Republic of Liberia
Ministry of Public Works
South Lynch Street
Monrovia, Liberia

REQUEST FOR EXPRESSIONS OF INTEREST (REOI)

COUNTRY: **Republic of Liberia**

NAME OF PROJECT: **Liberia Urban Resilience Project**

PROJECT ID: **P169718**

CREDIT/GRANT No.: **D-7122-LR and E-0410-LR**

ASSIGNMENT: **Consulting Services for the Conduct of Environmental & Social Impact Assessment (ESIA), Environmental and Social Management Plan (ESMP), Biodiversity Management Plan (BMP), Resettlement Action Plan (RAP), Umbrella Waste Management Plan (U-WMP) and Site-Specific Waste Management Plan (S-WMP) for Flood Risk Management and Community Infrastructure in Greater Monrovia**

REFERENCE No.: **LR-MPW-377275-CS-QCBS**

Place of Assignment: **Greater Monrovia, Liberia**

The Government of the Republic of Liberia has received financing from the World Bank toward the cost of the **Liberia Urban Resilience Project**, and intends to apply part of the proceeds for the **Consulting Services for the Conduct of Environmental & Social Impact Assessment (ESIA), Environmental and Social Management Plan (ESMP), Biodiversity Management Plan (BMP), Resettlement Action Plan (RAP), Umbrella Waste Management Plan (U-WMP) and Site-Specific Waste Management Plan (S-WMP) for Flood Risk Management and Community Infrastructure in Greater Monrovia.**

The objective of the Consultancy services **("the Services")** is to prepare an Environmental and Social Impact Assessment (ESIA) and the associated documents which include an overall Environmental and Social Management Plan (ESMP) as required in Component 1, a Biodiversity Management Plan (BMP), a Site-Specific Waste Management Plan (S-WMP), an Umbrella Waste Management Plan (U-WMP) and a Resettlement Action Plan (RAP). Works contractors will be required to use the overall Project ESIA/ESMP to prepare site and/or activity specific Contractor ESMP (C-ESMP) as may be required to help them comply with the relevant environmental and social standards in the implementation of their contract activities.

For detailed terms of reference for this assignment with scope of assignment and specific tasks, qualifications and experience and other requirements, please visit any of the following websites: https://www.mpw.gov.lr , https://www.iiu-mpw.org , https://www.emansion.gov,lr .

The Ministry of Public Works (the Client) now invites eligible Individual Consultants to submit Expression of Interest (EOI) in providing the Services. Interested firm Consultants must provide their detailed profile demonstrating that they meet the following shortlisting criteria:

- **Core business of the firm that is relevant to the assignment.**
- **At least 15 years of general experience in implementing environmental studies and in preparing ESIA, ESMP, and RAP with specific experience in the sub region, being a key requirement; work experience in Liberia will be an added advantage.**
- **Knowledge of the World Bank Environmental and Social Policies.**
- **Have a proven record of successful completion of at least three (3) similar assignments within the past 7 years related to the preparation of similar ESIA and ESMP for projects of similar nature and magnitude (i.e., green-blue-grey drainage infrastructure and neighborhood upgrading interventions in a densely populated urban context).**
- **Demonstrated experience in stakeholder engagement and consideration of environmental and social safeguards is required.**
- **The technical and managerial capability of the firm. (Provide only the structure of the organization, general qualifications, and number of key staff. Do not provide CV of staff. Key experts will not be evaluated at the shortlisting stage.)**

The attention of interested Consultants is drawn to the fact that Selection of Firm/Consortium will be done in accordance with the World Bank's "Procurement Regulations for IPF Borrowers ("Procurement Regulations") dated July 2016, revised in November 2017 and August 2018, and updated in November 2020.

Consultants may associate with other firms in the form of a joint venture or a sub consultancy to enhance their qualifications.

A Firm/Consortium of firms will be selected in accordance with the **Quality and Cost Based Selection (QCBS)** method set out in the IPF Procurement Regulations.

Further information can be obtained at the address below during office hours 9:00am to 5:00pm from Monday to Friday excluding lunch hour (1:00pm to 2:00pm) and public holidays.

The completed expression of interest documents in writing in three (3) copies must be delivered via EMAIL and to the Tender Box located at the LURP's Conference Room and sent to the address below to be received on or before September 18, 2023, at 3:00pm Liberian time. Expressions of Interest (EoIs) should be clearly marked:

Contract No: **LR-MPW-377275-CS-QCBS: CONSULTING SERVICES FOR THE CONDUCT OF ENVIRONMENTAL & SOCIAL IMPACT ASSESSMENT (ESIA), ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN (ESMP), BIODIVERSITY MANAGEMENT PLAN (BMP), RESETTLEMENT ACTION PLAN (RAP), UMBRELLA WASTE MANAGEMENT PLAN (U-WMP) AND SITE- SPECIFIC WASTE MANAGEMENT PLAN (S-WMP) FOR FLOOD RISK MANAGEMENT AND COMMUNITY INFRASTRUCTURE IN GREATER MONROVIA;** and addressed to:

Project Coordinator
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Website: www.mpw.gov.lr

Republic of Liberia
Ministry of Public Works

Liberia Urban Resilience Project (LURP)

ID No.: P169718

Consulting Services for the Conduct of Environmental & Social Impact Assessment (ESIA), Environmental and Social Management Plan (ESMP), Biodiversity Management Plan (BMP), Resettlement Action Plan (RAP), Umbrella Waste Management Plan (U-WMP), and Site-Specific Waste Management Plan (S-WMP) for Flood Risk Management and Community Infrastructure in Greater Monrovia

AUGUST 2023

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Acronyms

AOI	Area of Influence
BMP	Biodiversity Management Plan
BOQ	Bill of Quantity
E&S	Environmental and Social
EPA	Environmental Protection Agency
ESCP	Environmental and Social Commitment Plan
ESF	Environmental and Social Framework
ESHS	Environment, Social Health and Safety
ESIA	Environmental and Social Impact Assessment
ESMP	Environmental and Social Management Plan
ESS	Environmental and Social Standard
GBV	Gender Based Violence
IAP	Interested and Affected Parties
KE	Key Expert
LLA	Liberia Land Authority
LMP	Labour Management Procedures
LURP	Liberia Urban Resilience Project
LWSC	Liberia Water and Sewerage Corporation
MCC	Monrovia City Corporation
MIA	Ministry of Internal Affairs
MOT	Ministry of Transport
MPW	Ministry of Public Works
NDMA	National Disaster Management Authority
PAD	Project Appraisal Document
PAP	Project affected person
PCC	Paynesville City Corporation
PMU	Project Management Unit
PSC	Project Steering Committee
PTC	Project Technical Committee
RAP	Resettlement Action Plan
RPF	Resettlement Policy Framework
S-WMP	Site-Specific Waste Management Plan
SEA/SH	Sexual Exploitation and Abuse/Sexual Harassment
SEP	Stakeholder Engagement Plan
TOR	Terms of Reference
U-WMP	Umbrella Waste Management Plan
WB	World Bank

1. PROJECT OVERVIEW

Liberia's basic infrastructure and social services were severely affected by the Liberian civil war which lasted about 14 years, the recovery efforts from the post-war era were further hampered by the Ebola virus epidemic of 2014, resulting in poor living conditions for most of the population and eroding some of the economic gains after the war. A gross national income per capita of just US$580 in 2019 places Liberia among the ten poorest countries in the world. According to the 2016 household survey data, over half of the population (51 percent) was living in poverty. The country faces numerous challenges, including environmental degradation, susceptibility to disease and epidemics, exposure to multiple natural disasters, severe deficits in basic service delivery, a highly resource-constrained environment, lagging nutrition and health outcomes, food insecurity, and an economy unable to create sufficient jobs. Liberia's economy is now facing the impacts of the COVID-19 pandemic. Greater Monrovia could play an important role in supporting the economic transformation necessary for the country to recover from the COVID-19 pandemic and build back a better economy.

Urban development and disaster risk management are key elements of Liberia's medium-term national development strategy, the Pro-poor Agenda for Prosperity and Development (PAPD). The PAPD (2018-2023) emphasizes the role of urban areas, especially Greater Monrovia, in supporting the economic transformation necessary for the country to generate shared prosperity. Floods are highlighted in the PAPD as a cause of climate -induced disasters. The National Disaster Risk Reduction and Resilience Strategy of Liberia (2020) aim to reduce and control the risks associated with flood, coastal erosion, and windstorms in the Monrovia area (Action 3.1.). The PAPD is also cognizant of the extent of informality and lack of service access that has paralyzed the economy of Greater Monrovia. Coastal erosion risks are currently being addressed by the United Nations Development Program (UNDP) through the "Monrovia Metropolitan Climate Resilience Project".

Monrovia's vulnerability to floods is due to its low-lying, flat topography and lack of adequate drainage. Flood events in Monrovia and the surrounding areas resulted in over 30,000 affected persons during 2018, including thousands of children. Monrovia's surface water system was constructed between 1955-1957, with later additions to accommodate urban growth. Several challenges plague the system, including lack of maintenance (only 15 employees of the Ministry of Public Works (MPW) are working on surface water drainage in Monrovia), inadequate and fragmented drainage construction and connection to sewers, illegal connections of sewage pipes to drains, the intersection of drainage with major sewer line leading to sewage spillage in the city, broken force-main sewer system, and lack of funding. Flood impacts on residential areas and infrastructure are set to increase, including disruptions in access to markets and schools and significant health risks for the population. A disaster and climate risk assessment for Monrovia reveals that about 140,000 people (14 percent) in Greater Monrovia are directly affected by predominantly pluvial flooding on average every year. The average annual direct economic

damage is about US$20 million (0.6 percent of GDP). Climate change will further increase these numbers.

Pluvial flooding (from the rain) poses the highest flood-related risk in Liberia. Although fluvial (river) floods are of the greatest depth, pluvial flooding creates the highest risk in terms of damage due to the area it covers and the frequency with which it occurs. Greater Monrovia experiences regular flooding from both coastal flooding and flooding from the St. Paul River to the north of the city. Severe fluvial flooding can affect larger areas of the city given the low-lying nature of the land around the Mesurado and Stockton Creek. The existing built-up area requires a combination of grey – green – blue interventions to mitigate the growing impacts of urban flooding including substantial repairs.

Inadequate infrastructure and flood risks combined with management deficiencies negatively affect the resilience, economic activity, and revenue potentials of markets in Greater Monrovia. Duala market is one of Monrovia's biggest markets and is illustrative of the challenges faced by Monrovia's markets. The Duala market has expanded 11.8 times in size without any planning since its creation. Therefore, the Duala market suffers from a fragmented and ineffective drainage system. Further, it is estimated that 93 percent of toilets are within 100m of wetlands with exposure to flooding, posing epidemiological risks. A lack of clarity of organizational structure and lack of investments contributes to food losses (5.6 percent of daily products) and a lack of revenues to invest in the market infrastructure. Currently, 72-89 percent of vendors operate informally and their inclusion in an improved formal market management system could increase revenues by 2.6-7.9 times. Consolidating and regulating market fees throughout the entire expanded area would decrease informal payments and increase payment of daily market ticket fees.

Within this context, the Government of Liberia, through the Ministry of Public Works has requested financing from the World Bank for the Liberia Urban Resilience Project (LURP), which will be part of a package of World Bank support for urban development and economic transformation.

The Project Development Objective (PDO) is to increase flood resilience and access to urban infrastructure in selected neighborhoods and to improve urban management in Liberia Specific outcomes that will be fine-tuned during the project preparation are to:

- Outcome 1: Area protected from flooding
- Outcome 2: People benefitting from improved urban infrastructure (sex-disaggregated)
- Outcome 3: Urban management capacity enhanced

Currently, the Bank supports several other projects where synergies and collaboration are being forged, including the Cheesemanburg Landfill and Urban Sanitation Project (P159961) and the Liberia Urban Water Supply Project (P155947).

To meet its development objectives, the LURP has four components:

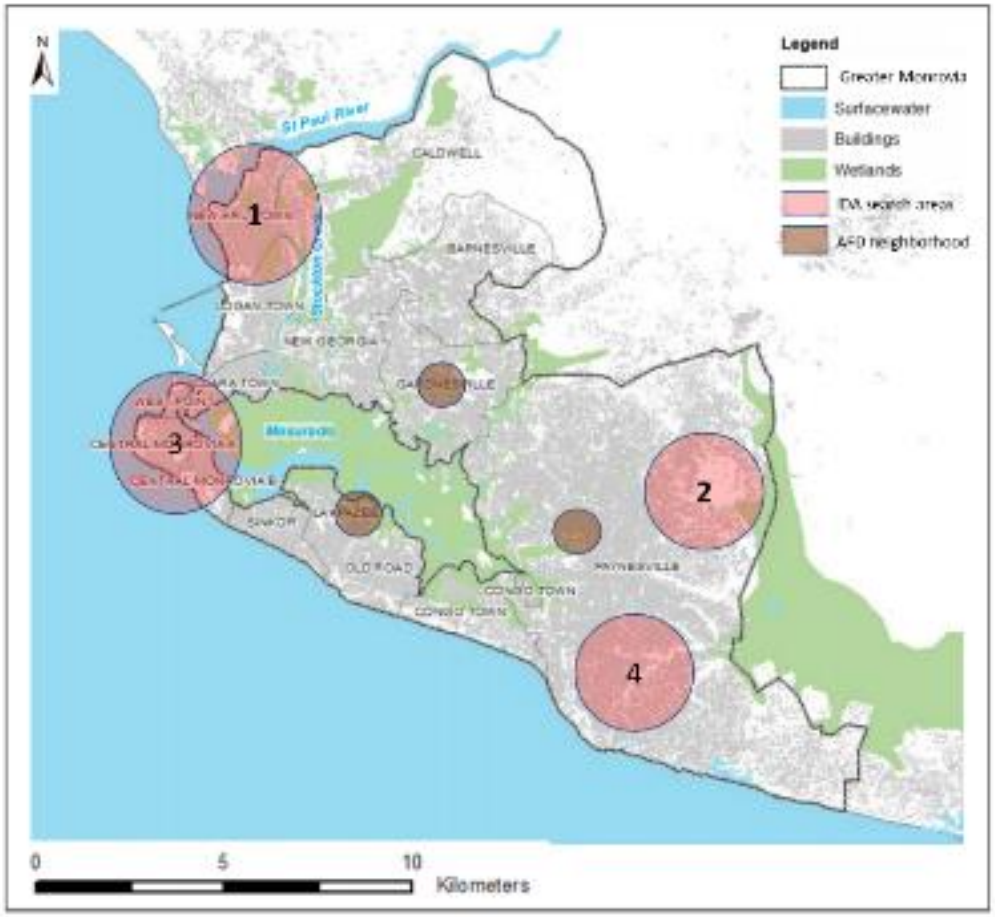
Table 1: Components for LURP project Implementation

Component 1	Climate Resilient Infrastructure and Urban Upgrading
	1.1.Climate Risk Management Infrastructure
	1.2.Climate Resilient Community and Market Upgrading
Component 2	Strengthening Integrated Resilient Urban Development Capacity
	1.1.Resilient Urban Planning and Development Control
	1.2.Solid Waste Management Operations and Financing
Component 3	Project Management
Component 4	Contingent Emergency Response Component

MPW, with support from the World Bank financing, intends to secure the services of a Consulting Firm (referred to as "E&S Consultant" in this document) to prepare the following instruments (i) Environmental and Social Impact Assessment (ESIA) and associated Environmental and Social Management Plan (ESMP) including a Biodiversity Management Plan (BMP) and Site-specific Waste Management Plans (S-WMP), (ii) a Resettlement Action Plan (RAP), and an (iii) Umbrella Solid Waste Management Plan (U-SWMP) for the Liberia Urban Resilience Project (LURP). This project has been conceptualized and structured for the improvement of urban livelihood and climate-resilient infrastructures in designated neighborhoods. This assignment will focus on drainage and flood risk management interventions and upgrading in the communities identified below, which are financed under Component 1 through the Bank's financing (see Figure 1): Northern Bushrod Island (1), Omega Market area (2), Central Business District (3) and Southeastern Paynesville (4).

2. DESCRIPTION OF PROPOSED INTERVENTION

Figure 1: Site location map



***Description**: Four search areas in Monrovia for Component 1: The northern part of Bushrod Island (1), the area around Omega Market (2), the Central Business District, (3) and southeastern Paynesville around Duport Rd (4). Neighborhoods (Lakpazee, Shoe Factory and Wood Camp) targeted by a separate, parallel urban development project also implemented by the MPW are also indicated in this map.*

This TOR is for a Consultancy Service assignment focusing on developing the relevant Environment and Social Instruments for Component 1 in coordination with the feasibility and design study consultancy. The project will finance the enhancement of flood management infrastructure in selected communities in Greater Monrovia. The majority of the investment will focus on blue-green-grey drainage measures, including blue solutions (open water areas for temporary stormwater storage), green solutions (wetland or green vegetated areas to maintain soil infiltration and temporarily store surface stormwater), and grey solutions (traditionally constructed drainage of adequate size and design to drain roads and residential areas). Climate smart

infrastructure will also be considered such as permeable paving to enhance infiltration or green swales (vegetated strips that capture and store stormwater from roads and residential areas) will also be integrated. Such measures will be combined with improved land use planning, zoning and construction permitting. The drainage design will consider protection against the dumping of solid waste into the channels (generated from marketplaces or nearby households) and human waste associated with such an environment. The following provides an overview of the four potential intervention areas and preliminary considerations, which will be further detailed through the feasibility and design study.

Potential Area 1: Bushrod Island – New Kru Town

- **Urban Character/Conditions**: The central part of this community has a green corridor running parallel to the coastline acting as a rainwater collector during rainfall events. This green corridor of about 20 – 30 meters wide is a slight depression in the elevation and is intersected by roads and also buildings crossing the green corridor in some locations but without visible or completely clogged drainage connections.
- **Physical Features**: Hydrologically speaking, Bushrod Island can be split into the area east and west of UN Drive which is the main north-south transport corridor through this area. Preliminary ideas for improving flood resilience have been discussed with the stakeholders pending further detailed analysis and surveys. Connecting and preserving the green corridor to improve the retention function of this area will be key.
- **Drainage Systems**: The New Kru Town area in between UN Drive and the coastline and north of the Freeport drains towards the ocean has no comprehensive urban drainage system. Based on a limited number of exchanges with the local community, severe rainfall events during the rainy season result in flooding up to 0.5 – 1 meter close to the green corridor in certain places flooding homes and affecting the community.
- **Possible Interventions**: Early ideas include creating a small main drain through a green corridor, connecting this with a small outlet at the northern end towards St Paul River to increase drainage speeds thereby reducing the frequency of flooding. This could include the creation of small secondary drains towards the retention area to drain water from the building footprint into the retention area.
- **Implementation Challenges**: Resettlement would be required to connect the green corridor as one entity and preservation of the area of interest will be key as well as stopping further encroachment (especially if the probability of flooding is lowered). Garbage is a major issue that could also clog new culverts at road crossings and lead to spread of garbage through the outlets in rivers and/or sea.

Potential Area 2: Bushrod Island – Logan Town/ King Peter Town

- **Urban Character/Conditions**: The occupation of this area is mainly concentrated along the main roads (UN Drive, Logantown Road, Monboe Town East Road, etc.) and the (decommissioned) Bong Railway Line. This area still has relatively large green open areas but encroachment is gradually taking place.
- **Physical Features**: These areas are depressed in the topography and are rainwater collectors during the rainy season. These areas are also confirmed as susceptive to flood risk by a detailed technical hazard analysis. In this regard, the area is mainly affected by rainfall to the north of UN drive as well as it is prone to coastal flooding.
- **Drainage Systems**: During rainy seasons, several built-up areas appear to be specifically flood prone in this area based on interaction with the local communities: the Duala Market area, the areas around the green open spaces, and the area around Monboe Town East Road. The exit point near Duala Market into the St Paul River is a clear bottleneck in the overall functioning of the drainage system. The box culvert underneath UN Drive near Duala Market is clogged with large amounts of trash and is also probably too small to drain the water efficiently from the large area into the ocean. Increasing this opening and also ensuring that garbage is removed regularly and cannot clog the box culvert would be evident improvements. Draining the green areas more efficiently may also require a continuous primary canal and interconnecting these areas with the exit points and/or widening the existing discharge points or making more exit points towards Stockton Creek besides the one near the railroad line.
- **Considerations for Possible Interventions**: Specific points of attention in this area: 1) A JICA masterplan for Monrovia has provided some suggestions for grey interventions but without detailed hydrological assessment of the effectiveness nor assessment of the potential for green-blue infrastructure, 2) climate change and specifically sea level rise since this area is relatively flat and low-lying, 3) ongoing encroachment of flood prone areas in the tide-influenced areas but also along the green spaces, 4) garbage in the drains and culverts impacting negatively drainage capacity, 5) drainage crossing at Duala Market is densely built-up area and also very busy with outside market activities.

Potential Area 3: Omega Market Area

- **Urban Character/Conditions**: The relatively flat, low-lying area is the site of the former Omega Transmission Tower. The Omega Market has been recently reinstated and is currently part of a wider market upgrading initiative. The existing market facilities in the western part of the site are in use with ongoing construction works on additional facilities; pending the completion of a comprehensive spatial development plan.
- **Physical Features**: The low lying green and open areas are surrounded by more elevated areas. In the Southeast, the area is draining through a small stream running towards the southeast into the Mesurado River. Reservation of open areas for water retention in this

area at the downstream end in combination with a comprehensive drainage system with primary drains would be necessary to make this area resilient against flooding.

- **Drainage Systems**: There is no holistic drainage system apart from the natural small streams crossing the area and recent small drainage interventions near the market area. The drainage outlet in the southeast is at the end of its lifetime and complete replacement would be necessary. However, recent reports show that the Omega market area is vulnerable to flooding. Given the topography, this area receives runoff from various sides and acts as a rainwater collector before further draining downstream.
- **Key areas of concern**: The key concern in this area is the rapid development of the market and further plans to expand this area with various other functions (housing, etc.) without a comprehensive drainage plan for this area.

Potential Area 4: Central Business District (CBD)– Soniwein Canal

- **Urban Drainage Conditions**: The Soniwein canal is the main artery of the existing drainage system with primary and secondary drains feeding into the system. Strong topography differences in CBD with large areas well beyond Mean Sea Level; most of the CBD drains towards the Atlantic Ocean, only the northern fringe towards Mesurado Estuary.
- **Drainage System**: Gravity drainage system with a primary open drain running to the southeast and several secondary drains connected to this main drain; closed drain exiting along the beach south of CBD. The main drain (Soniwein Canal) runs from the high ground in the west of the CBD towards the southeast exiting in the Atlantic Ocean. The primary drain is clogged with much garbage, sediment and sludge resulting in reduced conveyance and also health issues. According to MPW, the Soniwein drain does not overtop during very severe rainfall events except for some small parts. The secondary natural drain running into the Soniwein Canal at Johnson Street is known to be flood prone affecting the community nearby. At the downstream end, the Soniwein Canal drains into the Atlantic Ocean. The outlet opens during the rainy season but also closes during the dry season because of the coastal sediment transport. Large amounts of garbage are present near the opening and also due to the ponding of water in this area.

Key considerations: Ideas for improving the drainage situation are evident in cleaning the main drain from garbage and sediment and putting in place a good functioning maintenance scheme and organization for this main drain. The Soniwein drain and also the secondary drains are in need of various repairs to the concrete structures, but also replacing missing trash racks, etc. The situation along the secondary drain near Johnson Street may already improve if the Soniwein drain would have more conveyance after the removal of siltation and garbage. Also, a more permanent drain in this area could be considered to improve the situation. At the downstream end, a trash rack along the bridge crossing with regular clean up maintenance could prevent solid waste from entering the

ocean and being spread out across the beaches as is the case right now. Challenges in this area are: 1) the garbage and sedimentation issues in the main drain will need recurrent maintenance, 2) the dense urban environment making new drains difficult to integrate into the urban fabric, and 3) the connection of sewer lines directly into the drainage system.

Apart from access and drainage investments, the activities will include other public infrastructure for markets and communities (+/- 20% of overall financing), such as water supply, sanitation (wastewater management and solid waste collection facilities), and community facilities such as community halls, open spaces, playgrounds, etc. Many of these facilities will consider the functional rehabilitation of underutilized spaces where feasible. Project investments would complement existing/ongoing World Bank financed projects in related sectors either through working in neighborhoods where no network services are in place or by focusing on upgrading reticulation/neighborhood systems where there is access to network services. This consultancy will be procured in parallel with and following the start up of the feasibility and design consultancy. More details from the feasibility and design study will be available when the ESIA consultancy commences (approximately 6 months after the feasibility and design study will have commenced). The specific investments will depend on the completion of the feasibility and design study and with recommendations from the E&S Consultant. The preliminary results of the feasibility and design study will be used to inform the exact locations and proposed activities for the documents required per the TORs. The E&S Consultant will use the feasibility and design study to prepare E&S studies and provide inputs to the design and bid documents. The feasibility and design study will also ensure that gender gaps are identified and addressed through the investments, for example, ensuring that sanitation facilities are safe for women.

Project intervention details and project locations will be further defined through a feasibility and design study. It is expected that the feasibility and design study will commence approximately 6 months prior to this consultancy. A new landfill is being constructed in Cheesemanburg and is not yet operational. The timeline of finalizing the landfill will influence the substance of the documents required per these TORs. Figure 2 shows how the implementation timelines of the feasibility and design study, the ESIA and the related studies, the construction of the Cheesemanburg landfill, and the commencement of work under LURP subcomponents 1.1 and 1.2 relate to each other. These are estimates at this stage and the E&S Consultant will be informed about any changes.

The feasibility and design study will prepare the following documents:

- Survey Report with bathymetric, topographic, geotechnical, structural investigations, hydrological/hydraulic assessment, Community needs and prioritization, Local Area Resilience Plans, Initial Design Basis
- Preliminary Design Report including urban design sketches, preliminary cost estimate, procurement strategy, Updated Design Basis
- Detailed Design report / Bidding documents / Final Design Basis

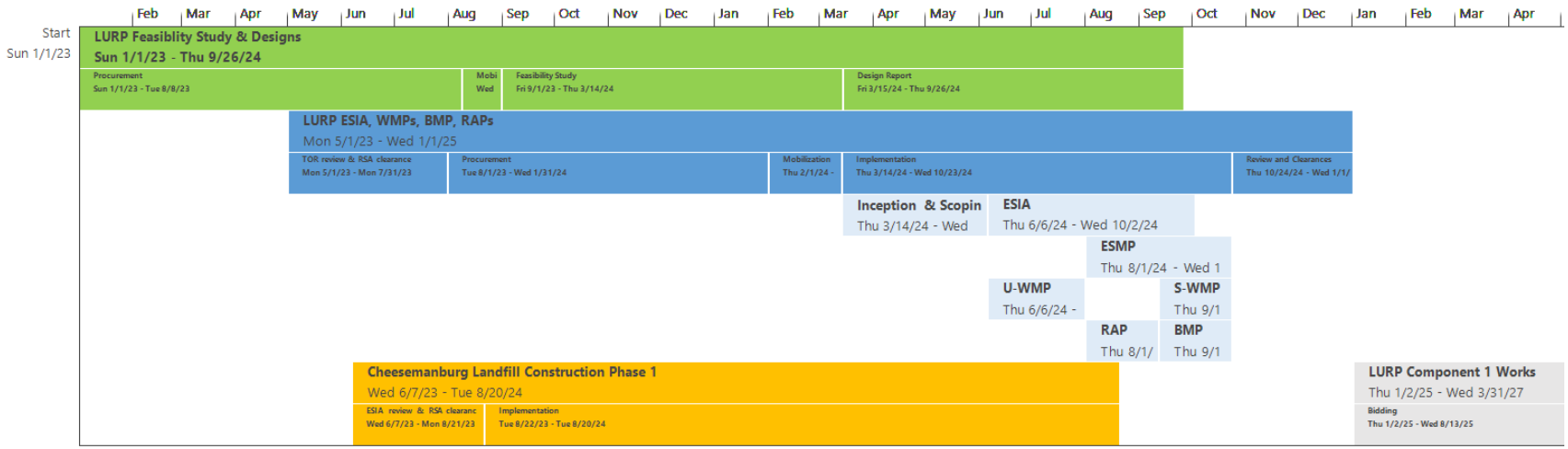
The Government of Liberia is currently implementing some projects with similar activities and in some instances near the targeted site for intervention. Below is a list of some of these projects that are planned or ongoing which would be taken into account by the feasibility and design study where relevant:

- Liberia Beach Sporting & Recreational Facility – Donor funded (Abu Dhabi Fund for Development)
- Omega International Market Expansion & Upgrade Projects – GOL funded (Ministry of Public Works & LACE)
- Construction of Express Waterline from Fish Market Booster to Newport Street Booster in Monrovia, construction of 1million gallon reservoir at Rockhill (GSA road, Paynesville), and the replacement of the main 36'' pipeline from White Plains to Paynesville including the section of the Red-light to ELWA road. (World Bank)
- ELWA Junction – Red Light Road Project – Donor Funded (World Bank)

Some of these projects are currently ongoing, including the roads project, pipeline construction project, drainage and market construction project while the beach recreational facility construction is expected to start quite shortly.

A subproject, under Component 1, titled "Drainage Cleaning Activity" (or "Quick Win Activity" was planned to be initiated in mid-2023 to manually remove garbage, household waste and silt, from selected drains and streams, using picks, shovels, buckets, garbage bins, wheelbarrows, etc. and other hand-held tools. The dredged material will be transported using trucks to the MCC operated landfill in Whein Town (northern Paynesville). Depending on how well the "Quick Win Activity" Contractor executes the works, there may be legacy issues (such as remnant stockpiles, spill clean ups, etc.) which will have to be considered in the ESIA.

Figure 2: Tentative implementation timelines of feasibility and design study, ESIA and related documents, Cheesemanburg Landfill construction, and works under LURP component 1.



3. RATIONALE FOR THE ENVIRONMENTAL AND SOCIAL INSTRUMENTS

The World Bank's Environmental and Social Framework (ESF), which became operational in October 2018, sets out requirements for borrowers to identify and assess the environmental and social risks and impacts associated with projects supported by the World Bank. Project activities outlined in section 2 above will likely have environmental and social risks and impacts, and as required under the ESF, the preparation of Environmental and Social instruments in accordance with the ESCP will need to be carried out by the Borrower to guide the management of these risks and impacts and therefore, improve social and environmental sustainability, and inclusive development. This TOR is in line with the ESF and the Environmental and Social Standads (ESS) that are relevant for the project (ESS 1, 2, 3, 4, 5, 6, 8, and 10), and environmental and social management framework (ESMF) to guide the preparation of the Environmental and Social instruments relevant to all Component 1 works, and informed by the feasibility and design study.

4. IMPLEMENTATION ARRANGEMENTS

The Liberian Urban Resilience Project outlined above will be implemented by the Project Management Unit (PMU) with the supervision of a Project Steering Committee (PSC) and the support of a Project Technical Committee (PTC). The PMU has now been established and fully staffed by trained and experienced professionals (including the E&S Specialists) as part of the project preparation under the Ministry of Public Works (MPW). MPW has a national mandate and technical responsibility for major infrastructure activities under Component 1. The PMU will be responsible for day-to-day project implementation, coordination between the different technical agencies, preparing annual work plans and budgets, coordinating the development of TORs, BOQs, etc., managing procurement processes, monitoring safeguards aspects, M&E, etc. Several technical agencies (Environmental Protection Agency (EPA), Liberia Land Authority (LLA), Liberia Revenue Authority (LRA), Liberia Water and Sewerage Corporation (LWSC), Ministry of Internal Affairs (MIA), Ministry of Transport (MOT), Ministry of Public Works (MPW), Monrovia City Corporation (MCC), National Disaster Management Agency (NDMA), Paynesville City Corporation (PCC), Water, Sanitation and Hygiene (WASH) commission) will be part of the PTC chaired by MPW and MIA to assess the progress of the project and make technical decisions to ensure smooth implementation of LURP. The PTCs responsibility will be to provide technical input to the PMU for the preparation of TORs/BOQs/etc. and support the PMU in its technical contract management of consultants and firms. Lastly, the PSC will provide strategic oversight, review annual work plans and budgets, regularly monitor and evaluate implementation status, and conduct general project supervision meetings on a regular basis as well as other tasks to be agreed upon. The PSC will be chaired by MFDP, with other agencies as members.

5. MAIN OBJECTIVE OF THE ASSIGNMENT AND SCOPE OF WORK

The objective of this assignment is to prepare an Environmental and Social Impact Assessment (ESIA) and the associated documents which include an overall Environmental and Social Management Plan (ESMP) as required in Component 1, a Biodiversity Management Plan (BMP), a Site-Specific Waste Management Plan (S-WMP), an Umbrella Waste Management Plan (U-WMP) and a Resettlement Action Plan (RAP). Works contractors will be required to use the overall Project ESIA/ESMP to prepare site and/or activity specific Contractor ESMP (C-ESMP) as may be needed to help them comply with the relevant environmental and social standards in the implementation of their contract activities.

The U-WMP will be prepared before the ESIA and aims to identify, quantify, characterize and propose strategies for safe disposal of the wastes. It will assess the total cumulative volume and estimated composition of waste and excavated/dredged materials that will need to be safely disposed of and assess the disposal capacity of the City's landfills to accommodate such waste. The S-WMP will be more detailed and developed as part of the ESIA/ESMP.

The preparation of these documents shall be informed by:

- Community-based consultations.
- Liberia's EPA ESIA Procedural Guidelines and the Environmental Protection Management Law of Liberia; and other relevant National framework documents.
- World Bank's Environmental and Social Framework (ESF), relevant ESF Good Practice Notes, and best international practices.

In support of this overarching objective, the E&S Consultant is also expected to:

- Review all existing relevant documentation related to the project. (Project Appraisal Document (PAD), Environmental and Social Management Framework (ESMF), Resettlement Policy Framework (RPF), Environmental and Social Commitment Plan (ESCP), Stakeholder Engagement Plan (SEP), Labor Management Procedures (LMP), Appraisal Environmental and Social Summary (A-ESRS), feasibility and design study, etc.).
- Identify all relevant stakeholders for consultation.
- Identify and assess potential environmental and social risks and impacts of the project activities during site preparation/pre-construction, construction and operational/maintenance, and decommissioning phases of the project.
- Recommend measures for mitigation with site-specific considerations to address the identified environmental and social risks and impacts of project activities in accordance with the ESF and the WBG and EHS guidelines.
- Prepare an Environmental and Social Impact Assessment (ESIA) and associated Environmental and Social Management Plan (ESMP) for all proposed project activities as per the Liberia Environmental and Social laws and policies, World Bank ESF, and detailing findings and recommendations for E&S risks and impacts management.
- Prepare a site-specific Biodiversity Management Plan (BMP) in accordance with the guidelines of the ESMF, and consistent with ESS6 of the ESF.

- Prepare a Site-Specific Waste Management Plan (S-WMP), to manage general construction waste, disposal of the dredged sediments (silt, sand, and solid wastes) and other construction materials as well as hazardous and non-hazardous wastes, consistent with ESS3 of the ESF.
- Prepare a standalone Umbrella Waste Management Plan (U-WMP) informed by a feasibility and design study for Component 1.1 activities and integrate recommendations into public works bidding documents prior to the start of bidding and disbursement of drainage works under Component 1.1. The U-Plan will identify acceptable disposal arrangements based on a proper assessment of the cumulative quantity and type of waste expected to be generated under Component 1.1. The umbrella waste management plan will assess the cumulative waste management impacts of all waste generated by the project to determine the capacity of landfills to accommodate the waste generated. The U-Plan will make recommendations of possible modifications to the proposed Project engineering designs, based on the assessment of the findings.
- Prepare a Resettlement Action Plan (RAP) to address physical and/or economic displacement, depending on the nature of the impacts expected from a project.
- Conduct two rounds of public consultations (the first one during the scoping stage and the second one on the review of the draft ESIA) and meaningful stakeholder engagement in line with ESS10 with project affected persons, government organizations and Non-Governmental Organizations (NGOs) about the project's environmental and social impacts, as well as offer opportunity to receive their opinions and feedback so as to take their views into account and reflect the issues raised into the final design for the project.
- Document baseline for Sexual Exploitation and Abuse/Sexual Harassment (SEA/SH), child labour, and people with disability in each site-specific area and identify any significant issues related to them.
- Prepare a time schedule to ensure that consultations with key stakeholders for this project, including national NGOs representing key stakeholder groups, government agencies, vulnerable groups (or their associations), and others to ascertain risks and inform mitigation measures are included in the design to ensure inclusive development outcomes.

The E&S Consultant for this assignment is expected to work in close collaboration with the Consultant for the feasibility and design study and utilize available information as well as gather relevant data on the environmental, social, and economic activities of the proposed project activities and locations where the project will be implemented. The E&S Consultant must assess the physical, environmental, biological, economic, and social activities of the beneficiary communities. This E&S consultancy will be procured in parallel with the feasibility and design consultancy. This may already be communicated as part of the RFP phase of bidding to allow for technical and financial proposals to be as precise as possible. The feasibility and design study will include information about the project site, land use, topography, geology, hydrology, and any known environmental sensitivities, a bibliography, maps, photographs, diagrams, and any other diagrammatic representation needed to facilitate understanding of the main text. This information about the project site and construction related technical information would help the E&S Consultant to understand the existing environmental conditions and potential interactions with the proposed project.

Scope of Work

The scope of work for this assignment includes all necessary literature review, desk study, review of previous WB E&S instruments for similar projects in Liberia (especially under the ESF), WB guidance materials, WB ESF good practice notes, and stakeholder consultations. The E&S Consultant will be required to prepare the instruments listed below.

Environmental Assessment consisting of:

- Environmental and Social Impact Assessment (ESIA) and associated Environmental and Social Management Plan (ESMP) including:
    - Biodiversity Management Plan (BMP);
    - Site-specific Waste Management Plans (S-WMP);
- Umbrella Waste Management Plan (U-WMP) for the project; and
- Resettlement Action Plan (RAP).

The E&S Consultant will ensure that these instruments complement each other and cover environmental and social issues in a comprehensive and coherent manner.

5.1. Preparation of the Umbrella Waste Management Plan (U-WMP)

The Umbrella Waste Management Plan (U-WMP), will be informed by a feasibility and design study, for Component 1.1 activities. It will assess the total cumulative volume and estimated composition of waste and excavated/dredged materials that will need to be safely disposed of and assess the disposal capacity of the City's landfills to accommodate such waste. U-WMP recommendations will be integrated into the project's bidding documents prior to the start of bidding and disbursement of drainage works under Component 1.1 that will identify acceptable disposal arrangements based on a proper assessment of quantity and types of waste expected to be generated under Component 1.1.

A large part of the material dredged along the potential drainage channels is expected to be silt sand and solid waste. There are no industrial areas alongside the channels so it is not expected that there will be hazardous waste.

The right approach for testing, storing, sorting, treating, transportation, and disposal of dredged material will be outlined, including dewatering at a temporary handling site along the channel in order to separate the liquid/water/leachate from solid waste and silt. The dry residual material can be further separated to remove solid wastes from silt . Solid waste will be sent to the landfill, and the silt may be reclaimed for use in construction, brownfield rehabilitation, backfill, or as daily cover at the landfill, depending upon contamination levels, to be determined in the ESIA and the Waste Management Plan.

The ongoing Cheesemanburg Landfill and Urban Sanitation Project is investing in the establishment of a new landfill, which will be operational in 2024. It is unlikely that drainage works under the LURP will start before the first half of 2024 so the new landfill facility should be

available for use. The project will make sure that sufficient landfilling capacity will be in place prior to the start of any works, and if not, the project may need to consider constructing an appropriate disposal site.

The U-WMP will be a standalone instrument, that will be informed by a feasibility and design study to manage general construction waste as well as hazardous and non-hazardous wastes, consistent with ESS3. Given the possibility of not having a disposal site for hazardous waste, the project may need to finance the separation of such waste and the establishment of a sealed and capped cell in a landfill (probably Cheesemanburg) to accommodate the waste and ensure that it has the capacity to receive the quantities of the waste generated. The E&S Consultant will also assess other solutions for hazardous waste treatment, such as thermal treatment, chemical treatment, etc.

It is unlikely that any significant quantities of hazardous waste will be produced in the project; however, all project-related activities will comply with 'Hazardous Materials Management Environmental Health and Safety Guidelines (IFC, 2007). If hazardous waste is discovered, which may require a hazardous waste cell at Cheesemanburg or any other engineering solution to handle the hazardous waste, the project would handle the engineering aspects as part of a separate consultancy. The U-WMP will outline specific disposal pathways in the event that significant quantities of hazardous wastes are generated.

Specific Tasks for the U-WMP Preparation

Specific tasks for the E&S Consultant will include but not be limited to:

1) Review the existing documents including World Bank EHS Guidelines on Environmental Waste Management, 'Hazardous Materials Management Environmental Health and Safety Guidelines' (IFC, 2007), Liberia regulation and guidelines on solid waste management
2) Develop a sampling and analysis plan to conduct the sampling of the waste and excavated/dredged materials, testing methodology and analyzing the results of the sampling.
3) Identify the types of wastes anticipated from the project, quantify the waste generated, and conduct a waste characterization study to get a full understanding of the materials in the waste and excavated/dredged materials along the potential drainage channels. The waste characterizations study will include a comprehensive composition analysis.
4) Conduct sampling of dredged materials from selected Channels/drains within the project areas to cover two seasons of sampling; and comprehensive analyses as per the approved sampling and analysis plan, especially for heavy metals, to determine pollution status and if regulatory standards are met. The E&S Consultant shall provide detailed analysis of the findings of the sampling and composition analysis.
5) Identify the surface water, wastewater, and solid waste pollution streams entering the selected Channels/drains within the project areas;
6) Identify acceptable disposal arrangement based on proper assessment of quantity and type of waste expected to be generated under Component 1.1 and provide protocols to guide the safe disposal of waste and excavated/dredged materials as well as hazardous and non-hazardous waste, consistent with ESS3.

7) Where disposal site(s) for sediment material is not available, assess the suitability to accept the dredged material in the selected disposal site.
8) Provide standard approaches for the safe handling, collection, transportation, storage, treatment, and subsequent disposal of hazardous wastes and excavated/dredged materials.
9) Conduct consultations with the PMU, Feasibility and Design Study Consultant / Design Engineers and relevant Government agencies and stakeholders..
10) Develop a health and safety plan for the field activities related to sampling and analysis of the solid waste. Develop an implementation plan for the U-WMP, training and capacity building plan, monitoring plan, and implementation budget.
11) Based on the analysis of samples, prepare the minimum requirements and technical specifications for Hazardous Waste Management.

5.2. Preparation of the Environmental and Social Impact Assessment (ESIA)

The detailed scope of work for the ESIA includes the following

The E&S Consultant shall prepare an Environmental and Social Impact Assessment (ESIA) as required in Component 1 in accordance with the Environmental Protection Agency (EPA) Liberia's Environmental and Social Assessment Procedures, the Project's ESMF, World Bank's Environmental and Social Framework (ESF) and it's relevant Environmental and Social Standards (ESSs) for the project.

The E&S Consultant will be responsible for gathering, reviewing, and analyzing all necessary data and information for the preparation of the ESIA/ESMP report, which shall be based upon the final identified project specific locations from the updated or revised feasibility and design study of the project in consultation with the PMU/MPW teams. Where the available required data is found to be inadequate for the purpose, the E&S Consultant shall make all practical efforts to collect and analyze the additional information needed to support the preparation of the ESIA/RAP report. Additional data collection will include field investigation and such additional data funded by the project may be obtained from professional estimates and predictions, maps, and other relevant information from similar project situations/conditions.

Specific Tasks for the ESIA Preparation

ESIA Task 1: Detailed Desk Review

Review the existing documentation of the LURP but not limited to the ESMF, PAD, feasibility and design study, E&S screening report, LMP, SEP, A-ESRS, and any previous ESIA and ESMP reports prepared for similar investments financed by the World Bank, and other relevant project documents, The E&S Consultant shall also review all completed and ongoing environmental studies in and around the project site in order to fully understand relevant scope and impact of climate change on urban communities in and around Monrovia.

Desk review shall involve a detailed review and mapping of communities within each proposed project location in order to fully describe the proposed project sites.

MPW and other stakeholders including the EPA shall provide all studies relevant to this assignment for review by the E&S Consultant. The Inception report of the E&S Consultant shall capture a brief summary of the documents reviewed, an overview of its contents and observations on all the documents relevant to the assignment/task to be carried out, the methodology and consultation process with project affected persons (PAPs) and other stakeholders in line with the Terms of Reference.

ESIA Task 2: Scoping Study

The E&S Consultant shall work in close consultation with PMU, MPW, and EPA as well as all project stakeholders, including local authorities for site visits and assessment for the scoping report. The E&S Consultant shall carry out scoping assessments of the proposed project locations and provide a detailed list of communities assessed during the scoping visit. The E&S Consultant shall concisely describe each site assessed, their geography, ecology, water bodies, reserved areas, and general layout, including maps at an appropriate scale.

The scoping visit will include consultation sessions (at which project details and objectives will be shared) with residents and beneficiary communities in order to acquaint them with the project and collect relevant project information including challenges, limitations, and opportunities. The key results of the scoping of the Project should be presented.

ESIA Task 3: Description of the Proposed Project

The E&S Consultant will provide a description of the Project, including maps (at appropriate scales), and schematic diagrams, with all necessary information on the project activities. The E&S Consultant shall make use of available information, data, maps, and drone/satellite imagery (For example, GoogleEarth and https://openaerialmap.org/)

The E&S Consultant will describe the following:

- The project location (geographic locations and project areas);
- The current site conditions (environment and social);
- Scope of the works which includes the proposed project and activities during the (pre-construction/mobilization, construction, operations & maintenance, and decommissioning), including the technology to be used and the construction timeline;
- Project ancillary facilities and potentially linked activities that may be required (access roads, quarries, waste disposal and transfer sites, worker camps/accommodation, and raw material or product storage facilities);
- Associated Facilities – facilities or activities that are not funded by the Project but are directly related to the Project and are necessary for the Project to be viable.
- Description of materials and equipment required for construction during the different phases and the project activities;
- Labor requirements and
- The Project Cost.

ESIA Task 4: Legislative and Regulatory Framework

The E&S Consultant shall identify and describe the relevant regulations and standards both National and international treaties, conventions, and agreements, and explain how these regulations and standards are applicable to the project activities and the actions/steps the Project should take to comply with the required regulations/standards. The specific regulations/standards should include those of the Liberian Environmental Protection Agency (EPA), Ministry of Agriculture (MOA), Ministry of Labour (MOL), Liberia Electricity Cooperation (LEC), Liberia Water, Sewer Cooperation (LWSC), Liberia Land Authority (LLA), Forestry Development Authority (FDA), Ministry of Mines and Energy (MME), Ministry of Internal Affairs (MIA), Monrovia City Corporation (MCC), Paynesville City Corporation (PCC), Ministry of Health (MOH), etc. and the World Bank (WB) ESF requirements and the World Bank Group Environmental, Health and Safety Guidelines (EHSGs). The gaps between national systems and the ESSs shall be identified, and gap filling measures proposed. Guidelines governing the environmental quality, health and safety, protection of sensitive areas, land use control at the national, and local levels and ecological and socioeconomic issues shall be reviewed. Thereafter, the E&S Consultant shall identify the project activities that should comply with the identified regulations. The relevant institutions with their respective roles and responsibilities towards the Project should be captured.

ESIA Task 5: Analysis of Alternatives to the Proposed Project

The E&S Consultant will:

- Systematically compare feasible alternatives to the proposed project and associated ancillary facilities, such as alignment, technology, design, and operation - including the "without project" situation -in terms of their potential environmental and social impacts; the feasibility of mitigating these impacts; their capital and recurrent costs; their suitability under local conditions; and their institutional, training, and monitoring requirements;
- For each of the alternatives, quantify the environmental and social impacts to the extent possible, and attach economic values where feasible; and
- State the basis for selecting the project design proposed.

ESIA Task 6: Description of the Baseline Environment and Social Conditions

During the scoping studies, the E&S Consultant is required to collect, collate, analyze, and present baseline information and data on the environmental characteristics and socio-economic situation of the proposed project communities or sites including information on data gaps, the significance of these gaps for decision-making and how these gaps will be addressed. This description of the E&S baseline should involve but not be limited to:

- Physical environment (topography and geomorphology, land cover, geology, climate and meteorology, air quality, hydrology (surface and groundwater, noise and vibration, land use pattern through appropriate techniques, etc.), waste management. The E&S Consultant should sample and analyze air and water quality, noise levels, and sediment quality (the latter will be conducted over two seasons (wet and dry seasons). The baseline should also cover Community

Health Environment and related issues such as water supply, solid waste management practices, healthcare facilities, vulnerability to natural hazards, etc.

- Biological environment (i.e., Terrestrial Ecology and biodiversity/ Aquatic ecology including flora and fauna types diversity and ecology, endangered species, sensitive habitats/reserved areas, protected forest, wildlife sanctuary, bird sanctuary, etc.);
- Present and projected social and cultural environment. Where appropriate include population, land use, planned development activities, community social structure, employment and labor market, sources and distribution of income, cultural heritage (chance find) / religious sites and properties, vulnerable groups, and indigenous populations, condition of women and girls with reference to SEA/SH/GBV, etc.;
- Economic activities, including income / commercial activities, agriculture, livestock, fisheries, small scale market or industries, etc.

The E&S Consultant shall also define the methodology for the assessment of biophysical environmental and social attributes, and collect baseline data on any environmental or social issues that are of risk to the potential sites or project locations. All associated risks and impacts of the proposed activities should be ranked and rated based on their severity and potential risks and impact on the environment, communities, and project locations.

ESIA Task 7: Determination of Environmental and Social Risks and Impacts of the Project and Activities

The Task will assess the nature and significance of potential risks and impacts of the Project. Based on the baseline environment and social conditions, the E&S Consultant shall analyze and describe all significant risks and impacts (such as land acquisition and involuntary resettlement, risk of SEA/SH, the potential spread of communicable diseases resulting from labor influx, risk of soil and water pollution) associated with the project activities, such as cleaning and dredging of existing drainage channels, waste management, construction of new drainage channels and other blue-green drainage infrastructure such as retention ponds, storage of dredged materials, and supporting community infrastructure including but not limited to urban park facilities, toilets, drinking water facilities, etc. These would encompass an assessment of the environmental, ecological, and social risks and impacts, both positive and negative, as a result of civil work/activities that are likely to bring about changes in the baseline environmental and social conditions. Since the project site locations and preliminary and or detailed design will be known at the time of reaching this task, the E&S Consultant is expected to provide site and works specific E&S impacts and mitigation measures and refrain from presenting generic impacts and mitigation measures.

The E&S Consultant shall identify surface water, wastewater, and solid waste pollution streams entering the channel systems; identify the social and environmental impacts of dredging and the proposed civil works on water quality, impacts of the wastes and sedimentation (increase in turbidity) on the aquatic biodiversity of the ecosystem, analysing the sediments for heavy metals, organics, toxic materials, etc. and recommending acceptable means of handling, transporting and disposing of the dredged materials.

Assess the impacts of the construction/dredging during the rainy season/flooding on the environment and nearby communities.

Identify the impacts on air quality (dust, odour), noise, water quality, soil pollution, groundwater, and downstream users from the diversion of the drains, disruption in downstream flows, etc.

Identify and assess disruption in traffic from the movement of construction and wastes materials, and removal of dredged materials, and health-and-safety impacts from the construction activities. The E&S Consultant will prioritize all concerns identified and differentiate between short, medium, long-term, and cumulative impacts during the pre-construction, construction, operation/maintenance, and decommissioning phase of the project. The E&S Consultant shall also identify both temporary and permanent impacts. A detailed outline and discussion of specific conditions that might affect the environment which are unique to the type of services and/or operation being implemented should be provided.

The E&S Consultant shall analyze and describe all occupational health and safety concerns brought about by activities during all the phases of the project. The E&S Consultant shall make recommendations on corrective and remedial measures to be implemented under the Environmental Social Management Plan (ESMP). COVID-19 and other communicable diseases should also be considered.

ESIA Task 8: Public Consultations and Disclosure

The E&S Consultant shall organize and carry out two rounds of public consultations (one will be during the scoping stage and the second one will be on the draft ESIA) to inform stakeholders (affected and interested parties) about the project (its objectives, activities, and potential positive and negative impacts) and to listen to and gauge the concerns, views, and opinions of the stakeholders regarding the proposed project. The concerns and views of the stakeholders will be summarized and incorporated into the ESIA Report.

The E&S Consultant shall consider vulnerable groups, socially diverse groups, or community dwellers as well as gender groups within each project area and analyze the Project's potential positive and negative impacts on them. The E&S Consultant should describe the groups' roles and activities within the project area, their needs and interests in the project, and their levels of influence. Detailed considerations should be given to vulnerable groups and potential exclusions or inclusions that will need to be considered for them within the project. Gender Base Violence (GBV) assessment should also be analyzed for site specific situations/project locations and their related risk as a result of the project with consideration of the existing Gender Action Plan of the project.

The E&S Consultant will:

- Identify persons affected by construction activities and will facilitate dissemination of information to relevant authorities and interested and affected parties (IAPs) concerning the proposed project, NGOs and government departments and agencies that may have a stake in the Project and its effects should be consulted;
- Describe a schedule for public consultation with these different groups, including the number and timing of public input, and the methods to be employed (e.g., media announcements, community or town hall meetings, questionnaires, one-on-one meetings,

public environmental assessment (EA) steering committees). Public consultation should occur, at least, during the inception and collection of baseline information, and at the draft report stage. An annex of the ESIA should summarize the public consultation process and the results of the consultation process;

- Gather more detailed information through which the study team could anticipate issues not raised by the IAPs that will be addressed by the environmental, social impact assessment report;
- Focus the study on relevant issues and recommend specific investigations, such that the resulting ESIA is useful to decision makers and it addresses the concerns of IAPs.
- Document the Public Consultations, including consultation dates, venues, minutes and attendance lists and signatures of attendees, photos of consultation sessions, written inputs submitted and a summary of both the views and opinions of the stakeholders, the question and answer session, positive and negative concerns of the stakeholders, and how these concerns, expectations, and opinions are incorporated into the final design of the project;

Disclosure of the ESIA will be in a manner, form, and language that is understandable and will be accessible, to enable full public participation.

ESIA Task 9: Grievance Redress Mechanisms

The E&S Consultant shall fulfill this task by only making reference to the overall Project Grievance Redress Manual, which is being developed by the E&S staff of the PMU. The GRM Manuel being developed will be broad enough to deal with project related complaints/grievances at various levels of the project implementation activities.

ESIA Task 10: Environmental and Social Management Plan (ESMP) (see below)

5.3. Preparation of the Environmental and Social Management Plan (ESMP)

The ESMP shall be developed as part of the main ESIA document. The plan shall be prepared with considerations of all required WB standards and in consultation with the LURP-PMU Team /MPW. A review of existing regulations, laws, or established procedures of the Liberia Environmental Protection Management Law and best international practices shall also be referenced in the development of the ESMP. The ESMP should include the applicable noise, air pollution, surface water, groundwater, and heavy metal regulations.

The E&S Consultant should summarize the impacts and the mitigation measures in a table consisting of significant environment/issues, their adverse impacts, the proposed mitigating measures, the agencies responsible for implementing and supervising the mitigation measures, the implementation timeline, and the cost estimate of each measure.

The E&S Consultant is required to give a description of the types of monitoring, and technical details of monitoring measures for the project ESMP, including the parameters to be measured, methods to be used, sampling locations, frequency of measurements, definition of thresholds that will signal the need for corrective actions as well as monitoring and reporting procedure. The E&S Consultant should provide a time frame and implementation schedule for measures that must be

carried out as part of the project, showing phasing and coordination with overall project implementation plans, training, and the associated cost for each monitoring measure.

Specific Tasks for the ESMP Preparation

ESMP Task 1: Identify potential Risks and Impacts

Identify and summarize all anticipated significant site and project specific adverse environmental and social risks and impacts and define site specific environmental and social mitigation measures during pre-construction, construction, operation/maintenance, and decommissioning phases of the project. Since the project details (locations and design) will be known to a large extent, the impacts and the proposed mitigation measures are expected to be specific to each site.

ESMP Task 2: Provide Mitigation Measures for each Identified Risk and Impact

The E&S Consultant shall identify measures and actions in accordance with the mitigation hierarchy that reduces potentially adverse environmental and social impacts to acceptable levels. The E&S Consultant shall provide technical details for each mitigation measure, including the type of impact to which it relates and the conditions under which it is required (e.g. continuously or in the event of contingencies), together with designs, equipment descriptions, and operating procedures, as appropriate; The mitigation measures shall be for the pre-construction, construction operational and decommissioning phases of the project. The E&S Consultant will, during the assessment, identify any residuals negative impacts that cannot be mitigated and explore opportunities for environmental enhancement (offset). The E&S Consultant will describe all anticipated adverse environmental and social impacts identified and summarized in a form of a table consisting of significant environment/issues, their adverse impacts, the mitigating measures, the agencies responsible for the mitigation, the timeline, and the estimate of each of the measures.

The E&S Consultant shall prepare an environmental health and safety plan including an analysis of the risk of accidents during dredging of the Channels, and during transport of the dredged materials, construction and waste materials, identify appropriate security measures and develop a preliminary contingency plan.

ESMP Task 3: Develop an Environmental and Social Monitoring Plan

The E&S Consultant shall develop a monitoring section of the ESMP that identifies monitoring objectives and specifies the type of monitoring, with linkages to the impacts assessed in the environmental and social assessment and the mitigation measures described in the ESMP. Specifically, the E&S Consultant shall identify all monitoring measures and summarize in a form of a table with the following sequence (i) the mitigation measures, parameters to be measured, methods to be used, sampling locations, frequency of measurements, the agency responsible for the monitoring, and the associated cost for each monitoring measure. Monitoring and reporting procedures shall be captured to (a) ensure early detection of conditions that necessitate particular mitigation measures, and (b) furnish information on the progress and results of mitigation.

ESMP Task 4: Institutional Arrangements

The E&S Consultant will describe the institutional arrangements for ESIA/ESMP implementation, which will include but not limited to:

i. Review the institutional arrangements, responsibilities, and procedures within LURP, the Supervision Engineer/Consultants and the Contractors to carry out each of the migratory, and monitoring measures (e.g., for operation, supervision, enforcement, monitoring of implementation, remedial action, financing, reporting, and staff training);
ii. Describe the role of EPA in monitoring the implementation of the ESIA/ESMP and in certifying compliance;
iii. Training of the PMU, Contractors, and Supervision Engineer/Consultants regarding the environmental and social clauses that apply to them
iv. An estimate of the resources required by LURP to implement and monitor the ESMP, such as level of effort (LOE), and equipment; and
v. An assessment of the capacity building and training gaps and needs required for all responsible parties in the implementation of the ESIA/ESMP, additional technical support, or organizational changes, to ensure timely and effective implementation of the ESMP.

ESMP Task 5: Budget

Estimate the cost of each of the mitigation measures laid out in the ESMP and provide an overall budget for implementing the ESMP. Implementation schedule for mitigation and monitoring measures that must be carried out as part of the project, showing phasing and coordination with overall project implementation plans; and the capital and recurrent cost estimates and sources of funds for implementing the ESMP. For monitoring of noise and specific air pollution and water quality parameters, the Project should consider acquiring portable, hand held monitoring meters to carry out ad hoc monitoring to assess Contractors' performance and assist in resolving stakeholders' complaints about noise, dust, and so on.

ESMP Task 6: Develop an Environmental and Social Action Plan and its implementation Cost

Identify and list the main environmental and social actions that must be implemented and documents that must be developed by the PMU, along with the timeline for implementation, the responsible parties, and the approximate cost of implementing them. The PMU must ensure that these are completed or in place prior to the commencement of civil works.

ESMP Task 7 / ESIA Task 11: Contractor Clauses

The E&S Consultant will develop Contractor clauses to be part of bidding documents covering worksite health and safety, community health and safety, the environmental and social management of construction sites; waste management, labour camps/out of area workers, HIV/AIDS and other Sexually Transmitted Diseases (STDs), stakeholder engagement plans, grievance redress mechanism, child protection, gender equity and sexual harassment, labour rights, and the employment of community members, etc.

Based on the ESIA/ESMP, The E&S Consultant will define standardized environmental and social clauses that LURP will include in the bidding documents and contracts for the construction contractor(s) and supervision engineer/consultant, to ensure satisfactory environmental, social,

health and safety (ESHS) performance by the contractors and to ensure that E&S technical requirements are addressed. Such clauses will include penalties for non-compliance.

The clauses will cover the following issues. These are:

i. Environment, Social Health and Safety (ESHS) requirements at the work sites: The E&S Consultant will take into account the size and nature of the proposed project as well as the nature and extent of potential Environmental, Social Health and Safety risks. The ESHS requirements will include the objectives of Environmental and Social regulations of the Employer, Employer's ESHS Requirements for Works which include Pre-Bid Environmental, Social, Health & Safety Considerations, Minimum Environmental, Social, Health and Safety outcomes and other requirements that build on employer responsibilities, Contractor's Environment and Social Management Plan (C-ESMP), ESHS Payment Requirements, minimum requirements for the bidder's code of conduct, ESHS compliance enforcement procedures etcEnvironmental and Social Monitoring by Contractor: The E&S Consultant will ensure that environmental and social clauses are captured for monitoring contractor compliance with their contractual commitments and ensuring that all contractors operate in a manner consistent with the ESS, including project specific ESCP requirements.
ii. Grievance Mechanism for Workers; The E&S Consultant will ensure that workers can file complaints through a grievance mechanism in line with the LURP Grievance Redress Mechanism Manual, which shall be consulted for further guidance on grievance processing aspects, institutional responsibilities, capacity building, and monitoring & reporting;
iii. Stakeholder Engagement Plans; The E&S Consultant will ensure that relevant provisions from the LURP Stakeholder Engagement Plan are considered, including but not limited to stakeholder analysis, outreach to target communities, stakeholder engagement methodologies, dissemination and information, monitoring and reporting, and

iv. Women and Children Protection Strategy;The E&S Consultant will ensure that this is in line with the Project's Gender Based Violence (GBV) Action Plan, including the specific handling of cases of GBV survivors, as well as child labor laws;
v. ESHS staff requirements for the contractor;: The E&S Consultant will take into account the eligibility requirements and qualification criteria and incorporate specific experience in managing Environmental and Social aspects. This will include requirements key ESHS personnel (Environmental social, Gender, Health and Safety, etc) must have demonstrable working knowledge of local conditions and language
vi. C-ESMP requirements: The E&S Consultant will ensure the adequate requirement for the management of the ESHS aspects of the works, including implementation of the requirements of the ESHS requirements and any specific requirements of an ESMP) and RAP for the works are captured. This will include (i) a description of procedures and methods for complying with these general environmental management conditions, and any specific conditions specified in an EMP; (ii) a description of specific mitigation measures that will be implemented in order to minimize adverse impacts (iii) a description of all planned monitoring activities (e.g. sediment discharges from borrow areas) and the

reporting thereof; and (iv) the internal organizational, management and reporting mechanisms put in place for such. and,

vii. OHS requirements: The E&S Consultant will ensure that E&S contract conditions contain OHS obligations and the details, qualifications, and work experience of OHS key personnel OHS requirements are captured.

5.4. Preparation of the Biodiversity Management Plan (BMP)

The Biodiversity Management Plan (BMP) shall be conducted consistent with the World Bank ESF requirements under Environment and Social Standard 6 (ESS6) -Biodiversity Conservation and Sustainable Management of Living Natural Resources and National laws and regulations on biodiversity.

Background

Construction activities of the proposed projects which cover the four intervention areas identified in Section 2 of the TOR may have negative risks and impacts and may affect sensitive receptors in its vicinity such as wetlands, rivers, and flora and fauna in its area of influence. In order to ensure that there is minimum impact on important biodiversity areas (if any) encountered in the project areas, a specific Biodiversity Assessment Study shall be undertaken by the E&S Consultant to identify impacts and to provide necessary mitigation measures that can be developed into a Biodiversity Management Plan (BMP) of the project.

The BMP will ensure that the project avoids to the extent possible areas of ecological value during design, including Mesurado wetland areas. Further, the BMP will assess the potential impacts of an increase or decrease of the flow of water into wetland areas due to drainage and water retention interventions. Finally, the BMP will assess and provide recommendations on how to avoid major disturbances of natural habitats, where possible, and encourage preservation.

A more detailed and area specific tasks on biodiversity assessment and preparation of the BMP will be provided to the successful E&S Consultant, at a later date, once the feasibility and design study has confirmed the intervention areas.

Objectives & Scope of the Study:

The purpose of the Biodiversity management study is to undertake a terrestrial/aquatic biodiversity assessment of the project area that will be potentially affected by the proposed project activities identified in Section 2 of the TOR which include construction/rehabilitation of flood resilience structures (drainages, sedimentation ponds, community roads, centers, etc.) and aims at identifying potential risks and impacts on flora and fauna and to suggest relevant compensatory and mitigatory measures to protect/conserve biodiversity in the likely impacted area along or near the project due to the project activity. The assessment will supplement the ESIA/ESMP studies. To achieve this, the E&S Consultant shall carry out a comprehensive study on biological, and socio-economic aspects along the proposed locations of the project area and assess the potential impacts and risks (direct as well as indirect/ induced) due to the project activities and shall suggest

appropriate measures for minimizing, mitigating and compensating measures for managing the same. This study will describe the biodiversity values present on the development site and the impact of the project activity on these values and also identify reasonable measures and strategies that can be adopted to avoid and minimize impacts on biodiversity.

Approach and Methodology of the Study

The study will essentially be carried out as indicated in the tasks given below:

BMP Task 1: Document review and Mapping of the Study Area

- Review the national policy, legal, and institutional framework related to biodiversity and the World Bank ESS 6.
- Describe the methodology used for the biodiversity study.
- Conduct a review of the relevant existing literature and database(s) (IBAT for example) to determine what flora & fauna species of concern exist in the project area of influence, including sensitive receptors, to establish: (a) a list of species potentially occurring in the project areas and (b) legally protected areas and internationally recognized areas of high biodiversity conservation value within a 50 km radius of the Project location and associated facilities. Review of secondary data should also include satellite images of the study areas or similar locations, IUCN Red data lists, academic research papers, forest, and wildlife management plans, etc.
- Supplement the IBAT list of species using national red lists, National Biodiversity Strategic Action Plan, and other data sources (such as Global Biodiversity Information Facility)
- Establish and compile a map of the Project's Area of Influence (AoI) for which mitigation will be required to address impacts.
- Map the Ecological Area of Analysis (EAA) that is relevant to the important species likely to be affected (such as from the IBAT report and supplementary data). The EAA is likely to be much larger than the AoI (if in doubt, use the 50 km radius applied by IBAT)

BMP Task 2: Field Assessment

- Conduct on-site field survey and collect primary data in the project area in protected/sensitive areas on key parameters such as: flora and fauna baseline information using relevant tools (GIS/GPS technologies) to supplement the terrestrial and aquatic ecosystem/biodiversity data available in the ESIA/ESMP.
- Collect seasonally relevant baseline information within the AoI on flora and fauna that may be affected directly, indirectly, and cumulatively by the proposed activities and any other affected protected areas (legally protected and internationally recognized areas) and the E&S Consultant will be responsible to obtain relevant permits for any sampling.
- Details of flora & fauna with special reference to endemic/threatened species and estimate of the population reported from the study area.
- Description of habitat for such endemic/threatened species, ecology and like threat including the breeding, foraging pattern and its conservation plan/biodiversity action plan undertaken, if any

- Socio-economic values of the affected area vis-à-vis biodiversity values.
- Assess downstream impacts of "first flush" and subsequent runoff on the receiving waters and the surrounding communities and possibly on the Montserrado wetlands (protected Ramsar site) as a result of the "Drainage Cleaning Activity" (or "Quick-Win Activity") under Component 1

BMP Task 3: Stakeholder Consultation

This task consists of conducting stakeholder consultation at the national and local levels to acquire genuine information that will feed into the development of the plan. Thus, this task involves:

- Consultations with relevant ministries, forest/wildlife officials, relevant stakeholders, local communities, NGOs, and technical & managerial staff of the client regarding ecosystem services, high profile species, ecological functions, etc.

BMP Task 4: Data entry analysis and development of the Biodiversity Management Plan

- Conduct an assessment of the pre-mitigation risks and impacts of the project on flora and fauna biodiversity, including habitats, protected areas, and important ecosystem services.
- Outline threats and other factors outside the proposed project that may result in a future change in the flora and fauna baseline conditions.
- Propose mitigation measures following the mitigation hierarchy (avoidance, minimization, mitigation, compensation/offset) in the ESF.
- Develop a Biodiversity Management Plan that defines mitigation measures, skills, equipment, timeframes, and costs required for its implementation. Establish key performance indicators (KPI) and methods of monitoring the effectiveness of the mitigation measures. The Management Plan will apply the mitigation hierarchy towards meeting no net loss, net gain and additional conservation requirements. Mitigation and monitoring actions will integrate with, and reference other management plans developed as part of the Project ESIA.

BMP Task 5: Expected Output

The E&S Consultant will submit a biodiversity management plan as part of the ESIA/ESMP covering the following aspects:

i) ***Baseline status of diversity values of project affected area***: Biodiversity assessment shall include details on wetlands, forest/ tree cover, and other sensitive areas with species and girth distribution, density/crown, description of understory and middle storey flora & fauna, if any, a survey of fauna including species abundance, major habitats, current distribution etc. The study should also cover the distribution of species in terms of seasonal issues related to breeding and feeding ecology and geographical issues related to the movement of wild species including species from cryptic habitats. This study will also identify any rare, endangered, threatened, and endemic species of flora and fauna present in the sensitive areas near the project. If such species are present, the assessment shall also

include geographical features and other associations important for the survival of these species and their role in community ecology.

ii) ***Study of ecological, environmental and socio-economic impacts***: The study shall concentrate on the likely impacts on flora & fauna including their role in community ecology due to project activities. The study shall include the impact on the socio-economic aspect and also the impact on ancillary activities such as the provision of access roads, storm water drainage, construction activities, etc., and their impacts on other resources on biodiversity value in the affected area.

iii) ***Management and Monitoring Plan for bio-diversity conservation***: Based on the assessment, a suitable management plan shall be prepared to describe adequate compensation, mitigation, and management measures with respect to identified impacts, if any. It should focus on measures for conserving important resources, recommending avoidance of impacts by modifying the design of specific activities/components if practical, minimum compensatory measures required by GoL for mitigation and/or management measures for indirect or induced impacts, institutional arrangements including co-ordination mechanisms that need strengthening, description of roles and responsibilities, and the necessary budgetary resources. With reference to the indicative content of a Biodiversity Management Plan (BMP) in the Guidance Note on ESS6, the E&S Consultant shall include an implementation schedule of key BMP activities, considering planned construction and other project activities (refer to the Project Annual Work Plan).

5.5. Preparation of the Site-Specific Waste Management Plan (S-WMP)

The site-specific waste management plan will address the management of site-specific project WMP related solid waste streams. The tasks to be undertaken by the E&S Consultant will include but not be limited to:

S-WMP Task 1:

i. Review the national policy, legal, and institutional framework related to solid waste management.
ii. Review the draft U-WMP.
iii. Describe the methodology used for the S-WMP study.

S-WMP Task 2:

The E&S Consultant should identify the purpose of sampling (characterise the silt and test for heavy metals, toxic and hazardous materials of dredged materials from the targeted drainage channels (e.g. Soniwein Channel) and every other channel independently; conduct tests and comprehensive analyses, especially for heavy metals, to determine pollution status and if regulatory standards are met.

Identifying surface water, wastewater, and solid waste pollution streams entering the Soniwein and all other Channels; identifying impacts of the wastes and sedimentation (increase in turbidity) on the aquatic biodiversity of the ecosystem, analyzing the Soniwein Channel sediments for heavy

metals, organics, toxic materials, etc. and recommending acceptable means of handling, transporting and disposing the dredged materials

S-WMP Task 3:

As part of the ESIA/ESMP, conduct consultations with the PMU / Feasibility and Design Study Consultant, and relevant Government agencies and stakeholders.

S-WMP Task 4:

Identify the social and environmental impacts of dredging and the proposed civil works on water quality and aquatic environment of the streams flowing through the area and on downstream users of the eco-services.*S-WMP Task 5:*

Develop an implementation plan for the site-specific waste management plan, training and capacity building plan, monitoring plan, and implementation budget.

Indicative outline of the ESIA/ESMP, including BMP and S-WMP

The E&S Consultant shall prepare an ESIA/ESMP report based on the project description and proposed sites for interventions through the feasibility and design study consultant's preliminary report. The report shall consider all the available information on proposed communities and ensure compliance with the World Bank ESF requirements and Guidelines.

The ESIA/ESMP report will be expected to include (but not limited to) the following, which are also indicative of the depth of the scope:

- **Executive Summary**: This shall include a concise description of the proposed project; environmental and social context, an account of the main environmental and social issues, the ESMP (mitigation, monitoring, training budget, etc.) procedures, and the consultation process.
- **Methodology**: A description of the methodology used by the E&S Consultant to carry out the study shall be well-stated.
- **Policy, Legal, and Administrative/Institutional Framework**: This shall include a detailed description of existing international treaties, conventions and agreements, national laws, legislation, regulations, and policies relating to biophysical, social, and health issues including solid and liquid waste management, air emissions, environmental quality, health and safety among others. The relevant standards and guidelines for compliance have been listed including those relating to biophysical, social, and health issues. The level of compliance with the applicable laws and corporate environment, safety and health policy shall be clearly stated. Identify any gaps between the National systems, laws, and the World Bank ESF and propose gap-filling measures.
- **Description of the proposed project**: The E&S Consultant shall give the proposed project an introduction covering a short description of the project (pre-construction, construction, operations and maintenance, decommissioning, and closure) – including the technology to be used for the project, project design and technical drawings. The description will include but not be limited to land requirements, associated facilities as defined in the ESF (where applicable), project timetable for each project phase, materials to be used during the

different phases, and labor requirements.

- **Project Alternatives**: Consider project alternatives from the technical, financial, economic, socio-cultural aspects.
- **Description of the Baseline Environment and Social**: The E&S Consultant shall describe Environment components (climate, geology, soils, dredged sediment/disposal site locations, surface hydrology, groundwater, noise, air quality, terrestrial and aquatic ecology, solid wastes) including field sampling, in-situ measurements and laboratory analyses of samples of relevant biophysical parameters within the project area. Discuss the sampling results and their implications for the proposed project. Social components (Social structure of local community, Demographics, settlement patterns, community safety, GRM, etc.) and cultural components.
- **Environmental and Social Impacts identification, assessment, and impact significance ranking** during the pre-construction, construction, operations and maintenance, and decommissioning phases of the project. The E&S Consultant will consider the cumulative impacts.
- **Environmental and Social Management Plan**: As outlined above.
- **Environmental and Social Monitoring Plan**: As outlined above.
- **Public Consultation and Stakeholder Engagement**: Provide a summary of steps taken to consult local interested parties, government agencies, affected people, and NGOs; with key concerns of each party being included and minutes and comments/recommendations made during the consultation taken into the consideration in the design and for the implementation of the project.
- **Proposed GRM mechanisms** for workers and communities according to the LURP SEP and LMP and ESMF and Labor, Occupational health and safety regulations of Liberia
- **Environmental/Social technical specifications** to be included in the contract based on those included in the ESMP prepared in the ESIA.
- **Institutional arrangements** by LURP, contractors, and supervision engineer/ consultant(s), including proposed strengthening and capacity building activities with budgets;
- **Mandatory obligations of contractors** including insurance, permits, emergency plan, implementation of the LMP, and preparation of the Contractor's ESMP.
- **Major Conclusions and Recommendations**.
- **References**: All sources of information shall be clearly documented with clear names and proper locations under references.
- **Appendices** will include and not be limited to
- **TOR for the ESIA** references to relevant studies References-written materials both published and unpublished, used in study preparation. Record of interagency and consultation meetings, including public consultations for obtaining the informed views of the affected people and local nongovernmental organizations (NGOs). The record specifies any means other than consultations (e.g., surveys) that were used to obtain the views of affected groups and local NGOs; including minutes of the meetings held.
- Where applicable include chance find procedures, traffic management plan, code of conduct, emergency preparedness plan, occupational health and safety plan, workers campsite management plan, borrow pit management plan, etc.
- **Biodiversity management plan:** As outlined above.

Site-specific waste management plan: As outlined above.

5.6. Preparation of the Resettlement Action Plan (RAP)

Objectives

In an effort to ensure that the proposed project is implemented in an environmentally and socially sustainable manner, the RAP Consultant shall prepare a detailed RAP report in line with the World Bank Policy, project RPF and relevant national regulations. The RAP includes measures to address physical and/or economic displacement, depending on the nature of the impacts expected from a project.

The specific objectives of the RAP studies will be as follows:

- To prepare a Resettlement Action Plan (RAP) for the project in line with EPA regulations and World Bank's policies; and other guidance in the project's resettlement policy framework;
- To undertake census survey and ensure that all potential PAPs and the impacts of the proposed projects on their livelihoods are identified and appropriate measures to minimize resettlement effects and safeguard livelihoods are recommended;
- To undertake socio-economic survey of the PAPs and ensure that baseline data for monitoring and evaluation during project implementation period is generated;
- To undertake asset inventory survey and ensure that all potential assets that will be affected by the proposed project are enumerated;
- To compare ESS5 and national regulations on involuntary resettlement, identifying the gaps and proposed mitigation measures; and any other national relocation and resettlement related legislation (i.e. Land Rights Act 2018) that govern the infrastructural development sector;
- To provide guidelines to stakeholders participating in the minimizing resettlement impacts of the project during RAP preparation and implementation;
- To recommend cost effective measures to be implemented to safeguard the livelihoods of the people living within and depending on the project area;

The RAP plan shall be developed as a separate report from the main ESIA document with site specific plans for each of the project locations agreed with the feasibility and design study consultant. The RAP report shall cover the elements provided in Annex 1, ESS5 of ESF. The scope of requirements and level of detail of the resettlement plan vary with the magnitude and complexity of resettlement.

Annex 1 also provide additional elements to be included in the RAP where resettlement involves physical or/and economic displacement. The RAP Consultant shall be engaged and report the following RAP activities in detail:

Specific Tasks for RAP Preparation

RAP Task 1: Obtain Overall Understanding of Project, World Bank and Liberia Requirements

The RAP consultant must ensure familiarity with ESS5 of the WB; to understand the Liberian law and regulars about compensation, assistance and resettlement; to understand the project/subproject scope.

RAP Task 2: Map Project Impacted Area

The objective of this task is to depict and map the project impact area, specifically to indicate the boundaries of land acquisition. The RAP preparation team should work with the Design Team to obtain the technical parameters of the project. The RAP team also needs to collect cadastral books from the district and/or commune people committee.

Subsequently, the following actions should be taken:

- Prepare a detailed large-scale map on which individual affected structures and land plots are identified.
- Insert (overlay) the project boundaries onto the map to identify affected structures and land plots.
- Undertake land survey to collect available information from cadastral maps (e.g., land users, land tenure, land use).
- Discuss with the engineering/design team how to minimize the land acquisition from a technical design perspective.

RAP Task 3: Conduct Census and Inventory of Affected Assets

The objective of this task is to collect data on the project's potential impacts in affected communities and households, including affected community facilities and services. The format for the census and the inventory of losses must be adapted to the specific context and informational requirements of the project. It is advisable that the forms be field tested to ensure that the questions and their phrasing elicit the required information. At a minimum, the forms should result in (i) a complete and accurate count of population and households affected by land acquisition; and (ii) a complete count and description of losses.

To accomplish this task, the actions must include:

- Development of various forms/tools (census, inventory of losses) for data collection.
- Collection of data from all DPs (individuals/households, organizations, communities) having losses of assets or livelihoods due to the project execution. It is necessary to determine what population characteristics should be collected, such as information about vulnerable persons (the poor, elderly, handicapped, children, female-headed households with young dependents, minority populations and others); and
- Entering and processing of data to prepare inventory of losses and profiles of affected groups, including their needs and requests.

RAP Task 4: Conduct Socio-Economic Studies

The objective of this task is to understand the socio-economic patterns of affected households and to identify suitable strategies for livelihood restoration and minimize risks, impacts (e.g., housing condition; accessibility to and use of water supply, drainage and sewerage, power supply, solid waste collection, health service; customs, habits and practices of local residents in connection with the construction or operation of the proposed infrastructure facilities, benefit and/or affected areas by the project).

Although substantial data are collected during the census and inventories of losses, further analysis is often needed, especially for severely impacted and/or vulnerable households. Thus, it is important to survey livelihood patterns and income sources of affected households in order to prepare a feasible and effective livelihood restoration program. This also serves as baseline data for monitoring and ex-post resettlement evaluation to identify whether resettlement objectives have been met.

RAP Task 5: Describe and Analyze Legislative and Regulatory Framework

The objectives of this task are to (i) review and describe the pertinent laws, decrees, procedures and standards of both the Government of Liberia and the World Bank, regulating the resettlement-related activities; and (ii) identify and address gaps between the legal framework of the Borrower and that of the World Bank.
The legal framework will lay down the foundation for three key elements of the RAP: (i) eligibility for compensation and resettlement assistance; (ii) compensation policies and entitlements; and (iii) mechanisms to resolve grievances among affected populations related to eligibility and compensation.

Actions to undertake include:

- Review ESS5 (from Task 1), policies of the Government of Liberia (at national level), and regulations and procedures specific to the sector and regulations (at provincial level) applicable in project areas.
- Review and use as appropriate other legislative and regulatory frameworks prepared for projects in Liberia.
- Review gap analyses prepared for other projects in Liberia and use gap analysis to determine what additional measures will be needed to satisfy the requirements of ESS5.
- Discuss proposed additional measures with relevant local authorities.

RAP Task 6: Establish Compensation Packages

In order to establish compensation packages for the DPs affected by the project, the RAP consultant will need to consider the project impacts (based on the census, inventory of losses and socio-economic survey) and specifically identify the types of losses (temporary and permanent) incurred.

Actions to undertake include:

- Assess and determine who is eligible for compensation/assistance
- Describe the valuation methods for determining compensation rates, e.g., replacement cost.
- Establish the types of compensation sufficient to compensate for losses, i.e., prepare an entitlement matrix that identifies the kinds of compensation/assistance, allowances, relocation options and livelihood restoration program appropriate for each type of loss
- Evaluate the mechanisms to achieve the objective of restoring livelihood and income and preferably improving the lives of the DPs
- Establish the amount needed to meet the requirement of Compensation at Full Replacement Cost for lost assets
- Propose the compensation packages to be applied for each affected group
- Consult with DPs and other relevant stakeholders to discuss the compensation package

RAP Task 7: Initiate Planning for Physical Relocation

The RAP consultant shall assist the PMU in working with relevant stakeholders (local authorities, affected people, etc.) to determine the resettlement arrangements (e.g., relocating the household or business in the same site; relocating to a specific resettlement site; or arranging for the DPs‘ self-relocation). This is an iterative process, reflecting negotiation and discussion among relevant actors to (i) ensure that DPs are generally ready to accept specific resettlement sites; (ii) prepare the relocation sites before the date of actual move; and (iii) identify assistance to be provided to DPs during the physical move. To the extent possible, the RAP should capture the selection and development processes of resettlement site; progress/schedule for site preparation and relocation process; and the preparation of housing and other social infrastructures and services.

Actions may include:

- Consult with DPs who need to be relocated about their relocation preferences (partly informed by socio-economic survey), for example, self-arrangement, reorganizing in the existing place; relocate to a resettlement site. If necessary, consult and coordinate with local authority to arrange resettlement site for DPs affected by the sub-project
- Consult with affected communities and with government agencies with regard to the relocation of cultural property and structures associated with religious worship
- Consult with host communities and prepare mitigation measures for impacts due to the relocation process; necessary technical and social infrastructures of the new resettlement sites as well as their design
- Prepare the relocation schedule and guideline as needed.

RAP Task 8: Initiate Planning for Income and Livelihood Restoration

Based on the findings of socio-economic survey and consultation process, the RAP consultant shall assist the PMU with develop livelihood restoration programs to improve or at least maintain the living standard of affected households at pre-project levels. To design an income and livelihood rehabilitation program as such, the preparation team should use the information provided in the socio-economic survey.

Actions to undertake include:

- Analyze existing sources of income of DPs; their existing economic conditions; and the potential opportunities for income generation in local settings of project areas
- Work with relevant agencies/organizations to learn more about existing programs to support job training, job creation in the localities
- Conduct a rapid assessment on labor demands in the localities
- Examine dependencies of DPs on common resources or community facilities and services that may be affected
- Determine the need for support during a transitional period
- Work out the package of livelihood restoration and rehabilitation support with associated requirements for implementation such as training, financial support, personnel, supervision, M&E, etc. Identify potential types of institutions/organizations that will actually implement livelihood support.
- Consult with DPs and other relevant stakeholders to discuss the package of income and livelihood restoration.

RAP Task 9: Establish/Set up Implementation Arrangements

To accomplish this task, actions to undertake include:

- Determine the organizational responsibilities in RAP implementation: the RAP must assign clear responsibilities for each stakeholder in the process, including for example, (i) the identification of agencies responsible for resettlement activities, (ii) and assessment of the institutional capacity of such agencies, and (iii) any steps that are proposed to enhance their institutional capacity.
- Identify a grievance redress mechanism applicable to the project. During the RAP preparation, the RAP team must examine and propose how such a mechanism will work in reality, including the time-frame, responsibilities for lodging and recording grievances, and procedures for considering them at progressively higher levels, ending with the courts.

- Propose monitoring, evaluation and reporting arrangements to determine how activities under the RAP will be monitored, evaluated and reported.
- Plan the implementation. The RAP implementation should be synchronized with the project's schedule of construction of civil works. Linking resettlement and construction schedules ensures that project managers place key resettlement activities on the same critical path as key project construction activities.

RAP Task 10: Propose the RAP Implementation Budget

Actions to undertake include:

- Itemize resettlement expenditures including costs related to compensation, assistance, allowances, relocation, training, project management, and monitoring
- Apply the rates previously defined in Tasks 6 – 8 and estimate the budget for RAP implementation
- Estimate the cost of staff (or consultants) to carry out implementation, management cost
- Estimate the cost of monitoring (internal and external); and grievance redress arrangement
- Include contingencies (for inflation, changes in exchange rates used for imported materials, changes in the number of DPs and the magnitude of impact during the project implementation).

RAP Task 11: Disclose, Consult, and Promote Participation with Affected People and Communities

In a World Bank-financed project, the resettlement program should be designed on the basis of continuous consultation and participation of DPs, their representatives, and other project stakeholders. This consultation activity should be undertaken in coordination with the E&S consultant.

The responses and comments obtained from the consultation process should be recorded and reflected in the Social Assessment Report, and later on be incorporated in the final Engineering Design Document.
Describe the requirements for information disclosure in accordance with the World Bank's procedures.

RAP Task 12: Completing RAP

The expected outcomes of performing the tasks of RAP preparation shall be included in the RAP.
Contents of the RAP: The RAP documentation shall include a full reporting of standardized tasks and activities as described above and also be detailed as follows:

- Determination and announcement of cut-off date to the DPs;
- The process of consultation, along with results/findings as well as any agreed actions and matters;
- Eligibilities for determining DPs/PAPs, their entitlements, resettlement site, livelihood restoration measures, etc.
- Access sites and agreed mode of project information disclosure;
- Agreed independent grievance redress and complaint resolution mechanism;

The draft ESIA, ESMP, BMP, U-WMP, S-WMP and RAP shall undergo review by the Client and the World Bank. All comments provided as a result of these reviews shall be addressed by the E&S Consultant.

6. DELIVERABLES & SCHEDULES

The expected final deliverables of this assignment are:

- Umbrella Waste Management Plan (U-WMP)
- Environmental and Social Impact Assessment (ESIA)
    - Environmental and Social Management Plan (ESMP)
    - Biodiversity Management Plan (BMP)
    - Site-specific Waste Management Plan (S-WMP)
- Resettlement Action Plan (RAP)

Table 2: Impelemenmtation schedule of Deliverables

	Deliverables	**Payment schedule**	**Time (in calendar Weeks)**
1.	Contract signature		Day 1
2.	Detailed Desk Review		2 Weeks after signing
3.	Inception Report- ESIA and associated ESMP (including BMP and S-WMP), U-WMP, and RAP	20%	5 Weeks after signing
4.	Preliminary/Scoping report of the ESIA and associated ESMP, BMP, S-WMP and standalone U-WMP and RAP		10 Weeks after signing
5.	Review and comments on the Scoping report by EPA and PMU		12 weeks after signing
6.	Draft Umbrella Waste Management Plan		15 Weeks after signing
7.	Review of the draft U-WMP complete by the PMU and World Bank, and respond to the E&S Consultant		18 Weeks after signing
8.	Final Draft U-WMP	20%	20 weeks after signing
9.	Draft- ESIA and associated ESMP, BMP and S-WMP and standalone RAP Report		18 weeks after signing
10.	Review of the final draft U-WMP by the PMU and World Bank, and respond to the E&S Consultant		22 weeks after singing
11.	Final report on U-WMP	20%	22 weeks after signing
12.	Review of Draft ESIA and associated ESMP, BMP and S-WMP and standalone RAP Report by the PMU and World Bank, and respond to the E&S Consultant		26 Weeks after signing
13.	Final Draft ESIA and associated ESMP, BMP, and S-WMP and RAP Report for disclosure	20%	29 Weeks after signing
14.	Review of final draft ESIA and associated ESMP, BMP and Site-Specific WMP and standalone RAP Report by the PMU and World Bank, and respond to the E&S Consultant		32 weeks after signing
15.	Submission of the final ESIA and associated ESMP, BMP and S-WMP and RAP Report to the PMU and World Bank,		34 Weeks after signing

16.	Approval of all Final Reports by PMU &WB.		38 Weeks after signing
17.	EPA's review of the final ESIA and associated ESMP, BMP and Site-Specific WMP and standalone RAP Report and issuance of the ESIA Permit	20%	42 Weeks after signing

6.1 Duration

Total Duration of the assignment shall be 42 weeks or 10 months. This means that the sediment quality study will be conducted during both the rainy and dry seasons.

6.2 Formats for Delivery and Data Management

- All key deliverables shall be provided in editable digital form to the client. All draft reports shall be submitted to the client by the 29th week after the signing of the contract and the Final Reports shall be provided within the 34th week after receipt of comments addressed from the Client and the World Bank as shown in Table 2: deliverables and schedules;
- Final reports, and drafts thereof, shall be submitted in Word format and will be reviewed by the client and World Bank. A clean version and a version in track changes, showing change and how comments were addressed shall be submitted by the E&S Consultant;
- The E&S Consultant will attend regular project meetings with the client to monitor project progress, present and discuss deliverables;
- All reports shall be written in English;
- The E&S Consultant shall ensure that the Client obtains EPA's Permit to implement the project.

7. CONSULTANT QUALIFICATION

The E&S Consultant should meet the following criteria:

- Be a consulting firm or an association of consulting firms with the appropriate capabilities and experience to execute the services.
- Have at least 15 years of general experience in implementing environmental studies and in preparing ESIA, ESMP, and RAP with specific experience in the sub region, being a key requirement; work experience in Liberia will be an added advantage;
- Have a proven record of successful completion of at least 3 assignments in the past 7 years related to the preparation of similar ESIA and ESMP for projects of similar nature and magnitude (i.e., green-blue-grey drainage infrastructure and neighborhood upgrading interventions in a densely populated urban context), including stakeholder engagement and consideration of environmental and social safeguards;
- To be able to mobilize the internationally experienced and locally experienced Key Experts and staff listed in the tables below.
- The E&S Consultant's key staff selected to undertake the services shall have had extensive experience in preparation of the agreed assignment - ESIA, RAPs, ESMP, BMP, S-WMP & U-WMP for the project.

The E&S Consultant must evaluate for themselves the staff required to achieve the objectives of the assignment and may propose additional or alternative staff. Resumes from Key Experts (KE) must be included in the E&S Consultant's proposal. This assignment will be a lump sum contract and it is the E&S Consultant's responsibility to determine the duration of inputs required to achieve the objectives.

Table 3: Indicative Staffing

Ref	Description
Lead/Key Experts	
1	Team Leader (Environmental Expert)
2	Environmental Specialist
4	Social Specialist
5	RAP Specialist
3	Biodiversity Expert \ Ecologist
6	Solid Waste Management Specialist
7	Hydraulic Engineer
8	GIS Specialist
9	Field Researchers (at least 2)

Key Staff are generally required to meet the following key qualifications:

1. Graduate degree in relevant disciplines (e.g., Environmental Studies, Natural Resource Management, Environmental Policy, Sociology, Anthropology, Human Geography)
2. A minimum of twelve (12) years for Team Leader and six (6) years of relevant professional experience in areas related to environmental and natural resource management,

environmental science, The Team Leader should be available to work on the Project full-time, for the duration of the Study;

3. A good knowledge of environmental and social policies and standards (e.g. safeguard policies, ESF, etc.) of donor or international organizations. Have proven experience in developing and managing the implementation of Environmental and Social Impact Assessments (ESIAs), Environmental and Social Management Plans (ESMP), Waste Management Plans, Environmental Management Frameworks, Resettlement Action Plans, the social aspects of development projects (health and safety aspects, human resource management, and gender issues, etc.), monitoring, evaluation, and conformity assessment;
4. Good knowledge and experience of multi-criteria assessments, stakeholder engagement, and consultation, and community participation in relation to the specific project context (i.e. rehabilitation and new green-blue-grey drainage infrastructure and neighborhood upgrading interventions in a densely populated urban context);
5. Analytical skills to assess institutional capacity and to design/review practical arrangements for implementing complex urban projects related to drainage infrastructure/neighborhood upgrading interventions, particularly experience in West Africa;
6. Provided consultancy services to donors or international organizations such as The World Bank (WB); African Development Bank (AfDB); European Investment Bank (EIB); European Union (EU); Millennium Challenge Account (MCA); the German Agency for International Cooperation (GIZ); United Nation Development Programme (UNDP); United States Agency for International Development (USAID), etc.
7. Listening to clients – providing effective services and solutions to staff beyond presenting past challenges and able to gain respect through the depth of demonstrated expertise, effectively managing various clients and country situations;
8. Demonstrated ability to work effectively in a multicultural environment and to develop effective working relationships with clients and colleagues;
9. Have excellent technical and analytical skills;
10. Be able to communicate effectively (written and oral) in English;
11. Be a part of legal or registered Association;
12. Proficiency in the usage of computers and office software packages (word processing, spreadsheet etc.)

Key professional staff qualifications and competence for the assignment:

The E&S Consultant shall utilize highly qualified experts for the study. Additional support staff may be added as may be identified by the E&S Consultant to meet the requirements in the TOR. The team shall comprise of the following experts:

Table 4: Staff Qualifications

POSITION	MINIMUM QUALIFICATION REQUIRED
Environmental Expert (Team Leader)	• The consultant must have a minimum masters' degree in natural resources management, environmental studies, management, policy, and environmental engineering or a related discipline. • A minimum of 12 years of post-qualification professional experience in thematic areas related to environmental and social management issues with grounding in

	environmental assessments and monitoring, pertaining to water resources, water supply and sanitation, waste management etc. • Proven experience and familiarity in sub-Saharan African region with specific focus in Western Africa. • Proven knowledge in sustainable development financing and environmental and social risk management. • Excellent knowledge, skills and experience in preparing Environmental and Social Audits of development projects, designing frameworks and systems associated with Environmental and Social Impact Assessments (ESIAs) and Environmental and Social Management Plans (ESMPs), monitoring, evaluation and compliance assessment pertaining to large civil infrastructure projects, especially road and drainage projects. • Working experience with World Bank Environmental and Social Framework (ESF) and other similar international environmental and social frameworks, standards and policies is required
Environmental Specialist	• The consultant must have a minimum Bachelor of Science degree in natural resources management, environmental studies, management, policy, and environmental engineering or a related discipline. • A minimum of 10 years of post-qualification professional experience in thematic areas related to environmental and social management issues with grounding in environmental assessments and monitoring, pertaining to water resources, water supply and sanitation, etc. • Proven experience and familiarity in sub-Saharan African region with specific focus in Western Africa. • Proven knowledge in sustainable development financing and environmental and social risk management. • Excellent knowledge, skills and experience in preparing Environmental and Social Audits of development projects, designing frameworks and systems associated with Environmental and Social Impact Assessments (ESIAs) and Environmental and Social Management Plans (ESMPs), monitoring, evaluation and compliance assessment pertaining to large civil infrastructure projects, especially road and drainage projects. • Working experience of the Liberian EPA regulations and World Bank Environmental and Social Framework (ESF) is required
Social Specialist	• A minimum of 10 years of post-qualification professional experience in thematic areas related to social risk management issues with grounding in social assessments and monitoring. • Minimum of master's degree in social sciences. sociology or any other social science field • Proven experience and familiarity in sub-Saharan African region with specific focus in Western Africa. • Proven knowledge in sustainable development financing social risk management. • Excellent knowledge, skills and experience in designing frameworks and systems associated Social Impact Assessments, Audits, and the social aspects of development projects, monitoring, evaluation and compliance assessment.

	• Working experience of the Liberian EPA regulations and World Bank Environmental and Social Framework is required.
RAP Specialist	• Minimum of Master's degree in any of the social science; sociology, Economics or any other social science field related to the project activities; • A minimum of 6 years of post-qualification professional experience in thematic areas related to social risk management issues with experience in social assessments and monitoring, conducting socio-economic surveys, inventory of loses and valuation of affected assets and preparation RAP report; • Working experience of the Liberian EPA regulations and World Bank Environmental and Social Framework is required.
Biodiversity Expert /Ecologist	• A biologist/biodiversity specialist with at least 10 years of experience and a minimum of Master's degree in Biology, Ecology or related university degree. • Extensive knowledge of local species of fauna and flora and their habitats including terrestrial and aquatic management and previous work experience in West Africa Region/Liberia will be an advantage. • Experience in the preparation of Biodiversity Management Plans. • Working experience of Liberia EPA requirement and the World Bank Environmental and Social Framework is required. • Have an understanding of and experience in applying international standards on natural and critical habitat assessments especially World Bank ESS6 and/or IFC PS6.
Solid Waste Management Specialist	• A Master's degree in civil/environmental engineering, waste management, environmental management, or a relevant discipline; and • At least 10 years of professional international experience in solid waste management, and planning studies. Familiarity with the South-Saharan Africa (SSA) or Liberia context a strong plus.
Hydraulic Engineer	• A minimum of 10 years' experience in hydraulic engineering (drainage construction and flood management) • A Master's degree in Civil Engineering or Hydraulics or other relevant disciplines • The candidate should have cognate experience in infrastructure construction, supervision, and project management and should be fully conversant with hydraulic construction best practices.
GIS Specialist	• A Master's degree in a relevant field such as geographic information systems, remote sensing, geospatial sciences, database management or related field; and • And at least 10 years of professional experience in mapping, geospatial analysis, remote sensing, imagery processing, and database management.
Field Researchers	• At least 2 Field Researchers should have at least 6 years of experience in a relevant field. • Must have strong oral and written communication skills in local languages as well as English. • Responsible for data collection and analysis, field research and surveys. • Field researchers should have a Bachelor's degree qualification in waste management, environmental management, environmental engineering, social studies, or similar with a proven ability to carry out field work applying research methodologies.

8. FACILITIES TO BE PROVIDED BY THE CLIENT

The PMU shall avail staff who shall work closely with the E&S Consultant and represent the Client in different tasks:

i. Assist in providing existing project information and data when required;
ii. Review and approve WMP, ESIA/ESMP, BMP, S-WMP, and RAP studies and any submissions by the E&S Consultant that require approval including follow-up and giving guidance on the WMP, ESIA,/ESMP, BMP, S-WMP, and RAP preparation; and
iii. The E&S Consultant shall be assisted in any needed consultation/coordination with the project engineering and design teams.

The Client will provide the following subject to availability:

i. All project relevant reports and Project design documents;
ii. Access to other relevant information to the extent of its availability;
iii. Access to the project site and other sites belonging to the Client as the E&S Consultant may request.

- Assistance with stakeholder consultations
- Other support as necessary.