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**ACRONYMS**

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<thead>
<tr>
<th>Abbreviation</th>
<th>Full Form</th>
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<tbody>
<tr>
<td>CBD</td>
<td>Central Business District</td>
</tr>
<tr>
<td>EA</td>
<td>Environmental Assessment</td>
</tr>
<tr>
<td>EHS</td>
<td>Environmental Health and Safety</td>
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<tr>
<td>EMP</td>
<td>Environmental Management Plan</td>
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<tr>
<td>EPA</td>
<td>Environment Protection Agency</td>
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<tr>
<td>ESHIA</td>
<td>Environmental Social and Health Impact Assessment</td>
</tr>
<tr>
<td>ESMF</td>
<td>Environmental and Social Management Framework</td>
</tr>
<tr>
<td>FCC</td>
<td>Freetown City Council</td>
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<tr>
<td>GIS</td>
<td>Geographic Information Systems</td>
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<tr>
<td>IFC</td>
<td>International Finance Corporation</td>
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<tr>
<td>IRUMP</td>
<td>Sierra Leone Integrated and Resilient Urban Transport Project</td>
</tr>
<tr>
<td>MoF</td>
<td>Ministry of Finance</td>
</tr>
<tr>
<td>MoWPA</td>
<td>Ministry of Works and Public Assets</td>
</tr>
<tr>
<td>MoTA</td>
<td>Ministry of Transport and Aviation</td>
</tr>
<tr>
<td>MoW</td>
<td>Ministry of Works</td>
</tr>
<tr>
<td>MP</td>
<td>Member of Parliament</td>
</tr>
<tr>
<td>NGO</td>
<td>Non-Governmental Organisation</td>
</tr>
<tr>
<td>NW</td>
<td>North West</td>
</tr>
<tr>
<td>OHS</td>
<td>Occupational Health and Safety</td>
</tr>
<tr>
<td>OP/BP</td>
<td>Operational Policies/Bank Procedures</td>
</tr>
<tr>
<td>OPN</td>
<td>Operational Policy Note</td>
</tr>
<tr>
<td>RMF</td>
<td>Road Maintenance Fund</td>
</tr>
<tr>
<td>PAPs</td>
<td>Project Affected Persons</td>
</tr>
<tr>
<td>PFMU</td>
<td>Project Fiduciary Management Unit</td>
</tr>
<tr>
<td>PIU</td>
<td>Project Implementation Unit</td>
</tr>
<tr>
<td>RAP</td>
<td>Resettlement Action Plan</td>
</tr>
<tr>
<td>RPF</td>
<td>Resettlement Policy Framework</td>
</tr>
<tr>
<td>RWG</td>
<td>Resettlement Working Group</td>
</tr>
<tr>
<td>SE</td>
<td>South East</td>
</tr>
<tr>
<td>SLeTU</td>
<td>Sierra Leone Traders Union</td>
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© CEMMATS Group Ltd, Sept 2018
SLMA   Sierra Leone Maritime Agency
SLP    Sierra Leone Police
SLPA   Sierra Leone Ports Authority
SLRA   Sierra Leone Roads Authority
SLRSA  Sierra Leone Road Safety Authority
SLRTC  Sierra Leone Road Transport Corporation
TIDU   Transport Infrastructure Development Unit
TOR    Terms of Reference
# GLOSSARY

<p>| Board of EPA-SL | Board of Directors that form the governing body of the EPA-SL; is headed by the Executive Chairperson; and consists of representatives from a number of line Ministries and three additional members of society. |
| Client | A person or organization using the services or advice of another professional person or company. |
| Communities | A group of interacting people, living in some proximity (i.e. in space, time, or relationship) that shares common values and has social cohesion. |
| Environmental, Social and Health Impact Assessment (ESHIA) | The process of predicting and evaluating the social, health and environmental impacts and risks of a proposed Project and identifying mitigation measures that will enable the Project to meet the requirements of stakeholders, applicable laws and regulations, and any additional requirements for social or environmental performance identified by the Project, and so that impacts are as low as technically and financially feasible. |
| Environmental and Social Management Plan (ESMP) | A plan setting out all the proposed mitigation measures that the proponent of a Project will take to prevent, reduce, remedy and compensate for adverse effects, and to maximise the benefits of the project. Also, the plan for monitoring and auditing that will be undertaken to confirm compliance with the ESMP. |
| Gender Based Violence (GBV) | Gender-based violence (GBV) is an umbrella term for any harmful act that is perpetrated against a person’s will and that is based on socially ascribed (i.e. gender) differences between males and females. It includes acts that inflict physical, sexual or mental harm or suffering, threats of such acts, coercion, and other deprivations of liberty. These acts can occur in public or in private (IASC 2015). Women and girls are disproportionately affected by GBV across the globe. |
| Hazardous Waste | Substances classified as hazardous wastes possess at least one of four characteristics: ignitability, corrosivity, reactivity or toxicity – or appear on special lists. |
| Mitigation measures | Designs, and methods for construction, operation and closure of a Project that are introduced into the plans for a project, to prevent adverse impacts, where impacts cannot be prevented altogether, to reduce them as low as is technically and financially feasible, and to remedy, offset or compensate for adverse effects, and measures to provide and enhance the positive benefits from a project. |</p>
<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
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<tbody>
<tr>
<td>Pollution</td>
<td>Refers to both hazardous and non-hazardous pollutants in the solid, liquid or gaseous forms, and is intended to include other forms such as nuisance odours, noise, vibration, radiation, electromagnetic energy and the creation of potential visual impacts including light.</td>
</tr>
<tr>
<td>Project Affected Persons (PAP’s)</td>
<td>Any person, group of persons, or organization affected by, concerned about, or with jurisdiction over an activity, development, project, policy, or action, and who need to be consulted during the process of decision making.</td>
</tr>
<tr>
<td>Project Proponent</td>
<td>An individual, group or organization responsible for a project; creating a detailed Project description; and submitting it to stakeholders for analysis, review and acceptance.</td>
</tr>
<tr>
<td>Sexual Exploitation and Abuse (SEA)</td>
<td>Any actual or attempted abuse of a position of vulnerability, differential power, or trust, for sexual purposes, including, but not limited to, profiting monetarily, socially or politically from the sexual exploitation of another. Sexual abuse is further defined as “the actual or threatened physical intrusion of a sexual nature, whether by force or under unequal or coercive conditions.” Women, girls, boys and men can experience SEA. In the context of World Bank supported projects, project beneficiaries or members of project-affected communities may experience SEA.</td>
</tr>
<tr>
<td>Sexual Harassment</td>
<td>Unwelcome sexual advances, requests for sexual favors, and other unwanted verbal or physical conduct of a sexual nature. SH differs from SEA in that it occurs between personnel/staff working on the project, and not between staff and project beneficiaries or communities. The distinction between SEA and SH is important so that agency policies and staff training can include specific instructions on the procedures to report each. Both women and men can experience SH.</td>
</tr>
<tr>
<td>Stakeholders</td>
<td>Any and all individuals, groups, organizations, and institutions interested in and potentially affected by a Project or having the ability to influence a project.</td>
</tr>
<tr>
<td>World Bank</td>
<td>The World Bank is an intergovernmental pillar supporting the structure of the world's economic and financial order, it is an organization whose focus is on foreign exchange reserves and the balance of trade.</td>
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1 ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN

The Management Plans document the systems and processes that will be implemented throughout the project to ensure compliance with local and international standards.

MoTA will have the overall responsibility for ensuring that the construction contractor manages construction related risks by applying systematic risk management principles.

This volume is split into the following subsections:

- Environmental Health and Safety Plan
- Waste Management Plan
- Emergency Response Plan
- Public Consultation and Disclosure Plan
- Post Construction Closure
- Environmental Monitoring Plan

1.1 Background

The Government of Sierra Leone through the Ministry of Transport and Aviation (MoTA) has received IBRD/IDA/World Bank credit facility to be used for implementation of the Sierra Leone Integrated and Resilient Urban Transport Project (SLIRUMP).

The objective of this proposed multiphase programmatic urban transport project is two-fold: first, to pilot short-term remedies in order to obtain immediate relief and demonstrate the value of good management of existing infrastructure, efficient implementation, and good coordination across multiple departments and agencies within the government; and second, to build institutions, develop appropriate policies and regulations, and identify arrangements to strengthen the delivery of public transport services and climate resilience.

The project will finance studies and training to strengthen the capacity of government agencies and departments and support the development of laws, regulations and frameworks for the sustainable delivery of urban transport services. It is expected that the lessons from the project will enable the government to incrementally scale up interventions to a wider area over time.

The Project Development Objective (PDO) is to improve access, resilience and road safety in selected areas and enhance institutional capacity in the transport sector. The project will include the following components:

- Implementation of comprehensive and integrated traffic management (e.g., more synchronized, signalized intersections with protected pedestrian phases, on street parking controls/payment/prohibitions, and parking enforcement at and near bus stops, intersections) and public transport improvements (e.g., fixed stop, fixed route
and fixed schedule services using conventional buses, bus shelters, bus lanes where possible—all in high-volume corridors;

- Organizing private sector into associations to operate services on performance based fixed term exclusive contracts;

- Introducing integrated ticketing system suitable for use in a multi-operator environment, set up a control centre to manage bus operations and provide real-time customer information;

- Improving road conditions and intersection controls, drainage, clear encroachments, etc. and

- Implement integrated and coordinated governance arrangements.

The proposed interventions are expected to demonstrate the value of people-centric policy choices and a focus on providing reliable, efficient and affordable public transport system with high productivity.

The EPA-SL requires that for any project that may impact on the environment and communities, an Environmental Impact Assessment (EIA) License must be obtained. The licensing process involves conducting an Environmental Social and Health Impact Assessment Study which includes the development of Environmental and Social Management Plans to manage identified impacts. The reports generated from this study will inform the Agency about the environmental and social sustainability of the project.

The Ministry of Transport and Aviation is now seeking to acquire an EIA Licence for the SLIRUMP. This report is second volume of the ESHIA Report: The Environmental and Social Management Plan.

### 1.2 Organisation of Reports

The final ESHIA report consists of two (2) volumes of documents. Below are brief comments on the contents.

**Volume 1 – The Environmental, Social and Health Impact Assessment (ESHIA)** contains the policy, legal and administrative framework under which the ESHIA was carried out. There is an analysis of the feasible alternatives, including the “no project” alternative, and a description of the Project in its geographic, ecological, social and temporal context. It includes baseline data describing the relevant physical, biological and historical conditions, as well as the potential environmental, social and health effects associated with Project implementation. Mitigation measures needed to control those effects to acceptable levels are presented.

**Volume 2 – Environmental and Social Management Plan (ESMP)** presents the environmental and social management, mitigation, monitoring and institutional measures to be taken during the project, to reduce adverse environmental and social effects to acceptable levels. It specifically defines what actions must be taken and who is responsible to reduce
Project impacts. The ESMP also includes several component-plans defining specific action programs for waste management; emergency response; post-construction closure; public consultation and disclosure. The ESMP highlights the issues and concerns that are presented in the ESHIA and identifies reasonable and practical responses to address and mitigate potentially adverse effects. It describes the specific actions that will be required to effectively implement those responses in a timely manner and describes the methods by which those requirements will be met.

1.2.1 Component Plans of the ESMP

1.2.1.1 Environmental Health and Safety Plan

The Environmental Health and Safety (EHS) Plan identifies the principles, approach, procedures and methods that shall be used to control and minimize the environmental and social impacts of all the project activities. It includes community and occupational health and safety (CHS and OHS) issues relevant to a project of this nature.

1.2.1.2 Waste Management Plan

The Waste Management Plan (WMP) describes the procedures, systems, equipment, and structures specific to waste management and disposal. Waste generation at source will be limited in order to make waste disposal more manageable. The WMP also defines who is responsible for developing and implementing the plan, and what records and reporting will be required.

1.2.1.3 Emergency Response Plan

The Emergency Response Plan (ERP) provides employees and managers with specific instructions that will allow them to respond quickly and efficiently to any foreseeable emergencies likely to occur during the Project. It is developed using recognized and accepted methods and practices, and includes specific responses, protocols, and management contacts. The ERP essentially has the goal of protecting people, the environment and property. This document deals with typical emergency types that characterize a project of this nature including:

- fire or explosion;
- pollution or chemical spills;
- flooding, rain storm (natural disaster);
- medical health cases, and
- civil unrest & disturbances.

1.2.1.4 Public Consultation and Disclosure Plan

The Public Consultation and Disclosure Plan (PCDP) is intended to define objectives and establish the framework necessary to provide understandable information to all parties
involved. This plan will be implemented to ensure timely and effective communication between the project’s management and the affected stakeholders. The main objective of the PCDP is to establish a program for multi-directional communication between the implementing agents (MoTA) and stakeholders.

1.2.1.5 Post-Construction Closure

The primary objective of post construction closure is to ensure the environmental and community health and safety of an area once construction activities have ceased. The construction contractor will be required to provide a plan for closure of all construction sites which will ensure that all construction materials, waste, equipment, etc. are cleared away, all borrow sites and waste disposal sites closed, and the project areas rendered safe for public use.

1.2.1.6 Environmental Monitoring Plan

The Environmental Monitoring Plan (EMP) outlines a comprehensive monitoring plan.

1.3 Responsibility for Implementation of the Management Plan

The overall responsibility for the implementation and monitoring of Environmental and Social Management systems during the construction phase of this project lies with the Ministry of Transport and Aviation. The day to day implementation of various aspects of the plans will lie mostly with the construction contractor, supervised by the Project Implementation Unit.

During the operations phase of the project, EHS management and oversight will be the joint responsibility of the MoTA (roads and traffic management features, etc) and the Freetown City Council (new market and car park facilities).

During both phases of the project, it is important to delegate all EHS issues to a qualified person who will be responsible for ensuring not only adherence, but motivating the workers to actively engage in their work in a safe manner. Assigning an EHS Officer marks the first step to managing risks inherent with the project and creates a mechanism by which project management can monitor the success or effectiveness of the ESMP.
2 ENVIRONMENTAL HEALTH AND SAFETY PLAN

2.1 Introduction

The Environmental Health and Safety Plan identifies the principles, approach, procedures and methods that shall be used to control and minimize all environmental health and safety impacts associated with project activities. It is intended to complement the Environmental Social and Health Impact Assessment (ESHIA) and is tailored to the hazards and risks established for a construction-type project. It is developed on the basis of the results of the environmental and social assessment in which site-specific variables, such as host communities, construction worker safety and other factors, are taken into account.

2.2 Environmental Management

In the context of a project, environmental management is concerned with implementation of the measures necessary to minimise or offset adverse impacts, as well as to enhance beneficial impacts. Unless the mitigation and benefit enhancement measures identified in the ESHIA are fully implemented, the prime function of ESHIA, which is to provide a basis for shaping the Project so that overall environmental performance is enhanced, cannot be achieved.

In order to be effective, environmental management must be fully integrated with the overall Project management effort at all levels, which itself should be aimed at providing a high level of quality control, leading to a Project which has been properly designed and constructed and functions efficiently throughout its life.

2.2.1 Environmental Management during Construction

Most of the Project environmental management activities will be carried out during construction activities, since this is when most impacts can be expected to arise. Management will very largely be concerned with controlling impacts which may result from the actions of the contractor. In this respect, it is important to recognize that successful mitigation of construction impacts can only be achieved if the environmental protection measures, as set out in the construction contract, are properly enforced.

The environmental objectives of the contractor’s EHS Plan to be submitted by the contractor include:

- Minimising incidences of environmental degradation that may result from Project activities, and
- Optimising environmental benefits which may result from the project.

The International Finance Corporation (IFC) provides guidelines for construction related activities in relation to specific environmental aspects including:

- noise and vibration
2.2.1.1 Noise and Vibration

During construction activities, noise and vibration may be caused by the operation of pile drivers, earth moving and excavation equipment, concrete mixers, cranes and the transportation of equipment, materials and people. Some recommended noise reduction and control strategies to consider in areas close to community areas include:

- Planning activities in consultation with local communities so that activities with the greatest potential to generate noise are planned during periods of the day that will result in least disturbance
- Using noise control devices, such as temporary noise barriers and deflectors for impact and blasting activities, and exhaust muffling devices for combustion engines.
- Avoiding or minimizing project transportation through community areas

2.2.1.2 Air Quality

Construction activities may generate emission of fugitive dust caused by a combination of on-site excavation and movement of earth materials, contact of construction machinery with bare soil, and exposure of bare soil and soil piles to wind. A secondary source of emissions may include exhaust from diesel engines of earth moving equipment, as well as from open burning of solid waste on-site. Techniques to consider for the reduction and control of air emissions from construction sites include:

- Minimizing dust from material handling sources, such as conveyors and bins, by using covers and/or control equipment (water suppression, bag house, or cyclone)
- Minimizing dust from open area sources, including storage piles, by using control measures such as installing enclosures and covers, and increasing the moisture content
- Dust suppression techniques should be implemented, such as applying water or non-toxic chemicals to minimize dust from vehicle movements
- Selectively removing potential hazardous air pollutants, such as asbestos, from existing infrastructure prior to demolition
- Avoiding open burning of solid

2.2.1.3 Soil Erosion

Soil erosion may be caused by exposure of soil surfaces to rain and wind during site clearing, earth moving, and excavation activities. The mobilization and transport of soil particles may, in turn, result in sedimentation of surface drainage networks, which may result in impacts to the quality of natural water systems and ultimately the biological systems that use these waters. Recommended soil erosion and water system management approaches include:
Sediment mobilization and transport

Reducing or preventing erosion by:

- Scheduling to avoid heavy rainfall periods (i.e., during the dry season) to the extent practical
- Contouring and minimizing length and steepness of slopes
- Mulching to stabilize exposed areas
- Re-vegetating areas promptly
- Designing channels and ditches for post-construction flows
- Lining steep channel and slopes (e.g., use jute matting)
- Reducing or preventing off-site sediment transport through use of settlement ponds, silt fences, and water treatment, and modifying or suspending activities during extreme rainfall and high winds to the extent practical

Road design

- Limiting access road gradients to reduce runoff-induced erosion
- Providing adequate road drainage based on road width, surface material, compaction, and maintenance

Structural (slope) stability

- Providing effective short term measures for slope stabilization, sediment control and subsidence control until long term measures for the operational phase can be implemented
- Providing adequate drainage systems to minimize and control infiltration

2.3 Occupational Health and Safety Aspects

All construction contractors on the project are expected to be able to demonstrate occupational health and safety (OHS) commitment at all times.

The construction contractor will be required to submit a “Safety Management Plan” which will document the systems and processes that will be implemented during this phase to ensure the safety of all construction workers. The contractor will be required to submit an OHS plan, the objectives of which will include:

- To protect workers from health and safety hazards or risks in as far as is practicable, through the design of safe work systems, implementing relevant engineering controls, and where needed, administrative control measures. These may include, but not limited to, job rotation, training in safe work procedures, workplace monitoring, limiting exposure or work duration etc.;
• To prevent or reduce to a reasonable minimum, the incidence and severity of injury and spillages arising from working in or with hazardous substances;

• To assist and facilitate the improved management of health and safety issues on site, in a bid to enhance the protection of the general public and the environment.

The plan will include but not be limited to the following issues:

• safe work method statements
• safety responsibilities
• risk management
• safety and environment inspection of construction site and reporting
• emergency response procedures
• accident and incident reporting
• handling and disposal of hazardous substances
• working at heights,
• working in confined spaces
• working near or in deep waters
• personal protective equipment
• training
• monitoring

2.3.1 Occupational Health and Safety Management during Construction

The management of OHS aspects during construction will be similar to the management of environmental issues. The construction contractor will be required to develop and implement an OHS plan, which will be approved and monitored for implementation by the Project Engineer throughout the construction phase.

The contractor shall comply with safety rules and regulations in accordance with international safety standards such as Occupational Health and Safety Administration (OHSA) and the provisions of the International Occupational Safety and Health (IOSH) regulations:

• Prior to the start of construction, the Contractor shall appoint a Health and Safety Officer for the duration of the Works. The Contractor shall prepare a health and safety plan in line with the project ESMP covering all aspects of the Works. This plan includes co-ordinated emergency response procedures. The Contractor shall identify, as part of the plan, all potential risks and hazards, and his proposed procedure for dealing with them should they arise during construction.

• The Contractor is required during the design process to consider the hazards and risks that may arise during construction and operation of roads and facilities, and design
accompanying to avoid risks to health and safety as far as is reasonably practicable. If avoidance of risk is not possible, the Contractor shall reduce the risks at source.

- The contractor shall ensure that his on-site work force is fully equipped with the required safety gears. The following PPE requirements shall be complied with: Hard hat, reflective vest (except when operating rotating tools), safety boots/shoes, and Life jackets when working over or near water.

- The contractor shall promptly correct any unsafe conditions brought to his attention. In the event of an accident, the contractor shall provide a written report of all pertinent details of the accident within twenty-four (24) hours of its occurrence to Project Management. This report shall include recommended actions to prevent future occurrence.

- The Contractor shall provide, on the Site, adequate first aid equipment and facilities and ensure that qualified first aid personnel are in attendance at all times when operations are taking place on Site.

- The Contractor and Subcontractors shall attend monthly Site Safety Meetings.

- The contractor shall provide protection and storage for his equipment, general property, vehicles and personnel during all phases of the work.

- The contractor shall be responsible for his sub-contractors’ compliance with safety regulations.

- The Contractor shall ensure that all personnel receive appropriate training by way of daily tool-box talks and the like, such that they understand the risks involved in the works being undertaken, the safe use of tools and equipment, and the importance of personal protective equipment (PPE).

- The Contractor shall take all reasonable precautions to prevent outbreaks of fire especially with respect to the safe and secure storage of petroleum products, paints, explosives and all other dangerous or hazardous goods. This shall include the preparation of a fire hazard risk assessment. The Contractor shall provide and maintain in good order and hold available at all times and in all places connected with the Works a sufficiency of appropriate efficient firefighting equipment together with personnel trained to its use.

- The Contractor shall ensure that all necessary precautions are taken to protect public property and users. The Contractor shall provide and erect such supports as may be required to protect efficiently, to the satisfaction of the responsible authority, all existing elements, structures, services or facilities which may be endangered by the execution of the Works, and he shall remove such supports on completion of the Works or otherwise take such permanent measures as may be required to protect the structures or works.

- The Contractor will specify which regulations/guidance will be applied in the safety plan.
IFC provides guidelines on OHS during construction related activities including the following:

2.3.1.1 Over-Exertion

Over-exertion, and ergonomic injuries and illnesses, such as repetitive motion, over-exertion, and manual handling, are among the most common causes of injuries in construction sites.

Recommendations for their prevention and control include:

- Training of workers in lifting and materials handling techniques, including the placement of weight limits above which mechanical assists or two-person lifts are necessary
- Planning work site layout to minimize the need for manual transfer of heavy loads
- Selecting tools and designing work stations that reduce force requirements and holding times, and which promote improved postures, including, where applicable, user adjustable work stations
- Implementing administrative controls into work processes, such as job rotations and rest or stretch breaks.

2.3.1.2 Slips and Falls

Slips and falls are associated with poor housekeeping, such as excessive waste debris, loose construction materials, liquid spills, and uncontrolled use of electrical cords and ropes on the ground, are also among the most frequent causes of lost time accidents at construction sites.

Recommended methods for the prevention of slips and falls from, or on, the same elevation include:

- Implementing good house-keeping practices, such as the sorting and placing loose construction materials or debris in established areas away from foot paths
- Cleaning up excessive waste debris and liquid spills regularly
- Locating electrical cords and ropes in common areas
- Use of slip retardant footwear

2.3.1.3 Working at Heights

Falls from elevation associated with working with ladders, scaffolding, and partially built or demolished structures are among the most common cause of fatal or permanent disabling injury at construction sites.

If fall hazards exist, a fall protection plan should be in place which includes one or more of the following aspects, depending on the nature of the fall hazard:

- Training and use of temporary fall prevention devices, such as rails or other barriers able to support a weight of 200 pounds, when working at heights equal or greater than two meters or at any height if the risk includes falling into operating machinery, into
water or other liquid, into hazardous substances, or through an opening in a work surface

- Training and use of personal fall arrest systems, such as full body harnesses and energy absorbing lanyards able to support 5000 pounds, as well as fall rescue procedures to deal with workers whose fall has been successfully arrested. The tie-in point of the fall arresting system should also be able to support 5000 pounds
- Use of control zones and safety monitoring systems to warn workers of their proximity to fall hazard zones, as well as securing, marking, and labelling covers for openings in floors, roofs, or walking surfaces.

2.3.1.4 Being Struck by Objects

Construction activities may pose significant hazards related to the potential fall of materials or tools, as well as ejection of solid particles from abrasive or other types of power tools which can result in injury to the head, eyes, and extremities. Techniques for the prevention and control of these hazards include:

- Using a designated and restricted waste drop or discharge zones, and/or a chute for safe movement of wastes from upper to lower levels
- Conducting sawing, cutting, grinding, sanding, chipping or chiseling with proper guards and anchoring as applicable
- Maintaining clear traffic ways to avoid driving of heavy equipment over loose scrap
- Use of temporary fall protection measures in scaffolds and out edges of elevated work surfaces, such as hand rails and toe boards to prevent materials from being dislodged
- Wearing appropriate PPE, such as safety glasses with side shields, face shields, hard hats, and safety shoes

2.3.1.5 Moving Machinery

Vehicle traffic and use of lifting equipment in the movement of machinery and materials on a construction site may pose temporary hazards, such as physical contact, spills, dust, emissions, and noise. Heavy equipment operators have limited fields of view close to their equipment and may not see pedestrians close to the vehicle. Centre-articulated vehicles create a significant impact or crush hazard zone on the outboard side of a turn while moving.

Techniques for the prevention and control of these impacts include:

- Planning and segregating the location of vehicle traffic, machine operation, and walking areas, and controlling vehicle traffic through the use of one-way traffic routes, establishment of speed limits, and on-site trained flag-people wearing high-visibility vests or outer clothing covering to direct traffic
- Ensuring the visibility of personnel through their use of high visibility vests when working in or walking through heavy equipment operating areas, and training of
workers to verify eye contact with equipment operators before approaching the operating vehicle

- Ensuring moving equipment is outfitted with audible back-up alarms
- Using inspected and well-maintained lifting devices that are appropriate for the load, such as cranes, and securing loads when lifting them to higher job-site elevations.

2.3.1.6 Dust

- Dust suppression techniques should be implemented, such as applying water or non-toxic chemicals to minimize dust from vehicle movements
- PPE, such as dusk masks, should be used where dust levels are excessive

2.4 Community Health and Safety

During the implementation of construction activities, community health and safety issues will need to be taken into consideration. The construction contractor will need to submit a CHS plan consisting of a management strategy to maximise benefits and minimise adverse impacts on the local communities.

The key objectives of this plan is to identify appropriate mitigation measures to address socio-economic issues and impacts identified in the ESHIA.

The proposed construction activities may result in several community health and safety issues as is outlined in the ESHIA including:

- Use of construction machinery and establishment of active construction sites in project area communities posing safety risks to residents;
- Dust generation from construction activities (excavation, digging, demolition, etc) which will pose a threat to the health of the community members;
- Influx of construction workers could result in the spread of diseases, including Sexually Transmitted Diseases (STDs) and HIV/AIDS;
- Influx of the people into the affected communities may encroach on the limited social facilities e.g. toilets, standpipes, etc.
- Increased noise levels due to the increased movement of construction trucks, machinery and equipment in communities.

IFC provides guidelines on CHS during construction related activities including the following:

2.4.1 General Site Hazards

Projects should implement risk management strategies to protect the community from physical, chemical, or other hazards associated with sites under construction. Risks may arise from inadvertent or intentional trespassing, including potential contact with hazardous
materials, contaminated soils and other environmental media, buildings that are vacant or under construction, or excavations and structures which may pose falling and entrapment hazards. Risk management strategies may include:

- Restricting access to the site, through a combination of institutional and administrative controls, with a focus on high risk structures or areas depending on site-specific situations, including fencing, signage, and communication of risks to the local community
- Removing hazardous conditions on construction sites that cannot be controlled effectively with site access restrictions, such as covering openings to small confined spaces, ensuring means of escape for larger openings such as trenches or excavations, or locked storage of hazardous materials

2.4.2 Traffic Safety

Construction activities may result in a significant increase in movement of heavy vehicles for the transport of construction materials and equipment increasing the risk of traffic-related accidents and injuries to workers and local communities. The incidence of road accidents involving project vehicles during construction should be minimized through a combination of education and awareness-raising.

2.5 Gender Based Violence

Projects involving major civil works often require a labour force and associated goods and services that cannot be fully met by local supply. Where this occurs, a labour force may be brought in from outside of the project area which may increase risks of GBV.

Women are increasingly filling roles in construction projects, which may lead to increased economic empowerment and participation in decision-making roles. However, women stepping into traditionally male-dominated roles can initially experience some tension and occasionally violence from their male colleagues. Hence, it is essential that policies and procedures for the prevention of and response to GBV and gender discrimination are enshrined in the workplace.

Construction and infrastructure projects can impact regarding this topic in two primary capacities:

- In the workplace (among project implementers, e.g., male and female construction workers/employees)
- Between the implementers and the local community (e.g., male construction workers and local women and children).

Construction projects can also have unintended negative consequences due to influx of transient populations into a community or because the imbalance of power between local workers and the rest of the community (for instance having more purchasing power). Cases
from other countries have shown that GBV issues generally related to projects of this nature include:

- Domestic violence (men beat their wives because of perceived relationships with workers)
- Sexual Exploitation and Abuse
- Sexual harassment in the workplace

As such, it is important to consider how the population of workers on construction projects will affect local communities. Construction Contractors are encouraged to employ local labour to limit an influx of outsiders into the project community, which can have an impact on reducing risks.

GBV prevention can be incorporated into the project in various ways, before and during construction.

- Planning/Design Phase –
  - During the design phase, it is critical to focus on the different needs of different users for the infrastructure design. In addition to seeking input from local community leaders and politicians, specific focus groups and interviews should be established for women and other users whose voices might be overlooked. The objective of these focus groups and interviews is to identify safety issues women, and groups in a situation of vulnerability encounter when using transportation such as sexual harassment. This has already been done, through the social impact assessment and focus group discussions conducted during the ESHIA.
  - Make provision for GBV considerations in the design of project interventions (roadworks, market, vehicle terminal, etc.). Studies and good international practices have shown that women are most vulnerable to GBV in poorly lit spaces such as dark roads, poorly lit toilet facilities, etc.
  - During the relocation exercise of PAPs identified to be affected by the construction and rehabilitation works, transportation and manpower assistance will be made available for vulnerable groups. Additional assistance will be required for women during the relocation exercise, particularly in activities like dismantling of their structures and transporting them. Separate days may be set for movement of women and children from those for men. Safety at the site has been a source of concern for women and vulnerable groups. This has been carefully considered in the design. The project area will be fenced and security personnel employed. The services of the Police will also be secured for policing the entire area on a sustained basis, with more resources deployed at night.

Women usually need social protection intervention with high wage coupled with community dialogue and training on gender social norms, thus they would be included in micro-finance
programmes that will enable them to be recipients and managers of funds. Women, girls, and children would be involved in health and educational programmes as well as awareness raising programmes. The educational programmes would help to raise the knowledge level of women and increase their empowerment within the household and their communities.

- Construction/Implementation Phase – the following measures to prevent GBV in the workplace need to be implemented.
  - Prevention of sexual harassment by requiring the construction contractor to provide policies and procedures which workers will adhere to, to counter sexual harassment in the workplace and within the project site host community. Sexual harassment policy requirements will be written into the construction contractor’s contract document.
  - Promote female-friendly hiring and work practices such as daylight working hours.
  - Ensure that there are separate toilet and changing facilities for female and male workers. Construction sites are often male-dominated and may not include any toilet facilities. Female workers are made vulnerable when they have to go off into the community to find toilet facilities.
  - Set up an appropriate reporting and response mechanism for handling GBV issues that may arise within the workplace and from the community, relating to project workers.
  - Create and implement GBV community awareness raising and sensitization programmes through leaflets, radio jingles, community meetings, etc.

2.5.1 Protocols for GBV

Protocols for Gender-Based Violence (GBV) and Sexual Exploitation or Abuse (SEA) cases are considered in the project’s Grievance Redress Mechanism (contained in the RAP). Since GBV cases are very sensitive, the matter of who handles them should be paramount and discreet. There will different entry points to which the survivors can direct their complaints and be referred to the GBV service provider. To avoid stigmatization, rejection and reprisals against survivors of GBV, NGOs will be identified to coordinate GBV issues. It is not uncommon that stigmatization can encourage the culture of silence in survivors and therefore inhibit them from facing the entry-points set up for complaints.

In the handling of such matters the following should be considered:

- If a case is received by the identified entry points or the GRM, they shouldn’t register any personal detail of the survivor that can compromise his/her anonymity or the case details and should refer the survivor to the service provider for proper care. The GRM will only register the nature of the complaint and the extent to which the survivor knows if the perpetrator was project related.
• The survivor is expected to take an informed decision on the matter of being referred to any service, including the Family Support Unit (FSU) of the Police to place a report. The responsibility of the entry-points is to refer the survivor to the appropriate service provider and ultimately to the GRM if the survivor has agreed to do so for registration.

Prior arrangements will be made with the FSU and the nominated NGOs for such issues. Guidelines will be drawn up and communicated to PAPs in meetings and pictorially for ease of understanding. Additional provisions will be implemented to provide different options for GBV survivors apart from the GRM.

Serious matters that may not get resolved will be taken up with the formal GRM structure, but care should be taken to ensure anonymity, safety and non-discrimination are assured.

More details on the functioning of the GRM regarding GBV and the protocols for GBV complaints will be contained in the Operations Manual and the NGO will support the Implementing Agency in the design.

2.5.2 GBV Action Plan

For the project’s GBV risk to be properly addressed, it is necessary to determine how the project will put in place the necessary protocols and mechanism to address the GBV risks and how to address any GBV incident that may arise. The project will be required to develop a GBV action Plan, which will include specific arrangements for the project to address GBV risks; it should include the following:

1. Awareness Raising Strategy, which describes how workers and local communities will be sensitized to GBV risks and the responsibilities of the workers under the Code of Conduct (CoC).

2. GBV Service Providers identified to which GBV survivors will be referred and the services which will be made available (see a list of service providers in the Annex 1)

3. GBV Allegation Procedures to report GBV issues to service providers, and internally for case accountability procedures which should clearly lay out confidentiality requirements for dealing with cases.

4. Response Framework which has: a) Mechanisms to hold accountable alleged perpetrators associated to the project; b) the GRM process for capturing disclosure of GBV, and; c) a referral pathway to refer survivors to appropriate support services

The contractor should provide

The Ministry of Transport and Aviation will either create a position within the Ministry to handle issues of GBV with well-defined responsibilities, or train someone on the project Management team to handle GBV issues. The same applies to the supervision consultant team. The person should be trained and become knowledgeable about GBV issues and should also be able to identify/handle such cases if the need arises.
2.5.2.1 Contractor’s ESMP

The C-ESMP should include:

- GBV Action Plan with specific arrangements for the project by which GBV risks will be addressed. This includes considerations such as:
  - Awareness Raising Strategy, which describes how workers and local communities will be sensitized to GBV risks, and the worker’s responsibilities under the CoC;
  - GBV Services Providers to which GBV survivors will be referred, and the services which will be available; and,
  - GBV Allegation Procedures: How the project will provide information to employees and the community on how to report cases of GBV CoC breaches to the GRM.

- The Accountability and Response Framework, to be finalized with input from the contractor, should include at minimum:
  - GBV Allegation Procedures to report GBV issues to service providers, and internally for case accountability procedures which should clearly lay out confidentiality requirements for dealing with cases; and,
  - Response Framework that should include:
    i. Mechanisms to hold accountable alleged perpetrators associated to the project; outlining the disciplinary action for violation of the CoC by workers. It is essential that such actions be determined and carried out consistently with local labor legislation and applicable industrial agreements. It is important to note that, for each case, disciplinary sanctions are intended to be part of a process that is entirely internal to the employer, is placed under the full control and responsibility of its managers and is conducted in accordance with the applicable national labor legislation and the individual worker’s employment contract.
    ii. The GRM process for capturing disclosure of GBV; and,
    iii. A referral pathway to refer survivors to appropriate support services.

- Code of Conduct: The agreed CoC to address behavior which will be used on the project for the contractor’s workers, including sub-contractors and suppliers;

- Training Plan for workers on GBV that should include:
  - What GBV, particularly SEA and SH, is and how the project can exacerbate GBV risks;
  - Roles and responsibilities of actors involved in the project (the standards of conduct for project-related staff captured in CoCs);
o GBV incident reporting mechanism, accountability structures, and referral procedures within agencies and for community members to report cases related to project staff;
o Services available for survivors of GBV; and,
o Follow-up activities to reinforce training content.

- Community Consultation Plan: The strategy by which—in consultation with the IA—the local communities in the project’s adjoining communities will be advised on the project activities, how to make complaints, as well as GBV support services; and,

- Labor Influx Management Plan: Should the project involve the influx of labor, how this influx will be managed—particularly to address GBV risks.

To ensure that the GBV risks are managed, it is important that:

- The C-ESMP should provide a detailed explanation of how the contractor will comply with the project’s safeguard requirements (embodied in this document) and demonstrate that sufficient funds are budgeted for that purpose.

- The contractor not carry out any works, including mobilization and/or pre-construction activities (e.g., limited clearance for haul roads, site accesses and work site establishment, geotechnical investigations or investigations to select ancillary features such as quarries and borrow pits), unless the Supervision consultant is satisfied that appropriate measures are in place to address GBV risks and impacts through the C-ESMP.

- Public consultations be held on the C-ESMP, with the active participation of the contractor and the supervision consultant’s safeguard specialist. These consultations must be well documented and include separate consultations with women and girls.

- The World Bank’s safeguard and technical specialists will review the C-ESMP and provide the Bank’s technical ‘no objection’ to it being used.

The approved C-ESMP be reviewed periodically (typically not less than every six months), and updated in a timely manner, as required, by the contractor so that it contains measures appropriate to the works activities to be undertaken. The updated C-ESMP is subject to prior approval by the Supervision consultant.

The C-ESMP must include specific mitigation measures based on this document, the final project design, the proposed construction method statements, the nature of the project site, etc. The C-ESMP should include specific management plans addressing the various risks of the project. GBV as part of the overall ‘Social Management Plan’.

2.6 Effective Organisation and Management Responsibilities

The primary responsibility for construction supervision and contract management, including environmental, occupational and community health and safety management during
construction, will lie with the SLIRUMP Project Engineer as defined in the construction contract.

Responsibilities for the management of EHS during all phases of the Project are outlined in the following sections.

2.6.1 Project Engineer

The Project Engineer will be responsible for establishing procedures and mechanisms for effective environmental, occupational and community health and safety management and monitoring. The Project Engineer will ensure that these are fully incorporated in, and integrated with, the overall construction supervision and monitoring framework.

The Project Engineer will have executive responsibility for ensuring that all management and monitoring aspects are dealt with promptly and properly.

Specific responsibilities include but are not limited to the following:

- The development and implementation of appropriate environmental, occupational and community health and safety risk control and management measures;
- Overall enforcement of an appropriate safety culture and practices;
- Maintenance of health and safety records and statistics;
- Ensuring that accreditation and licensing requirements are regularly checked;
- Where necessary implement any corrective action that may be required to continually improve management systems and
- Provision of advice and support on all matters relating to the project.

Particular attention will be paid to establishing procedures whereby emergency action can be taken by project management in the event of the Contractor acting in a manner which may cause immediate and significant environmental damage (for example problems associated with interruptions to water supply, or contamination of land, groundwater or surface water through inappropriate handling of contaminating substances). Appropriate health and safety emergency preparedness and response will also be addressed in the relevant plans.

2.6.2 EHS Officer

It is recommended that an Environmental, Health and Safety (EHS) officer be appointed to specifically oversee the project. The EHS officer shall be a member of the construction supervision team, and would be the appointed individual responsible for ensuring that EHS measures are implemented during Project implementation.

Specific responsibilities include but are not limited to the following:

- Conducting regular inspections and ensuring that EHS meetings and training are provided to workers;
- Review EHS policies and plans as required and ensure compliance
• Provide advice and assistance to the Project Engineer on all aspects related to environmental, occupational and community health and safety management.

• Take action to immediately rectify any unsafe situations or acts, and undertake appropriate disciplinary action against persons who fail to comply with reasonable expectations;

• Maintain records on incidents;

• Maintain an inventory of safety equipment and supplies;

• Arrange for the replacement of used or obsolete safety supplies and equipment;

• Ensure that adequate environmental controls are in place, as well as oversee cleaning up and remediating spills, and

• Report on environmental monitoring.

2.7 Training and Communication

The contractor will be responsible for ensuring that arrangements are made to ensure all construction workers are suitably aware of EHS matters in carrying out their various activities. These arrangements will include providing training and experience in safe working behaviour, risk assessment, safety and environmental procedures and methods, and use of work equipment.

Continuous training and communication will also be undertaken to ensure that all contractor employees are fully informed of community health and safety management requirements.

Effective communication systems are critical to minimizing risks and taking a proactive lead in the event of an emergency. Communication systems will include information on the site’s safety plan, feedback on performance and actions taken, learning points to prevent injuries, etc.

As for GBV, awareness raising efforts will be take in collaboration with NGOs experts on GBV and community organizations working on women’s and girls. Awareness shall focus on the GBV risks of the projects and the measures that the project has put into place to mitigate and respond to those risks, including information on the different entry points to place reports as a survivor.

2.8 Monitoring

The contractor will be monitored by the Project Engineer and the EHS Officer who will develop and implement an auditing program to monitor, evaluate and report on environmental, operational and community health and safety performance and compliance.
3 WASTE MANAGEMENT PLAN

3.1 Introduction

The Waste Management Plan (WMP) is an essential component of the ESHIA and is designed to ensure the control and minimisation of potential sources of waste during construction.

The WMP describes the proposed measures to be used to protect affected environmental and social receptors from adverse impacts associated with the generation of Project waste. The WMP considers:

- Proposed handling, storage and disposal methods, and
- Equipment and staff.

3.2 Objectives of the Waste Management Plan

The objectives of the WMP are to:

- Identify all potential sources of waste;
- Generate the least possible amount of waste through reduction, reuse and recycling practices, and review / approve all orders for materials, chemicals, and supplies to limit the environmental impact thereof;
- Protect the health and safety of workers and communities;
- Avoid or mitigate any potential negative impacts on all elements of the environment – including, but not limited to, people, flora, fauna, air, soils, surface and groundwater resources;
- Monitor waste generation, handling and disposal to assess whether waste management is being carried out as per the WMP and its associated directives;
- Avoid costly clean-up through prevention, and
- Ensure a logical and efficient plan for waste collection, sorting and disposal that reduces the number of times the waste is handled.

3.3 Waste Identification and Management

The following handling procedures, developed based on IFC’s guidelines for Waste Management Facilities (2007), will be adopted as part of the Project’s waste management program. Waste collection, handling, and transport guidelines include the development of a routine schedule for waste collection and disposal and provision of appropriate and labelled waste disposal containers at generation sources, among other measures.
Odours and the loss of wastes will be monitored, evaluated, and reduced at all waste loading and unloading facilities. Fugitive refuse (for example, plastic bags and paper) around the waste facility will be picked up, disposed of in the waste facility, and properly covered.

Waste streams likely to be generated include the following:

- construction wastes;
- earthworks waste (spoils);
- domestic wastes;
- hazardous wastes;
- wastewater.

Management of each waste stream is discussed in the following sections of this plan.

### 3.3.1 Construction Wastes

Construction wastes include unwanted materials produced as a result of construction activities. This category of waste could include materials such as:

- concrete;
- wood;
- packaging (cement bags, plastic, cardboard);
- waste steel;
- nails.

Handling these wastes will start at the pre-construction stage where bills of materials quantities will be calculated. Calculations will be done in such a way as to limit the generation of scrap or unwanted materials.

Material re-use will also be enforced where possible to ensure that maximum use of available materials is made and limit as best as possible the materials which would have to be disposed of.

Segregation of wastes at source will be enforced through the provision of labelled waste bins, which will be stationed around active construction areas. These waste bins will be specifically for the disposal of solid, non-hazardous construction wastes.

### 3.3.2 Earthworks Waste (Spoils)

Spoils are unwanted and unusable rock or soil materials generated from earthworks. Spoils management will include the following options:

- Minimisation of spoils generation through design and management;
- Reuse of spoils within the Project where practicable;
• Beneficial reuse of spoils outside the Project for environmental and community works;
• Backfilling of any borrow pits with spoils materials, and
• Disposal of spoils outside the Project for non-beneficial uses (landfilling).

Spoils generated will be temporarily stored at identified spoil sites until a decision of the final method of re-use or disposal is decided on. Spoils will not be stored in areas that are sloping or where surface runoff can easily wash away the materials.

3.3.3 Domestic Wastes
A variety of domestic waste materials will be generated during the Project which may include, but not be limited to the following:
• aluminium, glass, plastic, paper, cardboard etc;
• food and food packaging;
• old tyres, hoses and rubber, and
• fabrics and other domestic type wastes.

Domestic wastes during construction and operations will be collected in waste bins specifically assigned to this type of waste. Biodegradable waste such as food and kitchen waste will be disposed in separate bins from non-biodegradable waste including plastics, glass, rubber etc. All bins will be appropriately labelled for ease of disposal.

Workers will be required to consider re-use of materials where possible e.g. re-use of plastics, fabrics, tyres, etc.

Labelled waste bins will be installed in proximity to the work areas for the disposal of domestic waste.

3.3.4 Hazardous Wastes
Hazardous wastes are materials considered reactive, flammable, radioactive, corrosive and/or toxic. The use of these materials will be limited to the extent possible. If use of these materials is unavoidable, procedures will be established for documentation and labelling as well as the safe storage, handling, and disposal of these materials.

Hazardous wastes that may be generated include the following:
• batteries;
• aerosol cans;
• excess paints, thinners, solvents;
• used oil, as well as oil / petroleum-contaminated soils;
• medical wastes (first aid).
Hazardous wastes will be disposed of in the assigned hazardous waste bins / drums. Hazardous wastes will be packaged and labelled so that the appropriate final disposal method can be applied.

### 3.3.5 Used / Waste Oils and Hydrocarbon Contaminated Soils

Construction activities may pose the potential for release of petroleum based products, such as lubricants, hydraulic fluids, or fuels during their storage, transfer, or use in equipment. The IFC guidelines include techniques for prevention, minimization, and control of these impacts as follows:

- Providing adequate secondary containment for fuel storage tanks and for the temporary storage of other fluids such as lubricating oils and hydraulic fluids,
- Using impervious surfaces for refuelling and other fluid transfer areas
- Training workers on the correct transfer and handling of fuels and the response to spills
- Providing portable spill containment and cleanup equipment on site and training in the equipment deployment

Used oil from vehicles and machinery will be generated during their maintenance. Used oils will be collected and stored in containers which are not punctured and are properly secured to prevent accidental release into the environment and also prevent external materials (e.g. dust and water) from entering the oil.

Different kinds of used oils will be stored separately where necessary, to ensure that the best disposal option can be applied. Used oils may be sold or donated to companies who can use them in their processes in a responsible manner.

Soil contamination may occur and actions necessary to manage the risk from contaminated land will be taken depending on factors such as the level and location of contamination, the type and risks of the contaminated media. The IFC guidelines require that contaminated media is managed with the objective of protecting the safety and health of occupants of the site, the surrounding community, and the environment post construction. Soils contaminated with oil will be removed from the spill location, and bagged and labelled for disposal.

### 3.3.6 Wastewater

Wastewater will be produced through construction activities such as concrete wastewater (slurry). The construction contractor will be responsible for treating concrete wastewater if needed (i.e. settling of solids, neutralising high pH), before releasing the clean water into the environment.

### 3.4 Housekeeping

- All work areas are maintained in a tidy state, free of debris and rubbish;
• In cases where an inadequate standard of housekeeping has developed and compromised safety and cleanliness, the Environmental Officer shall notify the relevant site supervisor to halt work until the area has been tidied up and made safe;
• The EHS Officer shall carry out regular site inspections to ensure maintenance of satisfactory standards; and
• All workers shall be sensitized in waste management methods.

3.5 Waste Storage

All wastes will be stored in an environmentally responsible manner. At a minimum:

• Labels and signage to indicate any dangerous or hazardous wastes stored;
• Waste storage areas will be located away from sensitive environments, drains or waterways;
• Waste will be covered to prevent dust, odours or rainwater ingress wherever possible;
• Wastes will be segregated where possible to allow for reuse / salvage opportunities. Hazardous and domestic waste shall be kept separate at all times, and
• Bins and other receptacles will be located such that there is adequate access and manoeuvring area for collection vehicles.

3.6 Waste Transportation and Disposal

The following handling procedures, developed based on IFC EHS Guidelines for Waste Management Facilities (2007), will be adopted as part of the Project’s waste management program. Waste collection, handling, and transport guidelines include, but are not necessarily limited to, the following:

• A routine schedule will be established for domestic waste collection and disposal;
• Waste generators will be provided with appropriate waste disposal containers;
• Enclosed refuse vehicles or vehicles equipped with tarps will be used for the domestic waste collection;
• Waste handling will be minimized in as far practicable, and
• Waste containment will be maximized.

Odours and the loss of wastes will be monitored, evaluated, and reduced at all waste storage areas. Litter (for example, plastic bags and paper) will be picked up, disposed of in the waste bins, and properly covered.

Wastes which cannot be re-used, re-purposed or recycled will be collected for disposal by landfilling.
3.7 Organisational Responsibilities

3.7.1 Project Management

The Project Engineer and EHS Officer have the overall responsibility for ensuring the implementation of the WMP.

Provision will be made for waste disposal receptacles which will be labelled and/or colour coded to enable waste segregation at source. Waste collection for disposal will be organised or overseen by the EHS Officer.

Regular monitoring of the contractor’s compliance with the waste management system established will be monitored by the Project Engineer, including, compliance with waste segregation, housekeeping along the route and especially waste storage areas, etc.

3.7.1.1 Waste Facility Record Keeping

The EHS Officer will be responsible for maintaining records, including types and volumes of wastes generated by the Project activities.

3.7.2 Contractor Responsibility

The construction contractor is responsible for ensuring that all workers are aware of the waste management procedures contained in the WMP. The contractor will liaise with the Project Engineer and EHS Officer on whether there are any issues or challenges possibly preventing compliance with the plan e.g. unavailability of facilities (waste bins), irregular collection and disposal schedules, etc.

The construction contractor is responsible for providing training for workers in relation to waste management issues. Training will include but not be limited to:

- Waste segregation and its importance;
- Differences between wastes streams and an overview of incompatible wastes;
- Good housekeeping practices;
- Safe waste handling practices, and
- How to read and understand Safety and Data Sheets (SDS).

3.7.3 Construction Workers’ Responsibility

Construction workers at all levels will have varying degrees of responsibility in ensuring the success of proper waste management at construction sites. Workers have roles to play in one or more of the following aspects of waste management:

- Housekeeping - ensuring that the working environment is clean and tidy at all times
- Minimising the generation of wastes through conscious choices (e.g. use of mugs, glasses, etc in place of disposable plastic cups, plates, etc), reuse and/or recycling, responsible use of paper and other stationery, etc.

- Segregation of waste at source - disposing of wastes in the designated labelled bins, to make proper disposal easier.

- Conduct and participate in waste management trainings and meetings to create awareness on correct practices.
4  EMERGENCY RESPONSE PLAN (ERP)

Emergency situations may arise from various activities and conditions which may occur during Project implementation, which may include accidents, natural disaster, civil unrest etc. These could have potentially severe consequences for the Project if no ERPs have been put in place.

4.1 Introduction

The ERP is an essential component of the ESHMP for this Project.

Procedures outlined for incident response, emergency and crisis management, are designed to enable all relevant parties associated with the project to act quickly, decisively and cooperatively in any crisis or emergency situation. This ensures an appropriately measured level of response and recovery actions, depending on the nature, location and potential gravity of any given incident.

To be effective, the ERP will be clearly communicated to all contractors. The following processes will be applied to ensure its effectiveness:

- Review the ERP with the construction contractor and their employees, to ensure that it adequately covers their activities;
- Review the plan on a regular basis to address new hazards or significant changes in site conditions, and incorporate lessons learned from previous incidents and exercises;
- Post the procedure in a conspicuous location, easily accessible to workers;
- Ensure personnel are competent and understand their roles and responsibilities during an emergency response situation.

4.2 Hazard Identification

The ability to identify hazards will go a long way towards preventing the occurrence of emergency situations. Construction workers will be trained in hazard identification.

To identify and assess hazards, contractors should be able to:

- Collect and review information about the hazards present or likely to be present at project sites;
- Conduct initial and periodic workplace inspections to identify new or recurring hazards;
- Investigate injuries, illnesses, incidents, and close calls / near misses to determine the underlying hazards, their causes, and EHS program shortcomings;
- Determine the severity and likelihood of incidents that could result for each hazard identified, and use this information to prioritize corrective actions.
4.3 Incident Classification

Emergency Response Procedures will be managed and updated by the EHS officer. The procedures will be updated to reflect developments, discoveries or improve on inadequacies observed in the system, following an emergency situation.

Typical emergency types, severity and responses that characterize construction projects are highlighted below:

- **Level I - Minor Incident**
- **Level II - Moderate Incident**
- **Level III - Major Incident**

<table>
<thead>
<tr>
<th>Incident</th>
<th>Severity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Release of flammable or toxic substance into air, land or sea (petroleum products, chemicals)</td>
<td>Green</td>
</tr>
<tr>
<td>Fire or explosion</td>
<td>Red</td>
</tr>
<tr>
<td>Natural Disaster</td>
<td>Green</td>
</tr>
<tr>
<td>Road Accidents</td>
<td>Green</td>
</tr>
<tr>
<td>Falling from heights</td>
<td>Red</td>
</tr>
<tr>
<td>Drowning (at sea front project sites – jetties)</td>
<td>Red</td>
</tr>
<tr>
<td>Accidents – cuts and abrasions,</td>
<td>Yellow</td>
</tr>
<tr>
<td>Civil Unrest/Disturbances</td>
<td>Green</td>
</tr>
<tr>
<td>Medical Health Cases</td>
<td>Green</td>
</tr>
</tbody>
</table>

4.4 Emergency Response Procedures

The following steps apply to almost any emergency and should generally be followed in addressing an emergency:

- Stay calm - Your example can influence others, prevent panic and thereby aid the emergency response;
- Assess the situation - Determine what happened and what the immediate emergency is. Assess what has happened to whom and what will continue to happen if no action
is taken. Identify the cause that must be controlled in order to eliminate immediate, ongoing, or further danger;

- Take command – Using the established emergency communication protocol, contact the required person(s), internal or external depending on the crisis and protocol and explain the situation. Take any action that can be safely taken to eliminate or reduce the potential severity of the incident until professional help arrives;

- Provide protection - Protect victims, equipment, materials, environment, and accident scene from continuing damage or further hazards. Divert traffic, suppress fire, prevent objects from falling, shut down equipment or utilities, and take other necessary measures. Preserve the accident scene; only disturb what is essential to maintain life or relieve human suffering and prevent immediate or further losses;

- Aid and manage – Provide or arrange for the provision of first aid. Organize the workforce for both a headcount and emergency assignments. Direct all workers to a safe location or command post. This makes it easier to identify the missing, control panic, and assign people to emergency duties;

- Maintain contacts – Keep emergency services, project management and community authorities (if required) informed on the situation, and

- Guide emergency services – Meet services on site. Lead them to emergency scene. Explain ongoing and potential hazards and cause(s), if known.

### 4.4.1 Fuel / Oil Spillage

In the event that a spill or other release occurs, the following procedures would be followed:

- Avoid danger to yourself and others (i.e. stop working, shut off power sources and any moving machinery and equipment as before, alert others in the area of danger);

- Stay upwind of the emergency scene;

- Identify the product that has been spilled, as well as immediate potential hazards (such as possible contact of the spilled material with equipment or other chemicals, or entry into a waterway);

- If the identification of the substance cannot be determined, assistance should be requested, and the identification of the substance should be determined by qualified personnel;

- If possible to do safely, prevent spill from entering waterways / spread into the environment;

- Assess spill quantity and characteristics;

- Notify the EHS Officer / Project Engineer with as much information as possible, and

- Arrange for a timely clean-up of spilled material by contacting the EHS Officer.
4.4.2 Fire / Explosion

In the event of a fire or explosion, the following procedures shall be followed:

- Assess the location and severity of the situation;
- Extinguish the fire if it can be accomplished without being exposed to potential hazards;
- Restrict access to the area;
- Do not take health or safety risks by entering unstable or fire engulfed areas;
- Notify the EHS Officer, and

4.4.3 Natural Disaster (Land Slide, Flooding)

During a regional / national level natural disaster, information on the nature, scale, location or direction of the emergency will be obtained from national disaster management services either through public media or direct communication.

Emergency response teams under the supervision of the EHS Officer, will organise headcounts and evacuation as may be necessary.

4.4.4 Road Accidents

In the event of a road accident involving construction workers, the following procedures will be applied:

- EHS Officer will be contacted immediately with details of the location and nature of the incident;
- SL Police will be contacted immediately with details of the location and nature of the incident;
- The accident site will be cordoned off to keep the public at a safe distance from the scene and to allow easy access for first responders and emergency services;
- If it is safe to do so, victim(s) will be removed and placed in an area where they can receive first aid treatment and assessment. Victims should be moved as little as possible until the extent of their injuries is determined;
- Vehicles/machinery involved in the accident are not to be moved until the police arrive;
- Victims will be moved to a government hospital if required;
- If members of the public are involved in a project-related road accident, the injured person(s) will be assessed, administered with first aid and taken to the Government Hospital for treatment, depending on their injuries;
- Details of the accident including how it was caused, number of persons involved, police reports, etc will be recorded by the EHS Officer.
4.4.5 Falling from Heights

Falls from heights may occur where workers are involved in the construction of the new market and other project features involving working at heights. Where necessary, rescue from heights procedures will be followed to retrieve the person. Fall victims will be treated with first aid in the location of their fall until possible injuries are identified, and he/she can be safely moved to the Government Hospital for further treatment.

4.4.6 Minor accidents (scrapes, cuts, abrasions etc.)

Minor accidents will be treated through first aid. If a worker realises that he/she has been injured, no matter how insignificant they may perceive it to be, he/she should stop the job being carried out to seek first aid treatment.

Seemingly small injuries like cuts and abrasions may become worse if they are exposed to external elements such as dust, oils, fuel, heat, etc. and may become infected leading to bigger health problems.

First aid boxes will be provided in all work areas.

4.4.7 Medical Health Cases

First response medical attention to accidents or emergency health cases will be provided through first aid. Where advanced medical attention is required, the victim will be transferred to the Government Hospital for further treatment.

In the event of a medical emergency or fatality, the following procedures will be followed:

- The Project Engineer and EHS Officer will be informed of the incident resulting in the medical emergency;
- The location and severity of the situation will be assessed;
- Further health or safety risks like entering a dangerous or unstable area will be prevented;
- The victim will be accompanied by another worker to the Government Hospital to give pertinent information about the incident, and
- In the event of death, only a professional medical practitioner can confirm the death. Immediate notification of Project Management is required after the death of any worker from a project-related incident.

4.4.8 Civil Unrest and Disturbance

A Public Consultation and Disclosure Process has been developed that includes procedures for dissemination of information to the public and project stakeholders.

Despite this proactive approach, social unrest could occur for a number of reasons outside of the Project management’s control. Subversive activities by workers or non-workers could
develop and may result in violent or non-violent protests, attacks on Project personnel, property damage, etc.

The Project management is to be notified immediately by contractors of any social unrest that may present a threat to themselves and/or the project.

4.5 Emergency Resources

People, equipment, facilities, and materials are needed for emergency response; it is important to determine in advance where these resources will come from.

Resources such as fire extinguishers, spills containment equipment, and first aid kits must be maintained and clearly identified in each project area. Construction equipment may be included among potential emergency resources. Workers will also be made aware of their roles in emergency response situations.

4.6 Communication Systems

An important key to effective emergency response is a communications system that can relay accurate information quickly. To do this, reliable communications equipment must be used, appropriate procedures developed, and responsibilities properly defined.

4.6.1 Communications during an Emergency

In case of an emergency, immediate notification of appropriate individuals will be actioned. In the event that there is a need for the timely and rapid notification of local communities, the first-responder will immediately contact the EHS Officer who will immediately contact key members of project management. This will trigger the appropriate emergency notification system that will be developed.

The EHS Officer will prepare a list of emergency contact numbers within project management, within the community and nationally (e.g. fire force, SL Police, etc.) as may be appropriate. Workers and contractors will be made aware of the communication protocol in an emergency.

4.6.2 Communications with the Public

The EHS Officer will be responsible for all communications with the public. As required, meetings will be held to disseminate information related to project-related emergencies. The EHS Officer will coordinate with the Project Engineer on the incident and advise on what information should be released to the public, government officials and other interested parties.

In providing information to the public, the EHS Officer will provide information on the following:

- Description of the event;
• Identification of the population that might be affected;
• Description of any injuries and disposition of those involved in an accident;
• Identification of any existing hazards;
• Description of precautions taken to limit future risks;
• Identification of water source contaminated (if any);
• Description of mitigation measures that are proposed or have been taken to correct the problem, and
• Contact information.

4.7 Organization and Management Responsibilities

The EHS Officer will be responsible for ensuring that contractors and workers are aware of emergency response procedures. This will include ensuring that they are familiar with emergency equipment use and emergency response method (including fire-fighting, spill control and mitigation, first aid, and simple personnel rescue techniques).
5 PUBLIC CONSULTATION AND DISCLOSURE PLAN (PCDP)

A PCDP is designed to provide project area residents, project stakeholders and other interested parties with Project information and to allow those stakeholders to participate in the planning process. Stakeholder participation encourages sustainable growth by accounting for community needs as they relate to the proposed project.

A PCDP incorporates public meetings for stakeholders to air Project concerns, voice their opinions, make suggestions, meaningfully influence the process of Project development, and keep them (stakeholders) informed of current updates on Project information.

5.1 Objectives of PCDP

The objectives of a PCDP are:

- To disseminate relevant Project information to stakeholders / affected communities and to document any concerns / issues from such stakeholders;
- To improve communication between Ministry of Transport and Aviation and affected communities;
- To document public consultation events, and
- To disclose selected Project documents to affected communities / stakeholders.

The main objective of the PCDP is to establish a program for multi-directional communication between Project management and stakeholders.

5.2 Resources and Responsibilities

A Community Relations Officer (CRO) will be appointed who will be directly responsible for the public consultation and disclosure program. He/she will also be responsible for coordinating with the EHS Officer on all community relations, public consultation programs and dispute resolutions.

Other responsibilities and duties of the CRO may include the following:

- Identifying when meetings are necessary and scheduling them;
- Inviting specific individuals to meetings;
- Attending and documenting meetings;
- Directing any required follow up, and

Follow-up work on the above may include additional meetings, arranging for specialized consultants, or bringing specific issues to the attention of the Project Engineer and ensuring that appropriate action is taken.
5.2.1 Stakeholders
Public consultation and disclosure initiatives need to target all project stakeholders to keep them informed of Project plans and of any substantial changes that may be made.

5.2.2 Consultation and Disclosure Program
The consultation and disclosure program is aimed at informing the stakeholders of Project plans and activities in a manner that promotes open dialogue among all interested parties, but particularly those that are or will be affected by the Project. The program allows directly affected parties to have meaningful input in the decision-making process regarding the development of the Project and the mitigation of impacts that will affect them. Meetings will be scheduled, and informational materials disseminated as needed, to keep people informed and to maintain Project transparency. It is the responsibility of the EHS Officer, along with the CRO, to ensure that the program objectives are accomplished.

- The CRO in consultation with the EHS Officer, will be responsible to build relationships with the surrounding population and communities and to collect and disseminate information;
- Public and individual meetings will be held on a regular basis to provide a forum for open communications;
- Relationships will be built with affected community authorities, and their participation in consultation meetings will be encouraged to facilitate communications, and
- Formal meetings with individual stakeholders and MoTA will be held as needed to assure follow up and confidentiality on identified issues and concerns.

5.2.3 Notification for Meetings
Stakeholders will be informed about the Project and its activities through some or all of the following methods:

- Mass media (newspapers, newsletters, posters, radio, television);
- Direct communication in local languages;
- Illustrated pamphlets and newsletters;
- Public meetings, and
- Informing appropriate community leaders.

A two-week notice, followed by a three-day reminder notice will be provided for such meetings.

Minutes of consultation meetings will be made available to the meeting participants and other identified interested parties within two weeks from the meeting date. Minutes will be written
in an understandable manner and can be obtained from the Project office or other location agreed.

5.2.4 Grievance Redress Mechanisms

Despite the best public consultation and community relations efforts, inevitably there will be circumstances that arise where the Project Management and stakeholders disagree.

A Grievance Redress Mechanism is therefore necessary for addressing the legitimate concerns of Project Affected Persons (PAPs). It is anticipated that these concerns will focus mainly on eligibility criteria, and compensation entitlements for loss of livelihood or use of land, and for noise associated with drilling and other construction activities. The mechanism for grievance redress shall thus include:

- Provision for the establishment of a grievance redress committee that includes women;
- A reporting and recording system;
- Procedure for assessment of the grievance;
- A time frame for responding to the grievances filed;
- The mechanisms for adjudicating grievances and appealing judgments.

In the interest of all parties concerned, the grievance redress mechanisms are designed with the objective of solving disputes at the earliest possible time. World Bank OP. 4.12 emphasizes that the PAPs should be heard and as such, they must be fairly and fully represented. Further, the mechanism should implicitly discourage referring matters to the court system for resolution.

The Grievance Redress Mechanism developed for this project, including the procedures for registering and addressing grievances can be found in the Resettlement Action Plan Report.

5.2.5 Public Consultation and Disclosure Carried out on the ESHIA

Public consultation and disclosure carried out during the ESHIA studies took the form of meetings with project stakeholders, consultative meetings with project area communities in the form of Focus Group Discussions, and the administration of business and household questionnaires in all the target project areas.

The aim of the consultations was to collect data/information on the socio-economic status of potentially project affected person, obtaining their views on the project, facilitating and enhancing awareness, mutual understanding, trust and capacity building.

Focus group discussion meetings were held with stakeholders and specific categories of PAPs in the various project areas. Checklists with pre-set questions were used during the meetings to solicit information mainly on the perceptions of the likely impacts the planned interventions might have on participants’ economic activities. A copy of the FGD participants and checklists can be found in annexes D and E of the appendices of the ESHIA respectively.
Two sets of questionnaires were administered to the heads of households and business owners/traders within the proposed Lumley transit car park and market project area, where resettlement is likely to occur. These questionnaires served to collect data to be used in the development of the Resettlement Action Plan. Analysis of the results of these questionnaires can be found in the Resettlement Action Plan Report.

General socio-economic survey questionnaires were also administered to households and businesses in the all the project areas, to collect information on their socio-economic statuses and perceptions on the possible impacts the project would have on their lives, businesses and communities. The data and results compiled from this general household survey can be found in volume 1 of this report (the main ESHIA Report).

Table 5.2-1: Details of General Socio-Economic Survey of PAPs

<table>
<thead>
<tr>
<th>Target Groups</th>
<th>Location</th>
<th>Sample Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major Shop Owners (N=30)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lumley</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Congo Cross</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Kissy Ferry Junction</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Kissy Ferry Terminal*</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Targrin*</td>
<td>5</td>
</tr>
<tr>
<td>Major business owners (N = 5)</td>
<td>Lumley</td>
<td>5</td>
</tr>
<tr>
<td>Street hawkers/traders (N = 20)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lumley</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Targrin*</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Car wash area</td>
<td>5</td>
</tr>
<tr>
<td>Transporters (Commercial Drivers) (N = 45)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lumley</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>Congo Cross</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>Kissy Ferry Junction</td>
<td>15</td>
</tr>
<tr>
<td>Car wash casual workers (N = 10)</td>
<td>Car wash area</td>
<td>10</td>
</tr>
<tr>
<td>Private houses (N = 10)</td>
<td>Car wash area</td>
<td>5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>115</strong></td>
</tr>
</tbody>
</table>

* Note that at the time of the assessment, interventions at the Kissy Ferry Terminal and Targrin were included in the project scope, and as such included in the assessment.
6 POST CONSTRUCTION CLOSURE

The primary objective of post construction closure is to ensure protection of the environmental and community health and safety of an area once construction activities have ceased.

Closure of construction sites will involve ensuring that all construction materials, waste, equipment, etc. are cleared away, all borrow sites and waste disposal sites closed, and the project areas rendered safe for public use.

Closure of the construction sites along the route will be the responsibility of the construction contractor who will be required to submit a post-construction rehabilitation / restoration plan.

Decommissioning of construction and related sites will involve the following aspects which should be covered in the construction contractor’s rehabilitation/restoration plan:

- Removal of construction machinery, vehicles and equipment
- Backfilling of all borrow pits using excess excavated soils and spoils. All borrow pits must be shaped to be free draining, safe, stable and in a non-polluting state, and where practicable be re-vegetated as may be appropriate;
- Removal of all waste receptacles and disposal of stored wastes;
- Remediation of any oil spill areas;
- Dismantling of all temporary structures: work sites, storage areas, etc.,
7 MANAGEMENT, MITIGATION, MONITORING AND IMPLEMENTATION MEASURES

Environmental monitoring is an essential tool in relation to environmental management as it provides the basis for rational management decisions regarding impact control. The monitoring program for the project will be undertaken to meet the following objectives:

- To check on whether mitigation and benefit enhancement measures have actually been adopted, and are proving effective in practice;
- To provide a means whereby any impacts which were subject to uncertainty at the time of preparation of the EIA, or which were unforeseen, can be identified, and to provide a basis for formulating appropriate additional impact control measures;
- To provide information on the actual nature and extent of key impacts and the effectiveness of mitigation and benefit enhancement measures which, through a feedback mechanism, can improve the planning and execution of future, similar projects.

Monitoring should take place during all phases of the project.

7.1 Monitoring Roles and Responsibilities

7.1.1 Implementing Agencies

Monitoring during the construction phase of the project will be the responsibility of the Ministry of Transport and Aviation. During the operations phase, the responsibility will be shared by the MoTA and the Freetown City Council (FCC). Their responsibilities as implementing agencies include the following:

- Implementing an effective monitoring system
- Ensuring regular review and update of the Management Plans
- Ensuring that any deficiencies or areas of non-compliance identified during monitoring are appropriately addressed
- Ensuring that the required reports to be submitted to regulatory agencies are duly submitted

7.1.2 Regulatory Agency

The Environment Protection Agency Sierra Leone is the local regulatory agency for environmental issues, and will be responsible for enforcing environmental and social compliance during all phases of this project. Their responsibilities include:

- Ensuring that the implementing agencies comply with the terms and conditions of their EIA Licence.
• Review monitoring reports submitted by MoTA/FCC
• Conduct monitoring visits/audits of the project sites
• Renew EIA Licence annually

7.2 Phases of Monitoring

7.2.1 Pre-Construction Phase

Monitoring during the pre-construction phase of the project will be concerned with two aspects:

• Checking that the project designs and specifications incorporate appropriate measures to minimise negative impacts and to enhance beneficial impacts;
• Checking that the appropriate environmental protection clauses have been included in the contract documents to enable control of actions by the contractor which are potentially damaging to the environment.

These activities would be carried out as part of the preparation of the design and tender document for the Project.

7.2.2 Construction Phase

Monitoring during the construction phase will comprise two principal groups of activities:

• Project Management’s review of the Contractor’s plans, method statements, and arrangements relating to obtaining necessary approvals from the Engineer, so as to ensure that environmental protection measures specified in the contract documents are adopted, and that the Contractor’s proposals provide an acceptable level of impact control;
• Systematic observation on a day-to-day basis of all site activities to ensure that the contract requirements relating to environmental and social matters are in fact being complied with, and that no adverse impacts foreseen and unforeseen are occurring.

These activities will be fully integrated with other construction supervision and monitoring activities carried out by Project Management or a construction supervision consultant.

Primary responsibility for ensuring that an adequate level of environmental monitoring is carried out will lie with the Project Engineer as part of his duties connected with general site supervision. Actual monitoring on a day-to-day basis will be carried out by the EHS Officer appointed by the construction subcontractor.

Environmental monitoring regime will comprise of activities to measure the level of impact on land, communities, air and water aspects. Measurements will be done hand-held field equipment and samples will be collected for analysis as required.

Activities related to the Project might temporarily have an adverse effect to the local environment.
The following table highlights the monitoring required to ensure effective implementation of mitigation measures during the project, and the related quarterly budgets. These management measures and monitoring requirements are to be implemented throughout the construction phase of the project.

Costs related to environmental and social benefit enhancement and mitigation measures, etc. include costs for environmental and social management, monitoring, training and capacity building. Costs of certain items associated with environmental / social management and monitoring will be an integral part of specific items incorporated in the overall Project budgets, and no separate budget is necessary to cover these aspects.
### Table 7.2-1: Costs for Management and Monitoring during Construction

<table>
<thead>
<tr>
<th>Monitoring Issue</th>
<th>Management Actions</th>
<th>Monitoring Actions</th>
<th>Monitoring Indicator</th>
<th>Monitoring Frequency</th>
<th>Quarterly Costs (USD)</th>
<th>Comments</th>
</tr>
</thead>
</table>
| Air Quality      | - Dust minimization measures shall be implemented including watering of the construction areas, including the road surfaces under construction.  
- Soil stockpiles and stores of friable material will be covered to reduce the potential for fugitive emissions of dust where possible.  
- Vehicles carrying friable materials will be enclosed or sheeted.  
- Loading, unloading and handling of dusty materials will only be carried out in designated areas.  
- Workers would be provided with dust protection PPE  
- Effective preventative maintenance established to ensure all construction equipment and electricity generators are maintained in good working order and do not adversely impact air quality due to inadequate maintenance or damage.  
- Concrete batching, crushing and screening plants will be fitted with dust extraction and / or suppression systems where necessary. | Implementation of weekly monitoring of all project sites involving in-situ measurements (PM10 and PM2.5) and observational assessments of point sources of pollution. | Air quality measurements resulting from construction activities should fall within the following thresholds:  
PM 2.5 - 25µg  
PM 10 - 50 µg | 2x per week – all sites | 6,000 |          |
<table>
<thead>
<tr>
<th>Monitoring Issue</th>
<th>Management Actions</th>
<th>Monitoring Actions</th>
<th>Monitoring Indicator</th>
<th>Monitoring Frequency</th>
<th>Quarterly Costs (USD)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Climate Risk</td>
<td>- Effective preventative maintenance established to ensure all construction equipment are maintained in good working order so as not to produce an inordinate/excessive amount of exhaust emissions. &lt;br&gt; - Construction machinery will not be allowed to remain in idle mode over extended periods. &lt;br&gt; - Use of ozone depleting substances such as chlorofluorocarbons (CFCs), halons, carbon tetrachloride, trichloroethane and halogenated hydrobromofluorocarbons (HBFCs) will not be permitted.</td>
<td>Implementation of weekly monitoring of all project sites involving in-situ measurements (including Carbon Monoxide) and observational assessments of point sources of pollution.</td>
<td>Air quality measurements resulting from construction activities should fall within 28ppm</td>
<td>2x per week – all sites</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Noise and Vibration</td>
<td>- Activities producing excessive noise levels, will be restricted to the day-time, and equipment normally producing high levels of</td>
<td>Implementation of weekly monitoring of all project sites involving in-situ measurements and</td>
<td>Noise levels resulting from construction activities should fall below 85dB in</td>
<td>2x per week – all sites</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
noise should be suppressed or screened when working within a distance of some 200 m from any sensitive noise receptors.

- Near places of worship, construction producing nuisance level noise be minimised or rescheduled so as not to occur on locally recognised religious day.

- Work areas, will be organised and operated strive to restrict noise levels to not exceed World Bank thresholds at the nearest sensitive receptor during normal activities. If existing noise levels exceed these threshold values, the Project will not cause more than a 3dB increase in measured ambient levels during normal activities.

- Advance notice will be given to observational assessments of generations sources producing noise levels exceeding prescribed thresholds.

<table>
<thead>
<tr>
<th>Receptor</th>
<th>Noise level One Hour L_Aeq (dBA)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Daytime 07:00 – 21:00 22:00 – 07:00</td>
</tr>
<tr>
<td>(a) Residential, institutional, educational</td>
<td>55 45</td>
</tr>
<tr>
<td>(b) Industrial, commercial</td>
<td>70 70</td>
</tr>
</tbody>
</table>

- Advance notice will be given to observational assessments of generations sources producing noise levels exceeding prescribed thresholds.

construction areas.
<table>
<thead>
<tr>
<th>Monitoring Issue</th>
<th>Management Actions</th>
<th>Monitoring Actions</th>
<th>Monitoring Indicator</th>
<th>Monitoring Frequency</th>
<th>Quarterly Costs (USD)</th>
<th>Comments</th>
</tr>
</thead>
</table>
| Communities      | - Communities if short-term noisy construction activities are to take place, which could cause these levels to be exceeded. Measures to minimize noise during construction will include:  
  - locating and orientating equipment to maximise the distance, and to direct noise emissions away from, sensitive areas;  
  - using buildings, earthworks and material stockpiles as noise barriers where possible, and  
  - turning off equipment when not in use.  
  - A preventative maintenance program established for equipment and vehicles to not emit excessive noise or vibration due to inadequate maintenance or damage  
  - Personnel will be made aware of the importance of minimising noise and the measures that are required in this regard. |                     |                      |                      |                       |          |
<p>| Soil Erosion     | - Slope stability measures will be incorporated such as benching and installation of erosion protection features such as silt barriers and Observational assessment of project areas where soil erosion is likely to occur due to loose exposed soil. | Observational assessment | Minimised risk of erosion and resultant clogging of nearby drains, pollution of water bodies, etc. | Weekly in the land preparation stage of construction |                       | Impact risk is likely to disappear after the land preparation stage. |</p>
<table>
<thead>
<tr>
<th>Monitoring Issue</th>
<th>Management Actions</th>
<th>Monitoring Actions</th>
<th>Monitoring Indicator</th>
<th>Monitoring Frequency</th>
<th>Quarterly Costs (USD)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrogeology</td>
<td>- Design market to avoid intrusion below the water table where possible; maintain ground water flows; and avoid significant impacts on hydrogeological conditions.</td>
<td>Ensuring that excavation and other land preparation activities do not infringe on the existing water table giving rise to interruption of hydrogeological conditions and groundwater flows.</td>
<td>Effective planning and execution of excavation works.</td>
<td>Throughout land preparation stage</td>
<td>Embedded in design and construction costs</td>
<td>Particular risk at Lumley Market site</td>
</tr>
</tbody>
</table>
| Flooding         | - Implementation of construction works are scheduled to be carried out during the dry season months. | Ensuring that new drainage pathways are created to compensate for disrupted natural drainage patterns; ensuring that | • Effective planning and execution of excavation works.  
• Zero incidences of | Daily | Embedded in design and construction costs. |         |
<table>
<thead>
<tr>
<th>Monitoring Issue</th>
<th>Management Actions</th>
<th>Monitoring Actions</th>
<th>Monitoring Indicator</th>
<th>Monitoring Frequency</th>
<th>Quarterly Costs (USD)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Quantity</td>
<td>disrupted as a result of the project, alternative routes are developed to enable effective drainage. - It will be ensured that drainages are kept clear of project generated wastes or construction materials.</td>
<td>drainage pathways are clear at all times.</td>
<td>flooding resulting from construction activities.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water Quality</td>
<td>- Establish water provision contracts with the Guma Valley Water Company or other local water supplier. - Maximise efficiency of water use and minimise waste. - Re-use of water will be undertaken where practical and safe.</td>
<td>Keep record of water consumption figures and identify areas to limit consumption and maximise re-use</td>
<td>Zero impact on local water availability and accessibility.</td>
<td>Daily</td>
<td></td>
<td>Embedded in design and construction costs.</td>
</tr>
<tr>
<td></td>
<td>- Refuelling, maintenance and wash-down of construction vehicles and equipment will only occur in designated areas and away from surface water bodies, and provided with secondary containment measures. - The construction contractor will be contractually required to take all reasonable precautions to prevent and clean up all spills / leaks, and take necessary measures to prevent materials from falling into the river.</td>
<td>Observational assessments on potential situations at the various sites that could lead to water pollution. Periodic sampling and laboratory analysis.</td>
<td>• Zero water pollution resulting from construction activities, materials, wastes. • Fast and effective spill management system</td>
<td>Observational assessments 2x per week Lab analysis quarterly and after any accidental release.</td>
<td>4,000</td>
<td>Particular risk at the Market and Car Park sites</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Monitoring Issue</th>
<th>Management Actions</th>
<th>Monitoring Actions</th>
<th>Monitoring Indicator</th>
<th>Monitoring Frequency</th>
<th>Quarterly Costs (USD)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Aquatic Ecology</strong></td>
<td>- Protection of aquatic ecology through prevention of pollution of water bodies.</td>
<td>Observational assessments to identify aquatic pollution or potential sources of aquatic pollution</td>
<td>Zero release of pollutants into water bodies.</td>
<td>N/A</td>
<td>No additional cost</td>
<td>Extension of water quality monitoring</td>
</tr>
<tr>
<td><strong>Terrestrial Fauna</strong></td>
<td>- Clearing of areas within construction boundaries only. Enforcement of rule to workers that any animals encountered during construction works should not be killed.</td>
<td>Monitoring of workers to ensure compliance.</td>
<td>Zero deaths of animals resulting from construction activities.</td>
<td>Daily by construction workers</td>
<td>No additional cost</td>
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</tr>
<tr>
<td><strong>Vegetation</strong></td>
<td>- Vegetation clearing where unavoidable (Lumley market site) will be confined to the immediate construction site. - Specific spaces should be set aside for addressing some environmental and beautification needs of the project areas, such as planting of trees and ornamental vegetation. - Care will be taken to protect some of the trees that are in the vicinity of the Congo Cross junction, which</td>
<td>Intensive supervision of vegetation clearing during land preparation stage.</td>
<td>Minimal loss of vegetation</td>
<td>Daily by construction workers in the land preparation stage of construction</td>
<td>No additional cost</td>
<td></td>
</tr>
<tr>
<td>Monitoring Issue</td>
<td>Management Actions</td>
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<tr>
<td>Spoils Disposal</td>
<td>are already providing some environmental services such as breeding sites for birds.</td>
<td>Monitoring of transportation of spoils disposal, to ensure that they are taken to designated locations.</td>
<td>100% disposal of spoils only in designated, approved locations.</td>
<td>Construction Contractor</td>
<td>No additional cost</td>
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<td></td>
<td>- In as far as practicable, spoils will be backfilled into the borrow pits as part of the rehabilitation of these borrow pits.</td>
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<td>- Side tipping of spoils in any hilly locations will be strictly prohibited.</td>
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<td></td>
<td>- Roads will be designed to achieve a balance between the amount of spoil produced from cuttings and that required for fill to minimise the need for disposal of surplus.</td>
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<tr>
<td>Waste Management</td>
<td>- Waste bins will be provided at all construction sites for the disposal of the various types of wastes generated by the project. These bins will be clearly marked to facilitate segregation of waste, for collection, transportation and disposal.</td>
<td>Monitoring of waste sources and disposal areas to ensure compliance with waste management procedures.</td>
<td>- 100% disposal of wastes using approved methods stated in the WMP. - Storage and disposal of waste in designated, approved locations.</td>
<td>Daily by construction contractor; Weekly by EHS team</td>
<td></td>
<td>2,000</td>
</tr>
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<td></td>
<td>- Separation of domestic and hazardous waste at the source shall be strictly enforced.</td>
<td>- Record-keeping of waste generation volumes and collection/disposal schedules</td>
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<td>- Where possible, wastes will be re-used or recycled.</td>
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<td>- Burning of waste will not be</td>
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<th>Monitoring Frequency</th>
<th>Quarterly Costs (USD)</th>
<th>Comments</th>
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</thead>
<tbody>
<tr>
<td>Waste Oil Management</td>
<td>permitted - All personnel will be trained in the appropriate management of waste according to the WMP. - Waste oils generated by the project (vehicles and machinery) are to be collected and stored in sealed containers for use in the road works or until arrangements can be made with companies who can use them in their operations or manage their disposal. - Soils contaminated by waste oils encountered during the project (e.g. at the car park), will be scraped away and bagged, for disposal in a designated section of a landfill (in the absence of locally available recommended disposal methods)</td>
<td>- Monitoring of sites for signs of oil contamination/pollution and potential sources of contamination/pollution. - Monitoring of waste oil storage and disposal methods for compliance with disposal procedures. Record-keeping of waste oil generation volumes and collection/disposal schedules</td>
<td>Zero land or water pollution resulting from improperly handled waste oil from construction activities.</td>
<td>Daily</td>
<td>No additional cost</td>
<td></td>
</tr>
<tr>
<td>Emergency Response and Disaster Management</td>
<td>- Worker training on Emergency Response procedures - Monitoring of potential situations that could lead to disaster.</td>
<td>- Monitoring of sites for potential emergency situations. - Record-keeping of training and sensitization programmes for</td>
<td>Zero loss of life, injury, property damage resulting from emergency situations.</td>
<td>• Daily monitoring of potential emergency situations • Weekly training on emergency</td>
<td></td>
<td>2,000</td>
</tr>
<tr>
<td>Monitoring Issue</td>
<td>Management Actions</td>
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<td>Monitoring Indicator</td>
<td>Monitoring Frequency</td>
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</table>
| Road Safety       | - Community consultations and meetings on the ongoing roadworks and related hazards will be held – twice weekly  
                  - Active sites will be sealed off from the public using reflective tapes and cones; where necessary road diversions will be created.  
                  - Road safety initiatives will be developed and implemented, including:  
                    - Ensuring that only qualified (licenced) drivers operate machinery;  
                    - Implementing speed limits and traffic control measures in appropriate locations;  
                    - Implementing road safety signage;  
                    - Installing speed control devices such as governors on trucks | workers in terms of frequency and participant numbers.  
                  Record-keeping of community meetings and consultations in terms of frequency and participant numbers.  
                  Monitoring of project sites to ensure implementation of road safety measures | Zero road accidents | Weekly | 10,000 | Use of road safety signage and qualified technicians are embedded in the project costs. Only community consultations in all the road rehabilitation project areas has been costed. |
| Traffic Impact    | - Use of road safety signs and reflective barriers. Traffic Police will be in attendance to direct | Monitoring of project sites to ensure implementation of  
                  • Free flow of traffic around active | Daily throughout construction | No additional costs |
<table>
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<tr>
<th>Monitoring Issue</th>
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<th>Monitoring Indicator</th>
<th>Monitoring Frequency</th>
<th>Quarterly Costs (USD)</th>
<th>Comments</th>
</tr>
</thead>
</table>
| Occupational Health and Safety | traffic and reduce blockages and traffic disruption | traffic safety measures | construction sites.  
- Zero blockages/traffic disruptions resulting from construction works | Daily by contractor. Bi-weekly by EHS team to ensure compliance | - Only compliance monitoring has been costed as the rest are covered within the project costs. |

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<th>Monitoring Issue</th>
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<th>Quarterly Costs (USD)</th>
<th>Comments</th>
</tr>
</thead>
</table>
| Gender Based Violence | Provision of PPE, daily toolbox talks, first aid, etc | Monitoring of project sites to ensure that PPE is provided and used.  
- Ensure availability of first aid kits  
- Confirm the organisation of toolbox talks | Zero lost time injury  
- Zero fatalities  
- Fast and effective response to incidents | Daily by contractor. Bi-weekly by EHS team to ensure compliance | - 2,000 (awareness programmes) |

- Incorporate GBV prevention features into infrastructure design such as well-lit spaces, particularly in the design of toilet facilities, stairwells, storage areas, etc.  
- Construction contractors implementation of GBV codes of conduct (CoC) to be adhered to by workers.  
- Promote female-friendly hiring and working conditions including the provision of separate toilet facilities.  
- Inspect construction sites for GBV risks  
- Inspect grievance mechanism records for instances of GBV  
- Consult with workers on GBV issues on site  
- Minimise incidences/reports of GBV among workers and communities  
- Efficient response and handling of reported cases.  
- Daily implementation of GBV CoC  
- Weekly awareness programmes  
- No added costs for implementation of GBV CoC  
- 2,000 (awareness programmes)
<table>
<thead>
<tr>
<th>Monitoring Issue</th>
<th>Management Actions</th>
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<th>Quarterly Costs (USD)</th>
<th>Comments</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>facilities for male and female workers, daylight working hours, etc. - Implement effective reporting and response mechanism for handling GBV complaints within the workforce and the project site community. - Develop GBV awareness programmes for communities through radio jingles, leaflets, posters, meetings, etc.</td>
<td>- Monitoring of compensation and resettlement processes - Monitoring of grievance redress records for RAP related grievances</td>
<td>100% Compliance with World Bank RAP</td>
<td>Throughout Resettlement Process</td>
<td>Costs already embedded in Resettlement Action Plan Costs</td>
<td></td>
</tr>
<tr>
<td>Loss of Livelihoods/Resettlement</td>
<td>Implementation and monitoring of comprehensive Resettlement Action Plan to compensate for lost property and livelihoods, as well as relocation where required</td>
<td>- Radio programmes/ jingles – weekly radio programmes - Community meetings – twice monthly</td>
<td>Regular instalments of sensitization programmes</td>
<td>Monthly</td>
<td>10,000</td>
<td></td>
</tr>
<tr>
<td>STDs, HIV/AIDS and Teenage Pregnancy Issues</td>
<td>Community Consultations and Meetings on STDs, HIV/AIDS, Teenage Pregnancy Issues in the form of:</td>
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<tr>
<td>Monitoring Issue</td>
<td>Management Actions</td>
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<td>Monitoring Indicator</td>
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<tr>
<td>Community Health and Safety</td>
<td>Distribution of flyers – Batch of 1000 produced quarterly for distribution</td>
<td>Record-keeping of community meetings and consultations in terms of frequency and participant numbers.</td>
<td>Zero accidents/incidents related to construction activities</td>
<td>Monthly</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Community Consultations and Meetings on Community Health and Safety Issues.</td>
<td>- Radio programmes/jingles – weekly radio programmes</td>
<td>Fast and effective response to incidents</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Community meetings – twice monthly</td>
<td>- Distribution of flyers – Batch of 1000 produced quarterly for distribution</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Security</td>
<td>Provision of secure storage for construction materials, machinery and equipment.</td>
<td>Monitoring of project sites to ensure that security is enforced.</td>
<td>Zero incidents of loss of construction materials and equipment</td>
<td>Throughout construction</td>
<td>Embedded in project costs and allocated community consultation costs within this budget.</td>
<td></td>
</tr>
<tr>
<td>- Regular consultations and an effective grievance mechanism will help prevent build-up of animosity leading to strife.</td>
<td>- Zero incidents resulting from grievances/strife as a result of construction activities</td>
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<tr>
<td><strong>Total Quarterly Budget</strong></td>
<td><strong>36,000</strong></td>
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</table>
7.2.3 Operations Phase

Post-construction phase monitoring will be concerned with identification of the need for routine and periodic checks to ensure that the project features are well operated and do not result in environmental damage or pose public health and safety hazards.

Costs related to environmental benefit enhancement and mitigation measures, etc. include costs for environmental management, monitoring, public consultation and capacity building.

Costs of certain items associated with environmental management and monitoring will be an integral part of the relevant responsible bodies (MoTA and FCC) overall project budgets, and no separate budget is necessary to cover these aspects.

During the operational phase of the project, MoTA and FCC will appoint EHS Officers to oversee EHS issues in and around the related project features. They would also need to assign Community Relations Officers who will manage the public engagement and consultations required throughout the project life. These management and monitoring measures are required to be implemented throughout the operations phase.

There may also be need for periodic independent environmental audits.
### Table 7.2-2: Costs for Management and Monitoring during Operations

<table>
<thead>
<tr>
<th>Monitoring Issue</th>
<th>Management Actions</th>
<th>Monitoring Actions</th>
<th>Monitoring Indicator</th>
<th>Monitoring Frequency</th>
<th>Annual Costs (USD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Road Safety</td>
<td>Effective maintenance of roads and related features to ensure that they are kept in proper working condition.</td>
<td>Inspection of roads for defects that could lead to accidents or traffic build up</td>
<td>Zero accidents/incidents resulting from defective roads/traffic management features</td>
<td>• Development of preventive maintenance schedules</td>
<td>Embedded in MoTA/FCC roads/traffic management maintenance budgets</td>
</tr>
<tr>
<td>Traffic Flow</td>
<td>Generators and other noise point sources are to be housed to minimise noise levels.</td>
<td>Monitoring of noise levels using hand held equipment, in and around the facility.</td>
<td>Noise levels resulting from construction activities should fall below 85dB in construction areas.</td>
<td>Monthly</td>
<td>15,000 (equipment purchase/rental, transportation, salaries)</td>
</tr>
<tr>
<td>Noise</td>
<td>• Gutters are to be regularly desilted • Communities to be sensitized against throwing garbage into gutters or other water ways (particularly in the market area).</td>
<td>Inspection of drainages to ensure they are clear of all debris.</td>
<td>No occurrences of flooding resulting from clogged drains.</td>
<td>Monthly</td>
<td>35,000 (Awareness raising programmes and meetings)</td>
</tr>
<tr>
<td>Hydrology and drainage</td>
<td>Effective maintenance of roads and related features to ensure that they are kept in proper working condition.</td>
<td>Inspections of roads for defects that could lead to traffic build up resulting in higher generation and concentration of greenhouse gases.</td>
<td>Minimisation of traffic build-up resulting from defective roads/traffic management features, which results in vehicle idling and higher</td>
<td>• Development of preventive maintenance schedules</td>
<td>Embedded in MoTA/FCC roads/traffic management maintenance budgets</td>
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<tr>
<td>Climate Risk</td>
<td></td>
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<td></td>
<td>• Effective repair maintenance as</td>
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</table>


<table>
<thead>
<tr>
<th>Monitoring Issue</th>
<th>Management Actions</th>
<th>Monitoring Actions</th>
<th>Monitoring Indicator</th>
<th>Monitoring Frequency</th>
<th>Annual Costs (USD)</th>
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</thead>
<tbody>
<tr>
<td>Water Quality</td>
<td>• Communities to be sensitized on waste management issues and against throwing garbage into gutters and waterways. • Adequate numbers and sizes of waste bins to be made available at the market, car park and roadsides. • Provision of adequate (size and number) sanitation facilities in the car park, market, etc. to cater for the thoroughfare. • The residents in the surroundings should be compelled to construct proper toilet facilities. Otherwise, there is a high risk of them exhausting the facilities that will be provided for the park and market and/or contaminating the surrounding through open deposition of human excreta, which will ultimately contaminate the</td>
<td>• Inspection of waste management facilities in terms of number and conditions. • Identification of pollution or potential point sources of water pollution</td>
<td>emissions of greenhouse gases</td>
<td>needed</td>
<td>Covered under awareness raising programmes and meetings for hydrology and drainage.</td>
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<tr>
<td>Ecology</td>
<td>Plant trees and ornamentals plants (flowers and grasses) on locations set side during construction in order to create some ecological beauty and at the same time provide environmental service to these areas and the people using them. These spaces and the planted vegetation could also serve as road habitats for some crawling fauna and birds. Establish an effective mechanism to ensure that planted road side vegetation and ornamental flowers and grasses are well kept and controlled so that they do not become overgrown and be a nuisance to the ecology of the area. A selected exotic tree species (those not preferred by bats) should be planted in a well hydrological system in the area.</td>
<td>Inspection of project areas for the planting and maintenance of gardens and vegetation where applicable.</td>
<td>Planting and regular care for shrubs, flowers, trees, planted in the various project areas.</td>
<td>Quarterly</td>
<td>20,000 (Procurement of seedlings, maintenance of vegetation, transportation, salaries)</td>
</tr>
<tr>
<td>Monitoring Issue</td>
<td>Management Actions</td>
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<tr>
<td>Air Quality</td>
<td>laid-out manner in the new car park and market to provide some ecosystem services, including wind breaks and nesting sites for birds. The selection of exotic plants should be based on known and published scientific information to ensure suitability of the species to be planted. • Maintain a proper waste disposal system so that potential pollutants and contaminants into soil and hydrological system can be prevented or at least controlled.</td>
<td>Inspection of roads for defects that could lead to traffic build up resulting in higher generation and concentration of greenhouse gases.</td>
<td>Minimisation of traffic build-up resulting from defective roads/traffic management features, which results in vehicle idling and higher emissions of exhaust gases harmful to health and wellbeing. • Development of preventive maintenance schedules</td>
<td>Effective repair maintenance as needed</td>
<td>Embedded in MoTA/FCC roads/traffic management maintenance budgets</td>
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<tr>
<td>Monitoring Issue</td>
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<tr>
<td>Occupational health and safety</td>
<td>Ensure provision of PPE for workers; regular trainings on safe working procedures; conduct work risk analysis before critical activities.</td>
<td>Inspection of maintenance work sites to ensure provision and use of necessary PPE.</td>
<td>• Zero accidents/incidents resulting from maintenance works. • Effective response to incidents/accidents</td>
<td>Whenever repair or maintenance work is required.</td>
<td>Covered under MoTA and FCC budgets</td>
</tr>
<tr>
<td>Public Health and Safety</td>
<td>Regular community sensitization programmes, radio programmes, etc on road safety issues.</td>
<td>• Inspection of records on consultations and sensitization programmes to ensure adequacy of outreach.</td>
<td>• Regular sensitization programmes through meetings, radio and other media.</td>
<td></td>
<td>35,000</td>
</tr>
<tr>
<td>Emergency Response and Disaster Management</td>
<td>• Implementation of National Disaster Management and Preparedness policies and procedures • Awareness raising of general emergency response procedures • Hazard identification and implementation of preventative maintenance/actions (e.g. immediate repairs to road damage/wear such as potholes, maintenance of traffic management features</td>
<td>• Identification of potentially hazardous conditions/situations. • Inspection of records on consultations and sensitization programmes to ensure adequacy of outreach.</td>
<td>• Fast and effective response to emergency situations.</td>
<td>• Monthly Awareness programmes. • Periodic hazard inspections</td>
<td>10,000</td>
</tr>
<tr>
<td>Monitoring Issue</td>
<td>Management Actions</td>
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<td>Monitoring Indicator</td>
<td>Monitoring Frequency</td>
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</table>
| Security Issues  | • Provision of police or guards in and around the market area.  
• Formation of local security watch groups among traders. | Monitoring of grievance redress records for security related grievances | Fast and effective response to security threats. | weekly | No separate cost |
| Resettlement Issues | Establish and implement a grievance mechanism that ensures that complaints are received and handled within the shortest possible time | Monitoring of grievance redress records for RAP related grievances | Efficient treatment of grievance issues received. | monthly | Embedded in resettlement costs |
| **Total**        |                    |                    |                      |                      | **115,000**        |
8 Summary and Conclusion

8.1 Summary

This Environmental and Social Management Plan forms the second volume of the ESHIA conducted on the IRUMP and presents the environmental and social management, mitigation, monitoring and institutional measures to be taken during the project, to reduce adverse environmental and social effects to acceptable levels.

It serves as a broad project implementation guide in relation to environmental and social issues, and describes what actions must be taken and who is responsible to reduce Project impacts.

The component-plans presented in this volume describe action programs for waste management, emergency response, post-construction closure, public consultation and disclosure. The Plan will guide the development of more site-specific plans to be developed by the project contractor, for the different project sites covered in this project.

Building on the impacts identified during the ESHIA, the plan further expands on management measures necessary to minimise or eliminate identified impacts, describes the monitoring requirements, targets and frequency of monitoring needed to ensure that management is effective.

Project-related impacts will be generated mostly during the construction phase of the project. During this time, monitoring will need to be conducted daily in many instances, and weekly or monthly in others, for the duration of this phase. It is estimated that an effective management and monitoring of identified impacts during this phase will amount to USD 36,000 quarterly (USD 144,000 annually).

During the operations phase of the project, management and monitoring measures will need to be conducted indefinitely over periodic intervals (e.g. consultations, sensitization programmes, etc.) and also whenever applicable (e.g. OHS, noise generation, road safety issues during maintenance works). The responsibility for the implementation of management and monitoring during this phase of the project lies with the Ministry of Transport and Aviation, and the Freetown City Council. The estimated budget for their implementation is estimated at USD 115,000 annually.

8.2 Conclusion

The ESMP has been developed with the aim of guiding the development of detailed, site specific management plans by the construction contractor. It has also been developed in line with conditions at the time of this study, and will require periodic review and update as the project progresses, to align it with existing conditions.

It is anticipated that MoTA (throughout the project) and FCC (during the operations phase) will assign/appoint Environmental Health and Safety Officers, or contract the services of a
Consultancy company to oversee the EHS issues outlined in this document and to review and update the plans.
REFERENCES


Salone Times (2019). 1 in 3 Women Experience Rape in Sierra Leone


## APPENDICES

Annex 1. List of GBV service providers in the Western Urban Area

<table>
<thead>
<tr>
<th>Organization</th>
<th>Services provided</th>
<th>Accessibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Timap for Justice</td>
<td>Legal Service Investigation Mediation Counselling</td>
<td>Accessible for PwD Easy access to transportation</td>
</tr>
<tr>
<td>Restless Development</td>
<td>Urban Youth Project in Western Area SGBV Issues Community outreach</td>
<td>Accessible for PwD Easy access to transportation</td>
</tr>
<tr>
<td>FSU Portee Rokupar</td>
<td>Supports vulnerable people to access the justice system.</td>
<td>Not Accessible for PwD Poor access to transportation</td>
</tr>
<tr>
<td>Society for women and Aids Africa-SL Chapter</td>
<td>Nutritional support for HIV Patents Capacity building trainings Give them start-up kits</td>
<td>Not Accessible for PwD Poor access to transportation</td>
</tr>
<tr>
<td>Susan's Bay Michael Edwards Clinic</td>
<td>Antenatal care(ANC) Family planning External program immunization(EPI) HIV testing a counselling</td>
<td>Accessible for PwD Remote area Poor access to transportation</td>
</tr>
<tr>
<td>Potential Rescue and Development centre-SL</td>
<td>Provide counselling PSS Refer cases to FSU Look after Children of HIV mothers Counselling</td>
<td>Accessible for PwD Easy access to transportation</td>
</tr>
<tr>
<td>Don Bosco Fambul</td>
<td>Awards Scholarships Legal Aid First Aid treatment PSS Make referrals Skills Training Shelter</td>
<td>Accessible for PwD Good Roads</td>
</tr>
<tr>
<td>Winner's foundation for vulnerable children</td>
<td>Supply of school materials Contact Tracing and reunification Supply of food Provision of used clothing Supplements medical fees and charges</td>
<td>Accessible for PwD Easy access to transportation</td>
</tr>
<tr>
<td>Lawyers</td>
<td>Support for rape victims and victims of sexual violence at the rainbow centre, Offers free legal aid to clients.</td>
<td>Accessible for PwD Easy access to transportation</td>
</tr>
<tr>
<td>FSU New England</td>
<td>Supports vulnerable people to access the justice system.</td>
<td>Accessible for PwD Easy access to transportation</td>
</tr>
<tr>
<td>FSU Fourah Bay (Dan Street)</td>
<td>Supports vulnerable people to access the justice system.</td>
<td>Accessible for PwD Easy access to transportation</td>
</tr>
<tr>
<td>Organization</td>
<td>Services Provided</td>
<td>Accessibility and Transportation</td>
</tr>
<tr>
<td>------------------------------------------</td>
<td>----------------------------------------------------------------------------------</td>
<td>----------------------------------</td>
</tr>
<tr>
<td>FSU Looking Town</td>
<td>Supports vulnerable people to access the justice system.</td>
<td>Not Accessible for PwD Poor access to transportation</td>
</tr>
<tr>
<td>FSU Eastern Police</td>
<td>Sensitization, Community Outreach</td>
<td>Accessible for PwD Easy access to transportation</td>
</tr>
<tr>
<td>Defence for Children International</td>
<td>Legal Aid, Family tracing and reunification, SRH/FP, Counselling, Referrals, Skills Training, Livelihood Enhancement</td>
<td>Not Accessible for PwD Easy access to transportation</td>
</tr>
<tr>
<td>FSU Wellington</td>
<td>Supports vulnerable people to access the justice system.</td>
<td>Accessible for PwD Easy access to transportation</td>
</tr>
<tr>
<td>Direct Response Development Org</td>
<td>SGBV, Child Protection Advocacy, PSS, Counselling</td>
<td>Accessible for PwD Easy access to transportation</td>
</tr>
<tr>
<td>Women In Crisis</td>
<td>Counselling, Skills Training, Rehabilitation Centre</td>
<td>Accessible for PwD Easy access to transportation</td>
</tr>
<tr>
<td>Advocaid</td>
<td>Legal Aid, Welfare Support, Post-prison Support, Educational Support, Reintegration Support</td>
<td>Accessible for PwD Easy access to transportation</td>
</tr>
<tr>
<td>FAWE / Cambridge Rift</td>
<td>Legal representation, SGBV, Counselling, Referrals</td>
<td>Accessible for PwD Easy access to transportation</td>
</tr>
<tr>
<td>National Commission for Children</td>
<td>Sensitization, Rehabilitation Children and Teenage mothers, Advocate against child marriage, Advocate against teenage pregnancy</td>
<td>Not Accessible for PwD Easy access to transportation</td>
</tr>
<tr>
<td>Freetown Rainbow Centre</td>
<td>SGBV Case Management, Child Friendly Interviewing, Treatment for STI, Emergency Contraceptives, Gives PEP and pregnancy tests for SGBV survivors.</td>
<td>Accessible for PwD</td>
</tr>
<tr>
<td>Carpanamur Pikin Pady</td>
<td>Individual Counselling, SGBV case Management, child friendly interview, Identifies and refers cases of abuse, Group counselling, Child Safeguarding.</td>
<td>Not accessible for PwD Easy access to transportation</td>
</tr>
<tr>
<td>Don Bosco Shelter</td>
<td>Individual Counselling, SGBV case management, Child friendly interviews, Identify abuse and make referrals, Group counselling, Child Safeguarding, Family Tracing.</td>
<td>Accessible to PwD, Easy access to transportation</td>
</tr>
<tr>
<td>Voice of</td>
<td>Work with HIV positive women</td>
<td>Good Roads</td>
</tr>
</tbody>
</table>
| Women (VOW) | Work with HIV orphans - specifically children  
Counselling  
Supply of Rice and oil | Not accessible to PwD (wheelchair users) |