

***Toledo Institute for Development and Environment  
[TIDE]***

***Grant agreement No. BZ – KfW FIII - 006 - 2024***

**Invitation to submit a proposal to upgrade existing water system and structure, construct water filtration system and wastewater treatment at Hunting Caye Ranger Station-Sapodilla Cayes Marine Reserve.**

***July 2<sup>nd</sup> 2025***

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## TERMS OF REFERENCE

### 1. Background

The Mesoamerican Reef Fund, Inc. (MAR Fund) and Toledo Institute for Development and Environment (TIDE) have entered into a Grant Agreement under the project: *Enhancing Protection and Conservation of Commercial Species, Coral Reefs, and Fish Spawning Aggregation Sites in Sapodilla Cayes Marine Reserve, Belize* with the objective of increasing protection and biodiversity conservation of commercial species, coral reefs, and legally established FSAs within Sapodilla Caye Marine Reserve (SCMR) including Elbow and Cayman Crown.

The Sapodilla Cayes Marine Reserve (SCMR) is the most southern of the marine protected areas in Belize and encapsulates the southernmost tip of the Belize Barrier Reef. It lies in the general area of N16 6 32.9, W88 16 10.4 and is an integral part of the Belize Barrier Reef Reserve System (BBRRS), inscribed as a UNESCO World Heritage Site in 1996.<sup>10</sup> (SCMR management plan 2023)

The expanded marine reserve covers an area of 321,623.5 acres (approximately 130,156 ha) and contains fourteen palm-fringed sand or mangrove cayes, fringe reefs, natural lagoons, and key spawning aggregation sites (SPAGs). It is one of the 17 barrier reef regions that compose the Mesoamerican Reef System that is home to more than 65 species of stony coral, 350 species of molluscs and more than 500 species of fish. (SCMR management plan 2023).

With the significant expansion of the Sapodilla Cayes Marine reserve from 38,595 acres to 321,623.5 acres which includes a large portion of the Cayman Crown, a resilient coral reef ecosystem, there is an urgent need for the Toledo Institute for Development and Environment [TIDE], a new co-manager of SCMR to seek significant funding for investment in infrastructure, urgent resource protection, sustainable management and socio-economic opportunities for primary users to increase management effectiveness of this world heritage site.

Commercial and recreational fisher-folk from southern Belize rely on the use of the Sapodilla Cayes Marine Reserve to generate an income either from fishing commercial species during season or from Sports fishing and tourism. With changing climate, and increased local and transboundary fishing pressure, there is an urgent need for 24 hour ranger presence at the station on Hunting Caye for regular day and night surveillance and patrols to enforce fishing and tourism regulations. During their stay at the station, it is critical for the field staff and visitors to have basic amenities such as water and eco-friendly bathrooms. Since the field station is approximately 2 hours away from town, the team relies on rain water and during the dry season, water runs out and the team is reliant on water from a nearby private.

This project seeks to upgrade the existing water system, including refurbishing 2 wells, installing a water filtration system and wastewater treatment system at the Hunting Caye Ranger Station. Currently, the station has 2 water tanks that are connected to the building and provide water for cooking, showers, laundry and toilets. The project will upgrade the existing water system and infrastructure at Hunting Caye Ranger Station and construct a new water filtration system and waste water treatment to ensure a reliable and safe supply of water throughout the year for field staff, research team, and visitors.

**2. Objective:** Within a 4 month period, assess and upgrade the existing water system and infrastructure at Hunting Caye Ranger Station and construct a new water filtration system and waste water treatment to ensure a reliable and safe supply of water throughout the year for staff, research team and visitors.

### **3. Contracting Activities**

The following activities will be carried out as part of the contract:

#### **3.1 Assessment and Planning:**

- Conduct a comprehensive assessment of the current water system to identify deficiencies and areas for improvement to meet station needs.
- Engage with staff to gather input on water needs and concerns.
- Develop a detailed project plan outlining objectives, timelines, and resource requirements.

#### **3.2 Design Phase:**

- Design the upgraded water system and the new filtration system.
- Create detailed blueprints and specifications for the construction, including the type of filtration technology to be used (e.g., reverse osmosis, UV treatment).
- Design wastewater treatment system for proper disposal and management of wastewater.
- Ensure compliance with local regulations and health standards in the design.

#### **3.3. Budgeting and Funding:**

- Prepare and submit a budget that includes costs for materials, labour, permits, and any additional expenses in your bid.

#### **3.4 Procurement:**

- Source and purchase all materials and equipment for the upgrade of existing system and construction of new water filtration system and wastewater management system.

#### **3.5. Site Preparation:**

- Prepare the construction site at Hunting Caye Ranger Station for the installation of the new water filtration system and wastewater disposal/management system
- Ensure that the existing water infrastructure is accessible for upgrades and repairs.
- Submit to TIDE a safety protocols and precautionary document to mitigate any potential environmental impact due to installation, ensuring compliance with environmental regulations.

#### **3.6 Upgrading Existing Water System:**

- Replace or repair outdated pipes, valves, and fittings to improve water flow and reduce leaks.
- Upgrade storage tanks and distribution systems to enhance capacity and efficiency.
- Implement wastewater treatment system to ensure proper disposal/management of wastewater generated at the station.
- Explore digging 2 existing wells deeper for enhanced use.

#### **3.7 Construction of Water Filtration System:**

- Install the new water filtration system according to the approved design, ensuring proper placement and connections.
- Implement any necessary electrical or plumbing work to support the new filtration system
- Integrate the filtration system with the existing water supply infrastructure for seamless operation.

### 3.8 Testing and Quality Assurance:

- Conduct thorough testing of the upgraded water system and filtration system to ensure functionality and compliance with health standards.
- Monitor water quality before and after the installation of the filtration system to verify its effectiveness in removing contaminants for use.

### 3.9 Training and Capacity Building:

- Provide training for staff on the operation and maintenance of the new water system and filtration equipment.
- Develop a maintenance schedule and guidelines for staff to ensure the long-term sustainability of the water system.

### 3.10 Project Evaluation and Reporting:

- Evaluate the project outcomes against the initial objectives and gather feedback from field staff.
- Prepare a final report summarizing the project activities, outcomes, and lessons learned.

### 3.11 Ongoing Monitoring and Maintenance:

- Develop a monitoring plan to regularly assess the performance of the water system and filtration system.
- Schedule routine maintenance checks to ensure the systems remain operational and effective.

## 4. Presentation of the Bid

- 4.1 The Bidder shall submit a comprehensive breakdown of the proposed budget including cost related to the contracting services
- 4.2 The bidder submits a technical proposal outlining the work plan.
- 4.3 The bidder submits the blueprint for water and filtration system to TIDE
- 4.4 If the Estimated Completion Date cannot be met by the Bidder, the Bidder shall indicate in its Financial Bid the earliest Estimated Completion Date for the consultancy
- 4.5 The Bid must be signed by the Contractor's natural person or the legal representative or attorney-in-fact of the Contractor for such a purpose.
- 4.6 The Bidder shall attach to its Bid the documentation requested: for **INDIVIDUALS** – copy of ID card or passport (in case of foreigners), copy of legal invoice to be used for payment, Resume/CV (3 pages max), 2 professional references; **LEGAL ENTITIES**: copy of company registration, copy of legal status/power of attorney of legal representative, copy of identification document of legal representative or passport, copy of legal invoice to be used for payment, entity presentation/resume/CV (3 pages Max), 2 professional references.
- 4.7 The e-mail address for submission of the Bid is: [info@tidebelize.org](mailto:info@tidebelize.org)
- 4.8 The bidder request and submit to the contracting party a signed declaration of understanding with compliance with the project requirements and ethical standards
- 4.9 The proposal will be submitted in **electronic form** in unmodifiable PDF format
- 4.10 The **deadline** for submission of the Bid is **5:00 o'clock p.m. on 18/07/2025**

## 5. Bid Pricing

- 5.1 The Prices offered by the Bidder shall be fixed and shall not be subject to any variation for any reason whatsoever.
- 5.2 The rates and prices submitted shall be deemed to include all costs of materials, labor, overhead, utilities, insurance, taxes, duties, liabilities, risks and other matters necessary for providing the contracted work. The Contracting Party shall not accept

5.3 The Contractor shall be responsible for paying taxes according to the country's regulations.

5.4 Freight costs for materials and equipment shall be borne by the Contractor, as well as the costs of transportation of its personnel.

5.5 Additional items not requested by the Contracting Party should not be included in the Financial Bid.

The Bidder shall quote prices in **US Dollars**

The Bid shall remain valid for a period of **90 days** from the deadline established by the Contracting Party for submission of the Bid.

The Contracting Party reserves the right to cancel the Procurement Process and to accept or reject the Bid at any time prior to notification of award, without thereby acquiring any liability to the Bidder.

Prior to the expiration of the period of validity of the Bid, the Contracting Party shall notify the Bidder in writing whether its Bid has been accepted in writing in the form of **Acceptance letter**. The contract will then be sent for review, and a date will be arranged for its signing at the office of the contracting party.

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## 11. Expected products

The contractor will deliver the following product(s):

No	Deliverables	Time Frame
1st deliverable	Design of the upgraded water system and the new filtration system with detailed blueprints and specifications for the construction, including the type of filtration technology to be used (e.g., reverse osmosis, UV treatment) demonstrating compliance with local regulations and health standards in the design along with budget.	3 weeks after signing contract
2nd deliverable	Pictures of upgraded water system (tanks and well) and constructed water filtration system and wastewater treatment and evidence of functionality.	12 weeks after signing contract
3rd deliverable	Report on project activities, outcomes, lessons learned. Develop and submit to TIDE a monitoring plan, outlining the water and filtration system maintenance plan	16 weeks after signing contract

## 12. Contractor's Profile

**The contractor or contracting team must possess the following qualities and qualifications.**

12.1 A master's degree in civil engineering, environmental engineering, water resources management, a related field or a deep understanding of water supply systems, treatment processes, and filtration technologies.

12.2 Relevant certifications such as Professional Engineer (PE), Certified Water Treatment Operator, or similar credentials that demonstrate expertise in water system design and management.

12.3 Proven experience in designing, upgrading, and constructing water systems and filtration systems, particularly on island or remote locations.

12.4 Familiarity with local, and national regulations governing water quality, environmental protection, and construction practices.

12.5 Proficiency in using design software (e.g., AutoCAD, GIS) and modelling tools for water systems, as well as knowledge of relevant technologies for water filtration and treatment.

12.6 Hands-on experience in the field, including site assessments, construction oversight, and system testing, to ensure practical knowledge of water system operations.

12.7 Positive reference from previous clients and a strong professional reputation within the industry, indicating reliability and quality of work.

12.8 Committed to sustainable practices and environmental stewardship, ensuring that the water system upgrade minimizes ecological impact and promotes long-term viability.

12.9 The ability to identify issues, analyse data, and develop effective solutions, especially in unique island environments where challenges may differ from mainland systems.

### 13. Payment plan

Payment for the contractor shall be made upon approval of the deliverables by the Contracting Party and submission of corresponding legal invoices in 3 payments in accordance with the payment schedule below.

Payment No.		Payment %
1	Design of the upgraded water system and the new filtration system along with detailed blueprints and specifications for the construction, including the type of filtration technology to be used (e.g., reverse osmosis, UV treatment) demonstrating compliance with local regulations and health standards in the design along with budget.	30%
2	Report with pictures of upgraded water system, constructed water filtration system and wastewater treatment, with evidence of functionality.	40%
3	Report on project activities, outcomes, lessons learned. Submit to TIDE water and filtration system monitoring plan	30%
<b>Total</b>		<b>100%</b>

### 14. Contract supervision

The contractor will be supervised by the TIDE Project Coordinator and TIDE Executive Director.

The contractor shall attend virtual and/or face-to-face meetings to which he/she is summoned for the execution of this consultancy.

The contractor deliverables will be submitted to the contractor supervisor for review and approval. If improvements are required, the consultant will proceed to make the requested adjustments.

Payment for each product will be made once it has been approved by the Executing Party's reviewers.

In all discussions and comments made *on site*, the contractor shall expressly state that these reflect his/her opinion and not necessarily the position or opinion of the Contracting or Executing Party.



