



Republic of Liberia
Ministry of Public Works
South Lynch Street



Liberia Urban Resilience Project
Monrovia, Liberia

REQUEST FOR EXPRESSIONS OF INTEREST (REOI)
INDIVIDUAL CONSULTANT'S SELECTION

COUNTRY: **Republic of Liberia**
NAME OF PROJECT: **Liberia Urban Resilience Project**
PROJECT ID: **P169718**
CREDIT/GRANT No.: **IDA-7112-LR and E0410-LR**
ASSIGNMENT: **Consulting Services for an Integrated Advisor for Geographic Information Systems (GIS) to Support the Monrovia City Corporation and Paynesville City Corporation**
REFERENCE No.: **LR-MPW-369537-CS-INDV**

The Government of the Republic of Liberia has received financing from the World Bank toward the cost of the **Liberia Urban Resilience Project (LURP)** and intends to apply part of the proceeds for the **Consulting Services for an Integrated Advisor for Geographic Information Systems (GIS) to Support the Monrovia City Corporation and Paynesville City Corporation**.

The objective of the Consultancy services (“the Services”) is to strengthen urban management capacities through providing integrated advisory and capacity building services on Geographical Information Systems (GIS) to the Monrovia City Corporation (MCC) and the Paynesville City Corporation (PCC). The purpose of the advisory services is to strengthen the GIS capacity of the targeted municipalities to enhance their systems with regard to (1) spatial planning; (2) infrastructure planning; (3) solid waste management; (4) revenue generation; and (5) building control and monitoring of urban developments. Further, the consultant will conduct GIS related assessments with the Buchanan, Ganta and Gbarnga City Corporations.

The Ministry of Public Works (“the Client”) now invites eligible Individual Consultants to submit Expression of Interest (EoI) in providing the Services. The selection shall be based on qualifications, experience and skills of the candidate and followed by an interview. The qualifications, experience and competencies include:

- (a) BA or MA degree in Geographic Information Systems, Geography, Information Technology, Networking, Computer Programming, or related field
- (b) Minimum 10 years of experience of working with GIS, establishing GIS systems including identification of required hardware and software systems, and geospatial data collection, including open-source systems

- (c) Minimum 5 years of experience with providing trainings and/or delivering capacity building programs
- (d) Experience of similar assignments related to GIS or capacity building within Liberia will be required and experience with related tasks in the region is an advantage
- (e) Proficient English and excellent technical writing skills
- (f) A track-record of timely submission of high-quality deliverables

The consultancy is expected to last for a period of three years (36 months) and will be time-based. The consultant will be hired and work like an extended PMU staff. The initial contract duration will be for a period of one year (12 Months) with a probational period of three months, upon which the contract can be terminated or renewed based performance after the inception report stage.

Further information may be obtained at the address below during office hours 0900 to 1700 hours from Monday to Friday excluding lunch hour (1300 to 1400 hours) and public holidays.

An Individual Consultant will be selected in accordance with Bank's "Procurement Regulations for IPF Borrowers ("Procurement Regulations") dated July 2016, revised in November 2017 and August 2018, and updated in November 2020.

For detailed Terms of Reference for this assignment with scope of assignment and specific tasks, qualifications and experience and other requirements, please visit the Ministry's website: <https://iiu-mpw.org>, <https://www.mpw.gov.lr> and www.emansion.gov.lr

Expressions of Interest and CV must be shared through email written below on or before **August 2, 2023** at 15:00 hours (Monrovia Time) – clearly marked **"CONSULTING SERVICES FOR AN INTEGRATED ADVISOR FOR GEOGRAPHIC INFORMATION SYSTEMS (GIS) TO SUPPORT THE MONROVIA CITY CORPORATION AND PAYNESVILLE CITY CORPORATION"**; and addressed to:

Project Coordinator
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**REPUBLIC OF LIBERIA
MINISTRY OF PUBLIC WORKS
LIBERIA URBAN RESILIENT PROJECT (LURP)
P169718**

TERMS OF REFERENCE

**Consulting Services for an Integrated Advisor for Geographic Information Systems (GIS) to
Support the Monrovia City Corporation and Paynesville City Corporation**

June 2023

I. INTRODUCTION

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) aims to reduce and control the risks associated with flood, coastal erosion and windstorms in the Monrovia area. The PAPD is also cognizant of the extent of informality and lack of service access that has paralyzed the economy of Greater Monrovia.

Greater Monrovia is the largest agglomeration in Liberia, but decades of conflict have stalled investments and development. Land use in Central and Greater Monrovia is highly inefficient and unequal. There are high degrees of informality as it is estimated that 70 percent of the Greater Monrovia population is living in informal settlements. These settlements increasingly encroach into wetlands and reclaimed land. The city's piped water and sewage systems predate the civil wars, built to cater to a much lower population. Only 11 percent of Greater Monrovia's households have access to electricity and only about four percent have access to piped water, with the majority depending on water sources that are contaminated. Open defecation is rampant and waste collection rates are very low, impacting basic health especially within informal settlements. These trends hinder the potential of Greater Monrovia to provide a liveable and productive environment that connects workers to jobs and consumers to markets.

The Government of Liberia (GoL) is implementing a World Bank-financed Liberia Urban Resilience Project (LURP). The Project Development Objective (PDO) is increase flood resilience and access to urban infrastructure in selected neighborhoods and to improve urban management in Liberia. The project has three components: (i) Climate Resilient Infrastructure and Urban Upgrading; (ii) Strengthening Integrated Resilient Urban Development Capacity; and (iii) Project Management. Under Component 2, the project intends to support both national and municipal government institutions responsible for urban planning in institutionalizing and strengthening urban management capabilities critical to efficient revenue generation, planning, and sustainable delivery and management of resilient infrastructure and services. The activities under this component will assist the participating cities to lay the necessary foundation for well-functioning urban centers that are prepared and able to reap the full benefits from subsequent interventions planned for the country and prepare them for second-generation/next-phase urban resilience projects.

Geospatial data and GIS systems are key for improving urban management capacities and are required to achieve several urban development objectives. GIS capacities and systems are key for (1) spatial planning and zoning to guide optimal land use within defined administrative boundaries. Municipalities require in-house capacities and systems to develop, implement, monitor, and adjust spatial plans and zoning requirements in coordination with other stakeholders. Further, geospatial data is required for (2) infrastructure planning, which is closely linked to spatial planning and zoning. Infrastructure planning depends on utility providers, (water, electricity, transport, etc.) who have their in-house GIS systems and capacities, which are however not accessible to MCC or PCC. Further, GIS capacities are required for (3) solid waste management, which is also supported under LURP Component 2. Geospatial data enables MCC and PCC to plan waste collection routes and helps to assess waste fee payment compliance of households. Closely linked to the geospatial driven collection and monitoring of waste fees is (4) general revenue generation. The collection and compliance monitoring related to business taxes and other fees is enhanced by using geospatial data and GIS systems. Finally, GIS systems are required for enabling municipalities to (5) regularly monitor building

control, encroachment of wetlands and other sensitive areas, as well as any other urban developments.

GIS capacity within MCC and PCC is low, systems are not available and the lack of coordination between entities hinders the efficient use of geospatial data for urban development. MCC and PCC are responsible for the urban development of the largest urban agglomeration in Liberia, the Greater Monrovia Area. However, neither of the two municipalities has dedicated GIS experts, GIS systems, GIS data, and GIS capacities are low. Hardware and software for using GIS data is not available but will be financed by LURP. Relevant geospatial data is available within government (e.g., through the Liberia Water and Sewer Corporation, LWSC; Ministry of Mines and Energy, MME; Liberia Land Authority, LLA; Liberia Revenue Authority, LRA; Liberia Institute of Statistics and Geo-Information Services, LISGIS; etc.) and open geospatial data is available as well (OpenStreetMap; Open Aerial Map; etc.). However, this data is not available in one database, preventing the use of such data at the municipal level. Further complicating the situation is that Liberia does not have any national or municipal spatial data infrastructure, i.e., there are no common platforms for sharing geospatial data; no geospatial data standards; and no geospatial data sharing agreements. These combined challenges hinder the use of GIS at MCC and PCC.

Based on the issues outlined above, the Ministry of Public Works (MPW) seeks the consulting services of an individual with vast GIS experience in Liberia to be based as an integrated advisor within MCC and PCC to build GIS capacities and support the establishment of GIS systems.

II. OBJECTIVE OF THE ASSIGNMENT

The objective of this assignment is to strengthen urban management capacities through providing integrated advisory and capacity building services on Geographical Information Systems (GIS) to the Monrovia City Corporation (MCC) and the Paynesville City Corporation (PCC). The purpose of the advisory services is to strengthen the GIS capacity of the targeted municipalities to enhance their systems with regard to (1) spatial planning; (2) infrastructure planning; (3) solid waste management; (4) revenue generation; and (5) building control and monitoring of urban developments. Further, the consultant will conduct GIS related assessments with the Buchanan, Ganta and Gbarnga City Corporations.

III. SCOPE OF WORK & METHODOLOGY

The consultant will provide in-house advisory services and on-the-job capacity building for MCC, and PCC and the consultant will be physically based at MCC and PCC, with equal time allocated to each municipality.

The consultant will work in close coordination with other consultants financed under LURP Component 2, including a firm for Strengthening Urban Planning and Development Control Practices, an Own Source Revenue Generation and Municipal Financial Management Consultant, a Solid Waste Management Consultant, as well as any other consultants, government counterparts or project staff as needed. The work program shall be integrated with spatial planning and revenue mobilization activities financed under LURP Component 2.

The scope of work includes the following:

- Review relevant literature, policies, laws, project reports, etc. with regard to LURP, general urban development in Liberia, and in particular spatial planning and zoning, infrastructure planning, solid waste management, municipal revenue generation, and building control

- Develop with MCC and PCC a GIS capacity building program through the following:
 - Define MCC's and PCC's objectives for using GIS and identify priority use cases (in close coordination with parallel consultancies financed by LURP for spatial planning, revenue generation, and solid waste management)
 - Conduct a training needs assessment to identify existing GIS capacities within MCC and PCC, capacity gaps, and development opportunities
 - Based on the findings, develop a 3-year training plan
 - Support MCC and PCC to implement the training plan, including joint workshops and trainings with MCC and PCC staff where feasible
- Advise MCC and PCC on establishing adequate GIS systems by completing the following:
 - Advise MCC and PCC on available open-source GIS software (e.g., QGIS) and make recommendations on which open-source software to use within MCC and PCC
 - Assess hardware and software requirements for storage and use of GIS data and prepare specifications for establishing geo-servers within MCC and PCC and ensure that GIS data and systems can be accessed by both institutions (to be financed by LURP)
 - Assess hardware and open-source software requirements for collection of GIS data within Monrovia and Paynesville and prepare respective specifications for procurement (to be financed by LURP).
- Support MCC and PCC with obtaining existing GIS data by:
 - Assessing available GIS data that is relevant for improving urban management and development (i.e., related to base maps, utilities, infrastructure, demographics, land administration, etc.) from government institutions (LWSC, LISGIS, LLA, LRA, MME, MPW, NDMA, etc.), civil society organization, and from open-source platforms (OpenStreetMap, Open Aerial Map, etc.)
 - Collate the information in a central database and enable MCC and PCC to access this data
- Support MCC and PCC to identify any additional GIS data needs and support GIS data collection in the field by:
 - Supporting the development of data collection forms (using open-source software)
 - Supporting the establishment of field data collection teams as needed
 - Assisting with supervision of field data collectors and support data collection quality control
 - Building capacities in the above as well as in integrating and analysing the collected data
- Provide day-to-day advice and capacity building to MCC and PCC staff for using GIS data to deliver on MCC's and PCC's urban development mandates
- Assess the existing GIS capacities and needs at the Buchanan, Ganta and Gbarnga City Corporations and based on the tasks described above, extract lessons learned and recommendations for the establishment of GIS systems at these municipal governments.

IV. DELIVERABLES AND TIMELINES DURATION

The following table provides an overview of the deliverables and anticipated timeline.

Deliverable	Timeline
Needs Assessment Report: • Conduct a thorough needs assessment to identify the specific requirements of the Monrovia City Corporation and Paynesville City Corporation in terms of GIS support. • Document the existing GIS infrastructure, data availability, and technology gaps. • Identify the key objectives, priorities, and challenges for GIS implementation and utilization within the city corporations. • Inception report to define the methodologies, timelines, and arrangements for delivering the required work	14 weeks after contract signing
GIS Strategy and Implementation Plan: • Develop a comprehensive GIS strategy and implementation plan tailored to the specific needs of the Monrovia City Corporation and Paynesville City Corporation. • Provide recommendations on appropriate GIS software, hardware, and data management systems. • Define the scope and timeline for GIS implementation, considering short-term and long-term goals. • Central GIS database with geospatial data from government and open-source platforms • 3-year training plan	4. Weeks after training needs assessment
Data Management and Integration: • Assess existing geospatial data sources within the city corporations, central government, and GIS data in the public domain and develop a data management framework. • Identify strategies to integrate and harmonize disparate datasets, ensuring data accuracy, consistency, and accessibility. • Establish data sharing protocols between different departments and external stakeholders.	16 weeks after training needs assessment
GIS Training and Capacity Building: • Develop and deliver GIS training programs to enhance the technical skills of staff members within the city corporations. • Provide training on data collection, analysis, visualization, and reporting using GIS tools and software.	16 weeks after training needs assessment

Support the creation of a GIS user community, promoting knowledge sharing and collaboration.	
Spatial Analysis and Decision Support: - Assist in conducting spatial analysis to support urban planning, infrastructure development, and resource allocation. - Develop decision support tools and models to aid in evidence-based decision-making processes. - Provide guidance on best practices for spatial data analysis and interpretation.	20 weeks after training needs assessment
Reporting and Documentation: - Prepare regular progress reports outlining project activities, achievements, and challenges. - Document the GIS implementation process, including methodologies, workflows, and technical specifications. - Present findings and recommendations to key stakeholders, facilitating effective communication and project buy-in.	Quarterly
Need Assessment for Other Cities: GIS needs assessments for Buchanan, Ganta and Gbarnga City Corporations	18 months after contract signing

The consultancy is expected to last for a period of three years (36 months) and will be time-based. The consultant will be hired and work like an extended PMU staff. The initial contract duration will be for a period of one year (12 Months) with a probational period of three months, upon which the contract can be terminated or renewed based performance after the inception report stage.

Payments will be made based on monthly reports to be submitted to LURP PMU with detailed overview of activities for each day including number of hours worked.

Deliverables are required to be submitted to the LURP Project Management Unit within the Ministry of Public Works and MCC and PCC respectively.

V. CONSULTANT QUALIFICATIONS

The consultant is required to have the following qualifications:

- (g) BA or MA degree in Geographic Information Systems, Geography, Information Technology, Networking, Computer Programming, or related field
- (h) Minimum 10 years of experience of working with GIS, establishing GIS systems including identification of required hardware and software systems, and geospatial data collection, including open-source systems
- (i) Minimum 5 years of experience with providing trainings and/or delivering capacity building programs
- (j) Experience of similar assignments related to GIS or capacity building within Liberia will be required and experience with related tasks in the region is an advantage
- (k) Proficient English and excellent technical writing skills

- (l) A track-record of timely submission of high-quality deliverables

VI. REPORTING REQUIREMENTS

The consultant will report administratively to the Project Coordinator of the Project Management Unit (PMU) at the Ministry of Public Works. Technically, the consultant will report to the PMU's Urban Development Advisor and work with one main counterpart in MCC and PCC respectively.

MCC and PCC will make office space available for the consultant.

If and as needed, the consultant will present findings to the LURP Project Technical Committee and the Project Steering Committee.

All data collected under this assignment will be owned by the Republic of Liberia. The consultant will not be allowed to keep or use this data for any purposes outside and after this assignment. Any violation of this instrument by the consultant may result in serious consequences, up to and including termination and possible referral to legal authorities.