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| **Job Title**  | Engineering Firm **(National)** |
| **Division/Department** | Project: Enhancing the Resilience of Vulnerable Coastal Communities in Sinoe County, Liberia (ERVCCS) |
| **Program/Project Number/ GEF Project ID number** | 10376 |
| **Activity Result** | Detailed Design of Hybrid-Adaptation Coastal Structures (1.5km revetment and five 20m long groynes)  |
| **Assignment** | To conduct assessments and design or modify coastal structures from the coastal Add-On that will protect Downtown Mississippi and Seebeh from coastal erosion. The design will be adapted from the New Kru-Town Coastal Add-On Project revetment design. |
| **Location** | Greenville, Sinoe County |
| **Reports to** | **ERVCCS Project Manager under the supervision of the Energy & Environment (E&E) Coordinator** | Consultancy Duration: | Two (2) year period |
| **1.0 PROJECT BACKGROUND** |
| The EPA is Liberia's principal authority for environmental management. It coordinates, monitors, supervises, and consults with relevant stakeholders and sector Ministries, Agencies, and Commissions (MACs) on all activities related to protecting the environment and sustainable use of its natural resources.The Government of Liberia (GoL), through the EPA and the United Nations Development Program (UNDP), and with funding from the Global Environmental Facility (GEF), received funding for the project “Enhancing Resilience of Vulnerable Coastal Communities in Sinoe County of Liberia (ERVCCS).” EPA is the project's Executing Entity. It is financed by a GEF Trust Fund grant and co-financed by UNDP and the GoL.The project aims to build on existing projects to strengthen the resilience of vulnerable coastal communities and their livelihoods to the impacts of climate change, focusing on women and youths. Specifically, project interventions include 1) Strengthening Institutional Capacity for Climate Change Adaptation Planning, 2) Supporting Innovative Technologies for Climate Information and Communication Management, 3) Introducing Hybrid Adaptation Solutions, and 4) Supporting Resilient Livelihood Diversification through Training and Improved Access to Finance. The majority of the above interventions will target all coastal counties in Liberia. In contrast, hybrid adaptation interventions will be explicitly implemented in Sinoe County, one of the country’s most vulnerable coastal counties.The impacts of climate change, combined with non-climatic drivers, such as sand mining, the expansion of agricultural areas, unsustainable fishing, pollution, and inadequate drainage systems, compromise the resilience of Liberian communities' ecosystems along the coastline. Consequently, local communities and ecosystems are experiencing increased coastal flooding and erosion, saltwater intrusion into groundwater supplies, waterlogging of inland areas, and sedimentation of rivers and freshwater resources due to Sea Level Rise (SLR) and higher-intensity rainfall events. The vulnerability of communities and ecosystems occurs through I) inundation and consequent damage of coastal infrastructure, II) loss of fishery and agriculture-dependent livelihoods, III) decrease in stable income generation for coastal communities, IV) increase in conflict and competition over resources within communities, V) decrease in food and nutrition security, VI) increased risk of vector- and waterborne diseases through waterlogging, and VII) increased pressure on surrounding ecosystems to compensate for the reduced provision of services from coastal, wetland and mangrove ecosystems. In addition, the vulnerability of Liberia’s coastal communities and their resilience to climate change, particularly in Sinoe County, is exacerbated by the limited capacity of the GoL to provide essential services and adequate support for, among other things, water and sanitation, healthcare, utility-scale energy, and road infrastructure.As a result, coastal communities in Liberia are threatened by damaging floods and erosion, both of which are increasing due to sea level rise and other impacts of climate change, such as increasingly intense rainfall events and the current limited financial and technical capacity at the national and county levels to address these threats.Previously, Liberia has built coastal defense infrastructures in different places as follows:1. Buchanan: Revetment was constructed and completed in 2016
2. New Kru Town in Monrovia: Revetment, referred to as the Coastal Add-On project. This project was constructed and completed in 2019.
3. West Point in Monrovia: Revetment containing beach access

Following lessons learnt from the past projects, the coastal profile in Greenville (Sinoe County) and advances towards a hybrid approach incorporating nature-based solutions, this project will adopt a hybrid approach that combines grey and green infrastructure. The design under these ToRs should reflect this approach.**2.0 SCOPE OF WORK**Under component three of the project, two revetments, measuring 800 m and 700 m, will be constructed in Downtown Mississippi and Seebeh, respectively. In addition to the revetments, five groynes, each 20 m long, will also be built. The consultant's task is to develop the detailed design for the revetment of the Sinoe coastal project, which will be replicated from the New Kru-Town coastal Add-On project design and adapted to the specific physical and socio-economic context of Sinoe. Furthermore, the consultant will create a Construction Management Plan and a Maintenance Plan and will be responsible for ensuring continuous quality control and quality assurance throughout the construction period of the coastal defense structures. The design and construction plan must fit within the estimated budget. Finally, the consultant will review and update the project’s existing Environmental and Social Management Plan (ESMP) prepared during the Environmental and Social Impact Assessment. Due to the lack of in-situ data (wave, tide, currents, sediment transport, etc.) for the project’s area, the existing data collected under the Monrovia Metropolitan Climate Resilience Project (MMCRP) will be used and could be supported by other similar available free sources data to cover any existing or identified gap. The revetment of the Sinoe project will replicate/adapt the revetment design of the New Kru-Town coastal Add-On project while incorporating Sinoe site-specific details. The scope of the design will also include a combination of grey and green infrastructure, and provide for the use of local resources and labour (skilled and non-skilled) in the construction. The revetment is expected/required to meet technical standards and best practices, including UNDP and GEF environmental and social standards. The following contains the detailed scope of work of the consultant:**Design of the Revetment, Construction Management Plan, and Environmental and Social Management Plan****Detailed Design**A comprehensive revetment and groyne design to be generated/ replicated from the New Kru-Town coastal Add-On revetment design provided. The adoption/ replication of the New Kru-Town coastal Add-On revetment design will consider site-specific (Topography, Beach profile, and Bathymetry) details of the Sinoe project area. The main addition of the Sinoe protection structure is that it has groynes in addition to the revetment, while New Kru Town has revetment only. The Sinoe design will also include green adaptation measures in the form of vegetation, thereby constituting a hybrid coastal protection approach. The designs must contain a layout of the structures, elevations, and longitudinal cross-section drawings. Additionally, a perspective of the finished hybrid–engineering design should include/ indicate where exactly the green adaptation measures (trees) should be planted along the structures (revetment and groynes). The design must be user-friendly, giving access to beach goers, tourists, and local residents. It must contain drainage that may control stormwater.**Site Topography Studies** The topographic survey must be tied to the beach profiling levels and correlated to the specific geographic reference system used within Liberia and the Marine Datums. These data include the following:* 1. Mean Sea Level (MSL): The average level of the sea's surface, used as a reference point for elevation.
	2. A permanent benchmark is to be established at each construction site for future reference.

The topographic survey should extend along the beaches, cover the project’s areas, and reach a water depth of up to 3 meters Chart Datum (CD) or approximately 10 meters from the shoreline. The consultant will need to determine the appropriate type, extent, and boundary of this extension to achieve the project's objectives.**Bathymetry**An in-situ near-shore bathymetry study is required in the project’s areas to ascertain the groynes details. The survey must cover at least 500m nearshore The survey may extend into the Sinoe River if necessary/ required to achieve the detailed design. The consultant will need to determine the appropriate type, extent, and boundary of this extension to achieve the project's objectives.1. **Environmental and Social Management Plan (ESMP) and Construction Management Plan (CMP)**

The consultant shall review and update the project’s ESMP and shall develop a construction management plan that will be used throughout the construction process. The ESMP, already developed by the project, shall be regularly updated and monitored by the consultant to esure that all workers (contractors, engineers, daily hired, and project staff) comply with the standards mentioned the plans and any emerging E&S issues are managed. The ESMP shall be in compliance with the Environmental Protection Management Law of Liberia and the UNDP Social and Environmental Standards (SES). . On the other hand, the CMP must present clear road map for construction methodology. The road map must include sizing rocks, stockpiling, access road construction, geotextile placement, toe installation, and revetment and crest installation. Construction procedure for the groynes must also be mentioned in the plan. Besides, prevention and mitigation strategies for the above standards and the Labor Law of Liberia must be contained in the plan. For the building phase, a site layout plan that includes laydown places, rock stockpile locations, and suggested office space areas must be created. Above all, sanitary and safety measures must also be included, and procuredure for managing construction wastes must be highlighted.**Monitoring Construction against the Design, the ESMP, and the Construction Management Plan****Quality Control (QC) and Quality Assurance (QA)**Quality control (QC) must be rigorously conducted on a daily basis throughout the entire duration of the project. The consultant is required to be on-site from the commencement of the revetment and groyne construction works to their completion, ensuring continuous oversight. The QC process will include diligent monitoring of construction procedures to guarantee that they strictly adhere to design specifications and the construction flowchart developed by the consultant, aiming to achieve the desired structural result lifespan. Additionally, the consultant is responsible for working closely with the project’s Gender Officer and Safeguard Officer to ensure the successful implementation of key frameworks, including the Environmental and Social Management Plan (ESMP), the Grievance Redress Mechanism (GRM), the Gender Action Plan (GAP), and the Social and Environmental Procedures (SEP). Given the high-risk environment for workers on site, the consultant must, in collaboration with safety representatives, ensure that toolbox talks are conducted twice daily to proactively address safety concerns and minimize incidents and accidents during working hours. The consultant will also ensure that the contractor puts in place a robust management system for E&S that allows for implementation of all the relevant project safeguards instruments for contionous improvement and compliance. **Maintenance Plan** A comprehensive and effective maintenance plan laying out the maintenance procedure for the 1.5 km revetment and five 20m groynes must be developed. The plan must focus on maintaining the integrity, functionality, and longevity of the structures. The plan should account for both preventive and corrective maintenance activities, including periodic inspections, structural repairs, and addressing potential environmental impacts. Moreover, the plan shall include sediment accumulation control for the groynes, so that excessive sediments that may build up at the base of the groynes do not prevent them from interrupting longshore drift. Besides, the plan shall contain a vegetation control mechanism, so that deeply rooted plants that may grow on the structure do not compromise the rigidity of the structure. Maintenance plan will also incorporate EHS aspects (environment, Health, safety, security, and social).**3.0 KEY EXPECTED OUTPUT**

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| **Inception Report**  |
| **Updated ESMP and CMP** |
| **Topography and Bathymetry Report** |
| **Full Quality Control(QC) and Quality Assurance(QA), and Maintenance Plan(including EHS)** |
| **Quarterly Environmental and Social Performance Report** |
| **Final Activity Report printed on glossy paper with soft back binding** |

**4.0 DELIVERABLES and PAYMENT SCHEDULE****Year 1 (From July 1, 2025, up to the end of July 2026:** The contract will be renewed based on performance and availability of funds for the next one year after year one (1)

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| **No.** | **Output/ Deliverable**  | **Payment Plan** |
| **1.** | **Signing the contract, submission, and acceptance of the Inception Report**  | **20%** |
| **2** | **Submission and approval of revetment design** | **30%** |
| **3** | **Submission and approval of Community Management Plan (CMP), and updated ESMP, including topography and bathymetry report** | **40%** |
| **4** | **On Submission and approval of quarterly Quality Control(QC), Quality Assurance(QA), and Environment and Social performance reports during the construction period.** | **10%** |

**Year-2**

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| **No.** | **Output/ Deliverable**  | **Payment Plan** |
| **1.** | **Submission and approval of quarterly Quality Control(QC), Quality Assurance(QA), and Environment and Social performance reports during the construction period.** | **60% spread across four (4) quarters**  |
| **3** | Upon completion of 800m of revetment in Downtown and 700m of revetment in Sebeh and five groynes in Downtown, Sinoe County  | **20%** |
| **5.** | **On Submission, appraisal, and approval of the final report** | **20%** |

**5.0 EVALUATION CRITERIA**

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| **5.1** | **Expertise of the Firm** | * + - * 1. **marks**
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|  | 1. **Specific Experience**
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|  | 1. **General Organization Capability**
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| **5.2** | **Proposed Methodology, Approach, and Implementation Plan** |  **35 marks** |
|  | 1. **Quality of technical methods**
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|  | 1. **Delivery/ Work Schedule**
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|  | 1. **Level of innovation**
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| **5.3** | **Key Personnel Qualification** |  **25 marks** |
|  | 1. **Team Lead- Coastal or Civil Engineer**
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|  | 1. **Coastal Structure Engineer**
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|  | 1. **Construction Expert**
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|  | 1. **Quantity Surveyor**
 |  |
|  | 1. **Environmental and Social Health Expert**
 |  |
|  | 1. **Social Safeguard Expert**
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| **5.4** | **Key Personnel-Specific Experience**  |  **30 marks** |
| **6.0** | **A summary of any other information that would be relevant to the contract** |
| **7.0** | **Total 100mark** |

**8.0 CONTRACT AND REPORTING REQUIREMENTS:**The consultant shall report directly to the Project Manager under the supervision of the Energy and Environment Program Coordinator of the Environmental Protection Agency. Regular updates and meetings shall be held for effective collaboration and supervision. The consultant shall be recruited for a two (2) years period under a Service Contractual Agreement. The EPA reserves the right to rescind the contract during that period should the performance of the firm not meet its requirements.**SUBMISSION OF APPLICATION**Interested Engineering firm should submit their Proposal including, a one-page cover letter, Technical & Financial Proposal, Business Registration & Tax Clearance, Past Performance record in designing Hybrid-Adaptation Coastal Structures, PPCC Vendor Certificate, Article of Incorporation, CVs of all personnel, to the below address, and by email at maldonakarway1@gmail.com and cc: princessblango@gmail.com indicating in the subject area **“Engineering Firm to Conduct Assessments and Design Coastal Structures for Sinoe Coastal Project”**. All interested firms are to address their applications to the following address:**Maldona K. Karway****Procurement Officer****Project Management Unit****Enhancing the Resilience of Vulnerable Coastal Communities in the Sinoe County Project****Environmental Protection Agency****302-A Bright Building,****Old CID-Road****Mamba Point** **1000 Monrovia, 10 Liberia** A hard copy of your Proposal should be delivered to the Procurement Officer of the Sinoe Coastal Project at the EPA head office in Mamba Point.The closing date for the submission of proposals is 4:00 PM, July 16, 2025. Any submission coming/received after this deadline will not be given consideration. Only submissions meeting the requirements/criteria in the RFP will be considered for evaluation. **NOTE:** This information is posted on <https://www.emansion.gov.lr>, <https://www.epa.gov.lr>, <https://www.undp.org>, and can be found in the News Newspaper.  |

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