REQUEST FOR QUOTATIONS (RFQ)

Title: Geotechnical Study - Paraquita Bay Solar, Battery Storage, and Substation Project

SUMMARY OF PROCUREMENT

The British Virgin Islands Electricity Corporation (BVIEC) seeks to increase resilience of the electricity network while reducing dependence on diesel for electricity generation, and has embarked upon an initiative to install ground mounted utility-scale solar PV, a battery energy storage system, and a new substation. This will form a microgrid that will be designed to decouple from the grid to provide localized electricity if there is an outage on the feeder to the site. The microgrid will be located at Paraquita Bay on the island of Tortola.

RMI (Rocky Mountain Institute) has been engaged by BVIEC to provide project management and technical assistance to support and manage de-risking studies to prove the feasibility of the new electrical infrastructure that will be located at Paraquita Bay. The project de-risking and technical assistance scope of work is funded by a grant facility provided by the Canadian Government, through the Caribbean Development Bank (CDB).

One such de-risking study is a Geotechnical Investigation to analyse the geotechnical characteristics of a site at Paraquita Bay which is earmarked to host the ground-mounted solar PV array and the battery energy storage system alongside the new substation. The Geotechnical Investigation will collect site data which will be used to determine foundation design, seismic design coefficients, flood design criteria, seismic hazards evaluation and potential geologic and geotechnical hazards in the identified area.

RMI is requesting quotations from qualified firms for the **Geotechnical Investigation** described in the following sections.

About RMI

RMI decarbonizes energy systems through rapid, market-based change in the world's most critical geographies to align with a 1.5°C future and address the climate crisis. We work with businesses, policymakers, communities, and other organizations to identify and scale energy system interventions that will cut greenhouse gas emissions at least 50% by 2030.

For nearly 40 years, RMI has utilized our unique techno-economic expertise and whole-systems thinking to publish groundbreaking research and analysis. We bring together collaborations of rare reach, range, and expertise—creating unconventional partnerships and mobilizing action to drive change on the massive scale needed to combat the climate crisis.

About RMI's Islands Energy Program

The Islands Energy Program guides islands to develop energy transition strategies, scale renewable projects, and support the capacity of islands to achieve their sustainable energy goals. This is accomplished by delivering technical expertise, engaging with governments, utilities, and island stakeholders, and providing communications support. With an independent, objective, and fact-based approach, the RMI team brings experience gained from engagements with island and continental governments and utilities to solve the toughest energy challenges. It brings a diverse skill set in integrated resource planning, project identification and development, construction implementation support, and a range of business advisory services. Additionally, the program leverages an array of consulting services from leading engineering and consulting firms in the power generation and transportation sectors. Since 2014, the RMI Islands Energy Program has worked with 19 different Caribbean islands in support of their energy sector transition goals.

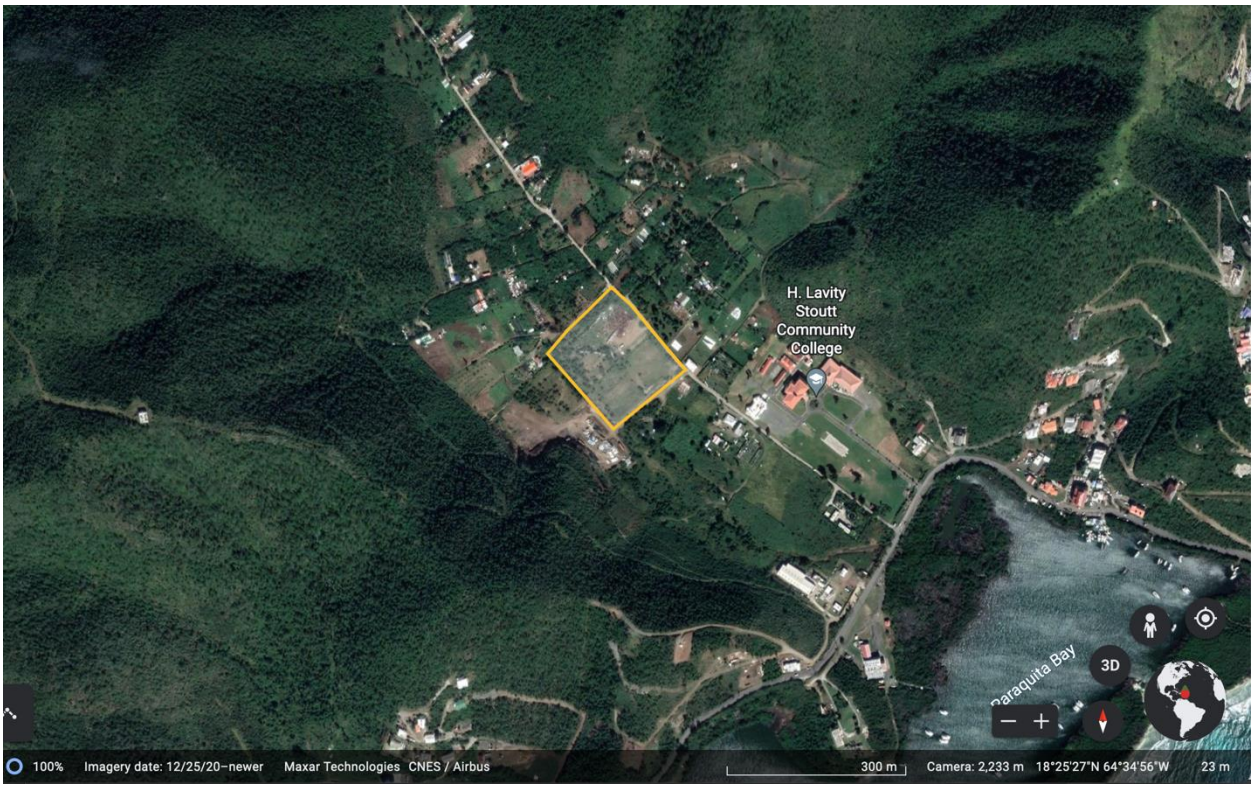
GEOTECHNICAL STUDY INDUSTRY STANDARDS AND CODES

1. The Geotechnical Consultant, hereafter referred to as "The Consultant" shall perform the geotechnical investigation for the Project in compliance with all applicable local building codes and requirements adopted by the applicable agencies having jurisdiction.
2. The Consultant shall conduct the work with the degree of skill and care exercised by other similar Geotechnical Engineers working in the solar energy industry within the region that the services are performed.

The industry codes and standards to be utilized for executing the Geotechnical Investigation scope include but are not limited to the following:

- British Virgin Island Building Regulations 1999
- Caribbean Uniform Building Code (CUBiC) 1985
- 2015 International Building Code, International Code Council
- ASCE 7-10 – Minimum Design Loads for Buildings and other Structures, American Society of Civil Engineers
- AASHTO – Association of State Highway and Transportation Officials
- ACI – American Concrete Institute
    - ACI 318-14 – Building Code Requirements for Reinforced Concrete
    - ACI 301 – Specifications for Structural Concrete
- ASTM – American Society for Testing and Materials

LOCATION OF GEOTECHNICAL INVESTIGATION



The site is located at Paraquita Bay and is outlined via the yellow boundary in the map above. It is roughly West-North-West of the H. Lavity Stoutt Community College, and is approximately 6.6 acres.

GEOTECHNICAL INVESTIGATION REQUIREMENTS

The Consultant is to ensure that all geotechnical investigation work shall be conducted and supervised by experienced Geotechnical Engineers who are professionally certified.

It is the Consultant's responsibility to ensure that all borings, field tests, laboratory tests, and engineering computations be conducted and interpreted in accordance with all local code requirements and all applicable industry codes and standards listed above.

The Consultant is responsible for locating any gas, telecommunication and water/wastewater lines or any other buried utilities at or near the proposed boring locations, and responsible for repair of any damage to any underground infrastructure incurred during the course of the investigation.

SCOPE OF WORK AND OUTPUT/DELIVERABLES

The Consultant shall be required to:

1. Undertake a geotechnical engineering survey investigation on the referenced site, which should include the following tasks at minimum:
    a. Visual manual identification tests will be made in the field to obtain a description of the subsurface soils as they are collected in the field.
    b. Dynamic Cone Penetrometer (DCP) tests at pre-determined intervals and depths based on agreement with the Client. If drilling refusal is encountered within the recommended depth, the Consultant shall suggest other appropriate methods to be considered to obtain the additional data to evaluate the subsurface below the refusal depth.
    c. The consultants shall take Borehole samples to a minimum depth of 6m. Core samples shall also be collected for laboratory analysis and noted on the Bore Log. A boring log shall be prepared for each boring including soil description, changes in strata, samples taken, penetration resistance, drilling information, groundwater encountered, moisture content, dry unit weight, strength testing data, depth to bedrock, and the total depth of the boring.
    d. Soil electrical resistivity
    e. Thermal conductivity testing
    f. Sieve Analysis
    g. Atterberg Limits (Liquid and Plastic) tests
    h. Natural Moisture Content testing
    i. Flood soils testing
    j. pH values
    k. Rock Mass Classification
    l. Soil samples representative of the subgrade conditions along the proposed site access roads shall be collected for California Bearing Ratio, resistance value or resilient modulus testing.
    m. Evaluation of geologic/geotechnical hazards (i.e. landslide, erosion, expansive soils, flooding etc).
    n. Evaluation of seismic hazards to the project, including seismic shaking, liquefaction, seismically induced settlement, lateral spreading, tsunami and fault rupture.
    o. Groundwater levels shall be observed and measured during and after the drilling. If drilling slurry is used to advance the borehole, appropriate techniques must be used.
    p. Standpipe observation wells (piezometers) shall be installed across the Project site in order to determine groundwater fluctuations. The depth of the standpipe piezometers shall be based on the Consultant's determination of subsurface strata most likely to influence near surface groundwater levels that may affect the foundation. Rock coring shall be considered if bedrock is encountered prior to reaching the minimum pre-determined depth of investigation.

2. Evaluate the test data following the field and laboratory programs, and prepare a report of geotechnical engineering recommendations. The report should include at minimum, recommendations for:
    a. Subgrade preparation
    b. Backfill properties and construction
    c. Lateral earth pressures
    d. Friction values
    e. Unit weight of site soils
    f. Foundation Depth
    g. Solar PV array foundations
    h. Substation foundation
    i. Modulus of subgrade reaction
    j. Allowable Bearing Capacity and Settlement
    k. Hydrostatic Pressure
    l. Trenching requirements
    m. The handling of ground and surface water during construction and other soil related items suggested by the subsurface data.
    n. Seismic Site Class and Seismic Spectral Response parameters in accordance with ASCE 7-10 and IBC 2015.
    o. Any other pertinent geotechnical recommendations for the project as identified by the Geotechnical Engineer.
3. The Consultant will prepare a soil investigation report, which will be stamped and signed by a professionally certified Geotechnical Engineer, describing the methods used, the recommendations listed above and other required design parameters to be submitted via hardcopy and electronic (*.pdf) copy
4. The report shall be suitable for independent engineer review, local agency review and other regulatory agencies.
5. In any case where the Consultant and/or the Client consider that the results of the geotechnical investigation are not sufficient to identify the characteristics of the soils in place and/or to select the appropriate design parameters, the Consultant shall conduct the required supplementary investigations to complete the report with the corresponding results and conclusions.

BVIEC will share with the awarded consultant all relevant data. BVIEC will also have staff available to aid the consultant in carrying out the assignment in a timely and professional manner.

Duration

The field work is expected to be completed within a three (3) week period and the lab work within a seven (7) week period from commencement.

GUIDELINES FOR QUOTATION SUBMISSION

Cost Breakdown Table

For RMI Procurement Lead to fill in:				*For Tenderer to fill in:*		
Line-item no.	***Description of Goods / Services***	***Unit***	***Quantity required***	***Unit Price***	***Total Price***	***Estimated delivery date***
1	*Mobilization/Demobilization*	*1*	*1*	$	$	
2	*Field Work/Drilling/Test Pits/ Sample Collection/ Electrical Resistivity*	*1*	*1*	$	$	
3	*Laboratory Analysis*	*1*	*1*	$	$	
4	*Final Report*	*1*	*1*	$	$	
5	*Transportation and accommodation costs*	*1*	*1*	$	$	
				Subtotal	$	
				Sales tax (if applicable)	$	
				Delivery charge (if applicable)	$	
				Other charges (if applicable)	$	
				TOTAL	**$**	

Each tenderer must fill in the grayed sections in the table above.

Quotation Content

Tenderers should submit:

- A statement of interest that includes a description of how the deliverables outlined in the Scope of Work are met.
- Tenderer's official name, address, and contact information.
- Name, position, address, and contact information of person who is authorized to make decisions or represent the tenderer.
- Type of entity.
- Tenderer contact details.
- Quotation validity period.
- Details of relevant qualifications and experience for each member of the proposed team, highlighting any experience with similar projects.
- A description of the methodology that will be used to carry out the survey.
- A detailed work schedule for the completion of the work, indicating task durations, and proposed travel to BVI.

- The cost breakdown table with standard rates and prices for each line item and the total bid cost. Any transportation and accommodation costs (where relevant) should be reflected as separate line items in the cost breakdown table referred to previously.
- A proposed payment schedule.

Quotations, including all supporting documents, should be written in English and financial information should be provided in US Dollars. Supporting documents may be in another language, provided they are accompanied by an accurate translation of the relevant passages in English.

RMI is aware that information contained in a quotation may indicate a tenderer's current operations and may be confidential. Therefore, RMI requests that any confidential information in a quotation be clearly identified as such and RMI will treat it as confidential.

All materials submitted with a quotation become property of RMI. RMI will have the right to use all ideas or adaptations of the ideas contained in the quotations received subject to clearly identified confidential or proprietary limitations. Disqualification of any quotation does not restrict or eliminate this right.

RFQ Process & Timeline

Stage of Procurement	**Date**
RFQ released	April 8, 2022
Deadline for questions	April 19, 2022
Questions answered by RMI	April 25, 2022
Quotation submission deadline	May 2, 2022
Interviews with selected tenderers (if applicable)	May 6, 2022
Final Consultant selection	May 10, 2022

All questions about this RFQ must be sent via electronic mail to the contact below. Answers to the questions will be shared with all parties who have asked questions or otherwise expressed interest.

All quotations must be sent via electronic mail to the same contact listed below by May 2nd, 2022, 1600 hrs EST.

Siana Teelucksingh

Senior Project Manager

steelucksingh.contractor@rmi.org

When sending questions or submitting a quotation please use this electronic mail subject: **Paraquita Bay Microgrid Project – Geotechnical Investigation**

Please note that it is the tenderer's responsibility to ensure that the quotation and all other required documents are received by the closing date at the email address specified above. Quotations received after the time and date specified will not be reviewed or considered. Failure to provide any information requested in this RFQ may result in rejection for non-responsiveness.

The quotation must be valid for 180 days.

EVALUATION AND SELECTION

Evaluation Criteria

The following elements will be the primary considerations in evaluating quotations submitted in response to this RFQ.

Formal criteria:

- *Experience of the firm with similar projects in the Caribbean and particularly in BVI*
- *Experience of the staff assigned to this project*
- *The extent to which the quotation fulfills RMI's stated requirements as set out in this RFQ*
- *Clarity and Strength of the Technical Proposal*

Financial quotation criteria:

- *Total Price and Fee Schedule*

Scoring Criteria

	Weighting
Formal Criteria	50%
Financial Quotation	50%

Selection Process

No quotation development costs shall be charged to RMI. All expenses are to be borne by the tenderers. RMI may award to the tenderer offering best value without discussions. However, RMI reserves the right to seek tenderer clarifications and to negotiate with those tenderers deemed to be within a competitive range.

RMI may, at its discretion and without explanation to the prospective tenderers, choose to discontinue this RFQ without obligation to such prospective tenderers or make multiple awards under this RFQ. Procurement contracts will not be awarded to tenderers debarred by the U.S. government or the Government of the British Virgin Islands or named on restricted parties lists. Any quotation may be rejected in whole or in part for good cause when in the best interests of RMI.

A quotation will be selected based on the evaluation of the RFQ response, the interview results, any necessary vetting and due diligence, and the satisfactory outcome of financial negotiations. After the selected tenderer and RMI have entered into a contract for goods/services, RMI will notify the unsuccessful tenderers.