

DEP AGREEMENT NO. **R1816**
CHANGE ORDER NO. #3

GRANTEE

City of Marathon
9805 Overseas Highway
Marathon, FL 33050

DEP Agreement No. **R1816** was entered into on the 5th day of February 2019, and amended via Change Order #1 on March 25, 2019, and Change Order #2 on April 8, 2019, is hereby revised as follows:

1. **Attachment A, Grant Work Plan, Project Timeline** is hereby deleted in its entirety and replaced with the following:

Total Project Timeline:

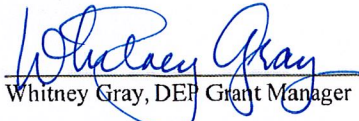
Task No.	Task or Deliverable Title	Task Start Date	Task End Date	Deliverable Due Date	Task Amount
1	Data and Analysis. Sea level rise scenario modeling and mapping; built environment vulnerability determinations and prioritization of the same (Priority 1-4)	02/01/2019	05/01/2019	05/10/2019	\$13,202
2	Outreach, Public Input and Participatory Scenario Analysis Exercise (Priority 4)	02/01/2019	06/01/2019	06/10/2019	\$9,687
3	Peril of Flood Compliance. Review and update the City's Comprehensive Plan and Code of Ordinances to Ensure Compliance with the Peril of Flood legislation (Priority 1)	03/01/2019	05/01/2019	05/10/2019	\$23,202
4	Adaptation Action Planning. Developing a Citywide Adaptation Action Strategy/Plan (Priority 3 & 4)	03/01/2019	05/01/2019	05/10/2019	\$9,259

All other terms and conditions of the Agreement shall remain unchanged.

CITY OF MARATHON

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION


Georges Garrett, Grantee Grant Manager
Date: May 8, 2019


Whitney Gray, DEP Grant Manager
Date: 5/10/2019

**STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
GRANT WORK PLAN
DEP AGREEMENT NO.: R1816**

ATTACHMENT 3

Project Title: Resilient Marathon

Grantee Contact Information:

Organization Name: City of Marathon
Chief Elected Official or Agency Head: Michelle Coldiron
Title: Mayor
Address: 9805 Overseas Highway
City: Marathon, FL
Zip Code: 33050
Area Code and Telephone Number: 305-289-4111
E-mail Address: cityofmarathon@ci.marathon.fl.us

Grant Manager Contact Information:

Organization Name: City of Marathon
Chief Elected Official or Agency Head: George Garrett
Title: Planning Director
Address: 9805 Overseas Highway
City: Marathon, FL
Zip Code: 33050
Area Code and Telephone Number: 305-289-4111
E-mail Address: garrettg@ci.marathon.fl.us

Fiscal Agent Contact Information:

Organization Name: Bishop, Rosasco & Co.
Chief Elected Official or Agency Head: Jennifer Johnson
Title: Finance Director
Address: 8085 Overseas Highway
City: Marathon, FL
Zip Code: 33050
Area Code and Telephone Number: 305-743-6586
E-mail Address: jjohnson@ci.marathon.fl.us

FEID No.: 65-0984873

DUNS No.: 148386910

PROJECT LOCATION:

City of Marathon from the 7-Mile Bridge to Grassy Key

WORK PLAN

1. Abstract:

In response to FDEP, Florida Coastal Office, Florida Resilient Coastlines Program Funding, the City of Marathon is teaming with University of Florida, and the City Consultant Bermello Ajamil and Partners in requesting funding for the review and upgrade of the current City Policies and Regulations to maintain surface water management and flood damage prevention in compliance with F.S. Section 163.3178(2)(f) 2015 Peril of Flood. Through this proposal, the City and its team will provide:

- 3D maps using lidar-based digital elevation data and UAV (drone) technology;
- Model analysis of the current and future impact of nuisance flooding for at least two potential flood scenarios in accordance to the Southeast Climate Compact's Unified Sea Level Rise Projection;
- Provide several adaptation alternatives as part of their Adaption Action Plan; and
- an educational outreach plan, providing maps and literature for distribution at stakeholder meetings that will include property owners, contractors, elected officials and other interested parties.

Hurricane Irma impacted the City of Marathon causing significant damage which demonstrates the City's vulnerability to flooding and sea level rise. The preparation of this coastal resiliency study is crucial in order to protect the health and safety of City residents and businesses and to minimize/mitigate any significant adverse effects due to high tide flooding, sea level rise, storm surge and flash floods.

2. Project Description:

This project will consist of four tasks responsive to the four Priority areas as identified in the Application Guidelines:

3. Budget Summary:

GRANT AGREEMENT TOTAL	\$ 55,350
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Category	Task 1	Task 2	Task 3	Task 4	Total by Category
Salaries	\$932	\$1,928	\$932	\$1,596	\$5,388
Fringe	\$270	\$559	\$270	\$463	\$1,562
Contractual	\$12,000	\$7,200	\$22,000	\$7,200	\$48,400
Subtotal by tasks	\$13,202	\$9,687	\$23,202	\$9,259	\$55,350

4. Project Timeline

Task	Weeks from NTP Description	Task Start Date	Task end Date	Deliverable Due Date	Task amount
1	Data and Analysis. Sea level rise scenario modeling and mapping; built environment vulnerability determinations and prioritization of the same (Priority 1 – 4).	02/01/2019	03/01/2019	03/10/2019	\$13,202
2	Outreach, Public Input and Participatory Scenario Analysis Exercise (Priority 4)	02/01/2019	04/01/2019	04/10/2019	\$9,687

3	Peril of Flood Compliance. Review and update the City's Comprehensive Plan and Code of Ordinances to Ensure Compliance with the Peril of Flood legislation (Priority 1)	03/01/2019	05/01/2019	05/10/2019	\$23,202
4	Adaptation Action Planning. Developing a Citywide Adaptation Action Strategy/Plan (Priority 3 & 4)	03/01/2019	05/01/2019	05/10/2019	\$9,259

5. Salaries

Task Number	Position Title	Total hours spent per task	Maximum salary per hour (shall be based on actual salary)	Fringe (either % or fringe per hour)	Total Amount
1	City Enginner	8	\$55	29%	\$567.60
1	City Planner	8	\$28	29%	\$288.96
1	Administrator 1	8	\$19	29%	\$196.08
1	Administrator 2	8	\$14.50	29%	\$149.64
2	City Enginner	8	\$55	29%	\$567.60
2	City Planner	8	\$28	29%	\$288.96
2	Administrator 1	8	\$19	29%	\$196.08
2	Administrator 2	8	\$14.50	29%	\$149.64
3	City Enginner	16	\$55	29%	\$1,135.20
3	City Planner	16	\$28	29%	\$577.92
3	Administrator 1	8	\$19	29%	\$196.08
3	Administrator 2	8	\$14.50	29%	\$149.64
4	City Enginner	20	\$55	29%	\$1,419
4	City Planner	20	\$28	29%	\$722.40
4	Administrator 1	8	\$19	29%	\$196.08
4	Administrator 2	8	\$14.50	29%	\$149.64

Total = \$6,950.52

Tasks & Deliverables

TASK 1:

Title: Data and Analysis. Sea level rise scenario modeling and mapping; built environment vulnerability determinations and prioritization of the same (Priority 1 – 4).

Description: The City will adopt, for task and project purposes, two sea level rise scenarios as the basis for modeling the current and future impacts of nuisance flooding (tidal events), storm surge and sea level rise on the built and natural environment. The starting point for these scenarios will be the Southeast Climate Compact’s Unified Sea Level Rise Projection, adopted by the four compact counties, including Monroe, in 2015. Temporal ranges will consider policy planning horizons and critical infrastructure life-spans. In finalizing the spatial and temporal range for the scenarios, input will be solicited from the Marathon City Council and both the residential and business communities. The selected scenarios will be modeled utilizing a 3D map of the City and LIDAR-based digital elevation data and UAV (drone) technology (See Exhibits A & B as an example). Highly detailed and accurate maps will project current and future flooding in the City and its anticipated impact on the built and natural environment.

Deliverables:

1. Two (2) sea level rise scenarios adopted for project purposes.
2. A DTM/DEM terrain model, elevation analysis, point cloud model, orthomosaic photography
3. Model runs based on deliverables 1 and 2 above depicting flooding from tidal events, storm surge and sea level rise (See Exhibit C as an example).
4. Based on the modeled scenarios, an engineering report that identifies and prioritizes built environment vulnerabilities to current and future flooding.

Due Date: March 10, 2019

Funding Amount: \$13,202

Performance Measure: The Department will review the deliverable(s) to ensure it meets the specifications provided in the Task Description, above.

Task 2:

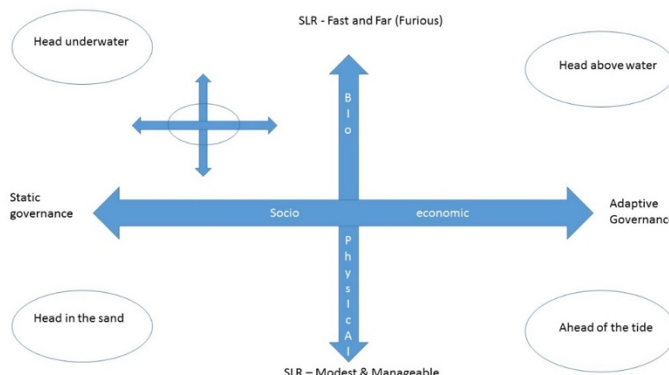
Title: Outreach, Public Input and Participatory Scenario Analysis Exercise (Priority 4)

Description: This task identifies the outreach and public input process that will be employed throughout project development. Upon notice of award, a publicly-noticed “kick-off meeting” will be convened to describe the project and solicit input concerning the process and projected outcomes. The City will carry out an on-going community participation program in a variety of venues.

The key outreach activity of the project will be a 1.5 day exercise that employs a strategic planning methodology referred to as scenario analysis. Scenario analysis gained currency in the early 1970’s when Royal Dutch Shell was able to more accurately predict industry-wide change and disruption in energy markets to the benefit of its shareholders. It is increasingly practiced in policy environments and uniquely suited to the time horizons and uncertainties associated with climate change and sea level rise. Participatory scenario analysis involves the broader community of stakeholders. In this case, data for the future scenarios will be provided from the data output of the modeled scenarios performed under Task 1, and the engineering and policy planning information developed under Tasks 2 and 3. Stakeholders will be asked to identify the drivers of change within the City and then describe alternative futures based on the policy choices (and stochastic events) that led to those futures. Usually constructed as quadrants

within an X and Y axis the future scenarios will be constructed as narratives, and the process will be facilitated by trained professionals.

Data input for the scenario analysis methodology will be provided through the work of the University of Florida College of Law, which conducted a nationally focused sea level rise policy scenarios workshop in the Spring of 2017. Logistical and facilitation support will be provided by specialists and agents at Florida Sea Grant, trained by the UF Natural Resources Leadership Institute. The project will conclude with a publicly noticed workshop to present the draft deliverables and receive feedback to be included into the final deliverables.



Deliverables:

- 1) Agenda, sign-in sheets, and curated notes from an initial public meeting introducing the project
- 2) Report of results from scenario planning workshop
- 3) Agenda and curated report from final public workshop presenting deliverables 1 – 3.
- 4) Educational and outreach material to include online surveys, live polling, Facebook, Instagram, Twitter, City of Marathon website, LinkedIn and other social media venues.

Due Date: April 10, 2019

Funding Amount: \$9,687

Performance Measure: The Department will review the deliverable(s) to ensure it meets the specifications provided in the Task Description, above.

TASK 3:

Title: Peril of Flood Compliance. Review and update the City’s Comprehensive Plan and Code of Ordinances to Ensure Compliance with the Peril of Flood legislation (Priority 1)

Description: The City of Marathon will prepare a redevelopment component in the Conservation and Coastal Element of its Comprehensive Plan that brings it more fully into compliance with Section 163.3178(2)(f), Florida Statutes. The engineering goal of this task will be to identify those areas that may be subject to the peril of future flooding based on the modeled scenarios, and their relationship to federal, state and local planning and regulatory zones (V zones, CHHA, 100 year floodplain, shoreline/mean high tide line, and buffers & setbacks). The policy goal of this task will be to bring the City more fully into compliance with the Peril of Flood mandate. The City will review its Comprehensive Plan and Code of Ordinances in order to identify necessary additions and amendments to ensure compliance with Sec. 163.3178(2)(f) Fla. Statute (“Peril of Flood”). Local government Comprehensive Plans and Coastal Elements that have already come into compliance with the statute will be reviewed as templates for potential modifications to the City’s Plan.

Currently adopted surface water management level of service standards for drainage and local regulations regarding water management improvements will be reviewed in light of current and future condition modeled flooding associated within the City boundaries.

The City's current rating under the FEMA Community Rating System (CRS) will be evaluated to determine the extent to which revised policies adopted to ensure Peril of Flood compliance can contribute to an enhanced score. In light of the modeled current and future conditions, the City will also consider opportunities for regulatory changes (if appropriate) which exceed flood-resistant construction requirements in the Florida Building Code, as well as applicable flood plain management regulations set forth in 44 C.F.R. part 60.

The City's local mitigation strategy (LMS) and post-disaster redevelopment plan along with their integration into the Monroe County's LMS will be reviewed in light of the data and analysis developed through this project.

Deliverables:

- 1) An engineering report that characterizes the spatial extent of modeled future flooding and its impact on federal, state and local planning and regulatory zones.
- 2) A report describing the procedural and substantive requirements of the peril of flood statute, and the needed changes, if any, to the City's regulatory framework to ensure compliance.
- 3) A draft ordinance amending the City's Comprehensive Plan to create a redevelopment component of the Comprehensive Plan that addresses the requirements of the Peril of Flood mandate, as well as any land development code changes that may be required to ensure consistency.

Due Date: May 10, 2019

Funding Amount: \$23,202

Performance Measure: The Department will review the deliverable(s) to ensure it meets the specifications provided in the Task Description, above.

TASK 4:

Title: Adaptation Action Planning. Developing a Citywide Adaptation Action Strategy/Plan (Priority 3 & 4)

Description: The City of Marathon will create an adaptation action strategy/plan that may result in the designation of one or more priority adaptation focus areas. These will be established based upon the modeling performed under Task 1 and other relevant information as may become available.

The City of Marathon, like most of the Florida Keys, has a unique geography – an archipelagic community at extremely low elevations relative to sea level. The City has virtually no topography and otherwise has a high vulnerability to tropical cyclones. Thus, Marathon must ultimately adapt such strategies and plans for all areas of the City. Based on assessed spatial vulnerability, prioritized levels of specificity may be considered. Accordingly, an adaptation action strategy/plan that addresses spatial and temporal priorities within the entirety of the City is most appropriate.

Marathon's unique biophysical and socioeconomic circumstances suggest that adaptation planning must consider both hard and soft physical planning parameters for green and grey infrastructure and parameters such as eventual land loss, impacts to tax base, demographic disruption and social and economic vulnerability resulting from chronic and episodic flooding. Examples of green /grey infrastructure include, living shorelines, sand replenishment, land acquisition/conservation easements, low impact

development/ redevelopment techniques, storm water retention, seawall construction and maintenance, road and structure elevation, utility and infrastructure flood proofing, and pump stations.

Affordable and work force housing are of special concern, as is intergovernmental coordination. Marathon is subject to the special regulatory framework of the Florida Keys Area of Critical State Concern, the Monroe County Rate of Growth Ordinance and participates in the Southeast Florida Climate Compact. Accordingly, the Adaptation Action Plan will be drafted as a series of goals, objectives and policies that can be integrated throughout the Comprehensive Plan, stand alone as an optional element to the Comprehensive Plan, or serve as a strategic guidance document. Selected policies can be aspirational as well as regulatory. Best practices from other communities and from the adaptation planning community of practice will be reviewed and incorporated as appropriate.

Deliverables:

1. Based on the modeled scenarios, an engineering report that addresses green and grey infrastructure resiliency/adaptation alternatives, including conservation and preservation, within the City and provides prioritized recommendations incorporating community input.
2. Based on the modeled scenarios, a robust set of draft goals, objectives and policies that collectively comprise an adaptation action plan/strategy emphasizing the implementation of natural resources that can be integrated into the Comprehensive Plan or serve as a freestanding strategic plan to guide community decision-making and future grant opportunities.

Due Date: May 10, 2019

Funding Amount: \$9,259

Performance Measure: The Department will review the deliverable(s) to ensure it meets the specifications provided in the Task Description, above.