

REQUEST FOR PROPOSAL (RFP): *FEMA BENEFIT-COST ANALYSIS TOOL FOR SAN JUAN METRO BARRIER REEF HAZARD MITIGATION GRANT PROGRAM PROJECT*

- A. Introduction:** The goal of the proposed work is the improvement of the San Juan (SJ) coral reefs to mitigate and lessen the frequency and severity of flooding and coastal erosion, thereby, saving properties and lives during future storms. Constructed reef structure will improve the existing natural barrier protecting the coast, averting flood inundation and reducing beach erosion rates. This proposal would combine deployment of artificial coral-like hybrid cement structures with the addition of native coral fragments. This would be accomplished by implementing a multi-method hazard mitigation approach. First, the roughness of the reef would be rebuilt by installing artificial coral mimicking cement structures. Second, coral fragments would be affixed adjacent and between the cement structures to allow for a gray/green wave attenuation barrier that mimics the natural protection provided by healthy coral.

Therefore, the DNER are requesting proposals for the Benefit-Cost Analysis (BCA) procedure to identify the economic viability of this project benefits and the payback time of the investment for each option under consideration.

- B. Justification:** To strengthen the coral reef natural feature that will prevent loss of lives and property damage during future storms. The coral reefs offshore of San Juan have historically provided protection to the valuable coastal infrastructure from storm waves. The three-dimensional structural complexity of live coral reefs plays a crucial role in dissipating wave energy and protecting the coastline. The project will protect a high density/populated coastal area of approximately 80,000 people with a hospital, 3 schools and other public infrastructure.
- C. Guidelines:** The BCA procedure is to identify the economic benefits and the payback time of the investment for each sceneries under consideration. To do this we first assess what would happen if the project was not implemented ('without-project' scenario), and then compare this to what would happen if we were to implement each of the proposed options ('with-project' scenario(s). This 'with-and-without' analysis allows the changes (benefits or costs) resulting from a project to be identified (Tietenberg, 2006). The FEMA Benefit-Cost Analysis (BCA) is a method that determines the future risk reduction benefits of a hazard mitigation project and compares those benefits to its costs. The result is a Benefit-Cost Ratio (BCR). A project is considered cost-effective when the BCR is 1.0 or greater.

D. Approach:

- Determine the objective of the cost-benefit analysis

- Conduct a FEMA Benefit Cost Analysis following the FEMA BCA Reference Guide (June 2009)
- Identify the costs and benefits, clarify the potential impact of the activity and the type of costs and benefits it would generate.
- Access all relevant databases to obtain accurate data for the final analysis.
- Value the costs and benefits express (as far as possible) the value of benefits and costs in monetary terms. Identify which of these can be valued and how.
- Aggregate the costs and benefits. The sum of costs and benefits over time
- Perform sensitivity analysis.
- Assess the importance of major uncertainties associated with the analysis and activity.
- Consider distributional impacts
- Determine if the project is considered cost-effective (BCR is 1.0 or greater)
- Apply the Ecosystem Service Benefits in Benefit-Cost Analysis for FEMA's Mitigation Programs Policy (FEMA Policy FP-108-024-01)
- Prepare recommendations

E. Format and Required Content of the proposal; The applicant must submit a proposal that includes at least the following elements:

- Discuss the methodology and how the project's objectives will be met
- Cover letter detailing experience preparing FEMA BCA.
- The contractor must provide evidence of all authorizations (i.e. licenses and certifications) to operate its business in Puerto Rico.
- The proposal must be written on a computer, with a font size 12, Times New Roman and 1.5 spaced.

F. Contractor Expectations:

- The contractor will be responsible to coordinate the scope of work with the relevant stakeholders and government agencies.
- Complete the tasks associated with the project within a period of three (3) months, after a signed contract
- Reports: Quarterly reports and one final report will be required. This should include project progress and management recommendation.
- Schematic design: As part of the proposal, a general breakdown of the schematic design must be described.
- Insurance: The contractor must formalize public liability insurance with a first endorsement in favor of DNER and a second endorsement in favor of the Government of Puerto Rico, which must be delivered to the DNER before the contract is granted. Additionally the contractor will be responsible, also, for any damage related to the

rendering of its services, and will keep it free of risks and relieves the DNER of responsibility for damage to equipment, persons, employees or their representatives, resulting from the execution of the services covered in the contract.

- Proponents must comply with all contracting requirements with the Government of Puerto Rico, in accordance with current and applicable law.
- The contractor selected must be committed to comply with the provisions of Act No. 84 of June 18, 2002, through which it is established the Code of Ethics for Contractors, Suppliers and Incentive Applicants Economics of the Government Agencies of Puerto Rico.

G. Evaluation Criteria for Proposals:

CRITERIA	EVALUATED ITEMS	SCORE
Working Plan	Ability to perform the required works, a comprehensive work plan, including detailed itinerary.	55
Compliance	Regarding compliance with state regulations (license or certifications to practice your profession in Puerto Rico, DUNS Number, ASG registration) and applicable federal detailed content.	10
Experience	Previous experience.	20
Budget justification	Budget narrative (e.g. personal, supplies, survey). Offer Amount proposed. Proposals whose budget exceeds \$ 50,000.00 will not be accepted.	15

H. Important dates:

DATES	OBLIGATION
4 March, 2021	Proposal request announcement
8-30 March, 2021	Period of Questions and Answers
31 March, 2021	Final Date, Delivery of Proposals
15 August 2021	Project Completion (Constrained by FEMA due date)

I. Eligibility: Academic, public organizations, professional service, as well as nonprofit organizations may submit proposals. It is required to meet the eligibility requirements of the Government of Puerto Rico for professional service contracts.

J. Available funding: 50,000.00

K. Submittal: All proposals must be received on or before Wednesday, March 31, 2021. Applicants should submit both, an electronic and hard copy of their proposal as follows:

- Digital- PDF or Microsoft Word documents should be sent to: pmzc@drna.pr.gov and nviera@drna.pr.gov

- Two (2) hard copies should be delivered to:

Department of Environment and Natural Resources
Coastal Zone Management Program Office
San José Industrial Park
1375 Ave Ponce de León
San Juan, Puerto Rico 00926

- Proposals will not be accepted after the established deadline date (March 31, 2021). Please notify the intention to participate by writing an email addressed to: pmzc@drna.pr.gov and nviera@drna.pr.gov

L. Project location and summary description:

