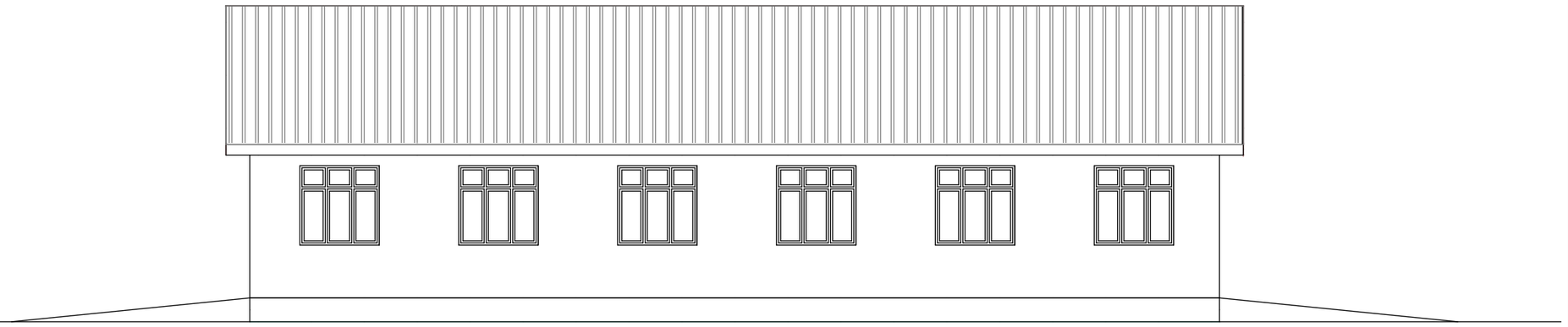


SIDE ELEVATION

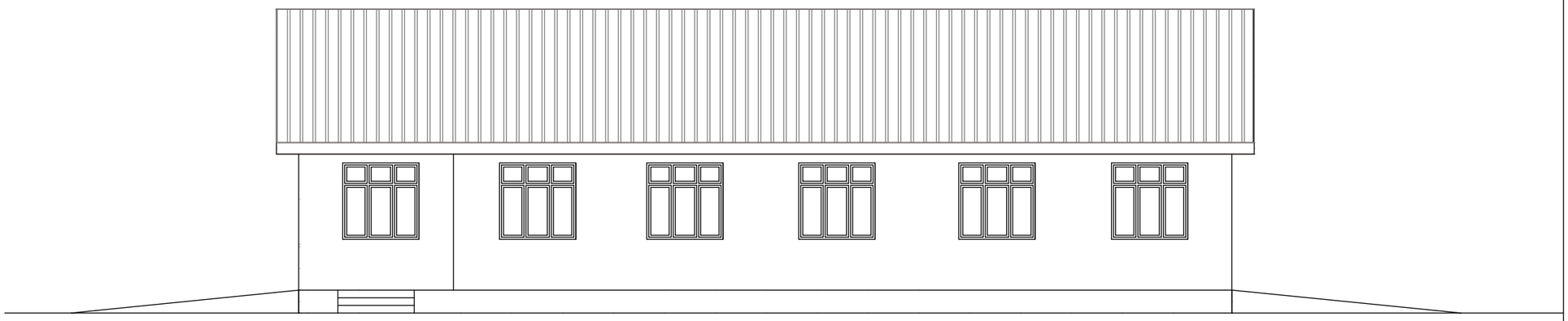


SIDE ELEVATION

MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY ***IN COLLABORATION WITH*** **PRESIDENT'S OFFICE REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT**	**PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS FOR SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM**	DRAWING TITLE:COMPUTER BLOCK GABLED **TYPICAL SECTION - SIDE ELEVATIONS** DRAWING NO: ARC/CMPG/03	Date: June, 2023 Drawn by: IAS Checked by: JR Scale: To fit



REAR ELEVATION



FRONT ELEVATION

MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY ***IN COLLABORATION WITH*** **PRESIDENT'S OFFICE REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT**	**PROVISION OF PHYSICAL FACILITIES IN SECONDARY SCHOOLS FOR SECONDARY EDUCATION QUALITY IMPROVEMENT PROGRAM**	DRAWING TITLE:COMPUTER BLOCK GABLED **ELEVATIONS GABLE** DRAWING NO: ARC/CMPG/04	Date: June, 2023 Drawn by: IAS Checked by: JR Scale: To fit