

**STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
GRANT WORK PLAN
DEP AGREEMENT NO.: R1919**

ATTACHMENT 3

Project Title: Opportunities for Green Infrastructure Adaptation Planning

Grantee Contact Information:

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FEID No.: 59-6018983

DUNS No.: 966781510

PROJECT LOCATION: The primary focus of the study will be the entire 1.3 square mile town limits of Melbourne Beach, FL. The town is located on the ± 25 -mile-long barrier island running from Cape Canaveral to Sebastian Inlet, Florida, with the island separating the Indian River Lagoon to the west from the Atlantic Ocean to the east. The town had an estimated population of 3,101 persons per the 2017 American Community Survey (ACS). Additionally, opportunities to interconnect green infrastructure improvements with the neighboring Town of Indialantic to the north, also be included within the study. Indialantic has a land area of ± 1.31 square miles, and an estimated population of 3,278 persons per the 2017 ACS. The municipal boundaries of the towns are as depicted in the maps included below as Figure 1.

Figure 1: Boundaries of Melbourne Beach and Indialantic



WORK PLAN

1. **Project Summary:** Through this proposal, three (3) similar coastal communities utilizing green infrastructure will be researched as case studies as to how Melbourne Beach could improve stormwater management, improve water quality, and provide recreational/aesthetic amenities through such approaches in light of future climate conditions such as sea level rise. These case studies will be shared with town staff, residents and relevant local, regional, state, and/or federal agencies to assess potential locations to implement strategies. Using the case studies and stakeholder input, a Green Infrastructure Adaptation Plan will be developed.
2. **Project Description:** A study of best practices in the utilization of green infrastructure in small coastal towns to adapt to the impacts of sea level rise will be conducted. The study will focus on both small and large-scale projects, from simplistic to more engineered infrastructure solutions, that provide a multi-faceted approach to improving stormwater management and water quality. The case study for each community will provide a brief overview of the municipality/place; will look at the administration of implementation of a green infrastructure program, including: funding, public engagement, and policy changes required; any recommendation and/or cautions from the jurisdiction's administrator of the program, and will conclude with analysis of similarities and differences to these communities' programs and Melbourne Beach's needs. Additionally, the Town of Indialantic, directly to the north, has expressed an interest in including green infrastructure as an adaptation strategy to sea level rise and exploring infrastructure connections that can be made between the communities in reaching the goals stated above. Any opportunities for extension of the planned infrastructure into nearby communities will be examined.

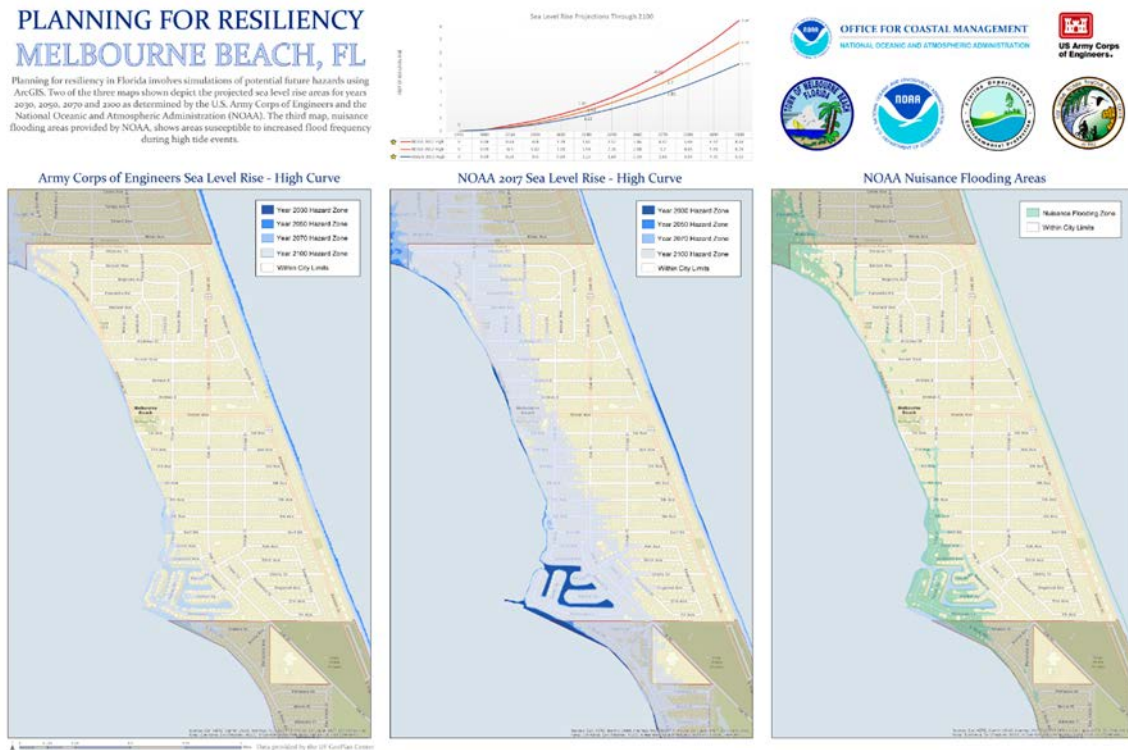
Following the completion of the case studies, two (2) public workshops will be held, one (1) for local residents and the other for pertinent federal, state, and local agency staff. The purpose of these workshops will be to provide input on utilization of the infrastructure types described in the case studies. The workshop geared to the public will be open to residents from the Town of Indialantic as well, giving them an opportunity to provide their input on collaborating with the Town of Melbourne Beach on planning for green infrastructure.

Following these workshops, the techniques examined in the case studies along with the public/agency representative and the Town of Indialantic input will serve as a starting point for creating a preliminary Adaption Plan for green infrastructure in Melbourne Beach and connections to Indialantic. This study will include staff from the East Central Florida Regional Planning Council (ECFRPC), and potentially other pertinent agencies such as the Florida Department of Environmental Protection (FDEP) Florida Coastal Office, the Florida Department of Economic Opportunity (DEO), the U.S. Army Corp. of Engineers (USACE), professors/students from the nearby Florida Institute of Technology (FIT), and other local persons with relevant professional skills interested in participating.

3. **Project Need and Benefit:**

a. Need: As a part of a larger, low-lying barrier island with water bodies on two (2) sides, flooding has historically been a problem for residents of Melbourne Beach, FL. Flooding concerns have increased with current news about the near-future impacts of sea level rise on coastal barrier islands. As depicted below, historic flooding problems when combined with future sea level rise and related flooding issues could be an increased threat to the health, safety, and welfare of island residents, as well as regionally impact the Indian River Lagoon, an economic driver for eco-tourism. The Town of Melbourne Beach desires to be proactive through the implementation of green infrastructure techniques to augment its current stormwater system, while improving water quality and providing enhanced pedestrian access throughout the town and between adjacent communities. Through this study of opportunities for green infrastructure construction, the town seeks to create a community where residences, businesses, and the city's key infrastructure are less susceptible to increased damage due to sea level rise. The end result desired is a community which can reduce the damage

from sea level rise/flooding issues while minimizing the time residents' lives are impacted by such an event.



b. Goals and Priority Areas: As a community which has demonstrated through the data herein has a history flooding, which will only increase through sea level rise, the Town of Melbourne Beach realizes the need to develop an Adaptation Plan to be prepared for future flooding events. This plan will meet the priority of this program, as that it will begin with a detailed case study of other communities which have successfully implemented green infrastructure projects. The Case Studies developed will be available as a resource to other small coastal communities interested in developing green infrastructure plans.

Finally, recent interaction with the community in updating the town's Coastal Element of the Comprehensive Plan has shown a willingness to support green infrastructure as a way of dealing with sea level rise-related flooding; improving the quality of discharge into the Indian River Lagoon; and providing greater opportunities for interconnected pedestrian travel throughout the town and neighboring communities. The community's openness to green infrastructure can further be demonstrated by the photograph showing an example of a local resident creating "lagoon friendly" landscaping on their property near the Indian River Lagoon.



c. Feasibility: There has been a great increase in recent years in research regarding and the development of green infrastructure in communities. For this reason, developing case studies of successful green infrastructure projects applicable to the town should not be a difficult endeavor. Caution will be taken that the communities examined in the case studies are small coastal towns with similar characteristics to the Town of Melbourne Beach.

The Town of Melbourne Beach is a small, close-knit community, which has shown a strong desire maintain their quality of life. Recent experience with the updating of the Coastal Element of the

Comprehensive Plan has shown that the town's residents have a strong desire to work towards maintaining the health, safety, and welfare of their community and the region into the future. The town has excellent resources readily accessible in the creation of an Adaptation Plan involving green infrastructure. The East Central Florida Regional Planning Council (ECFRPC), which has been involved in many coastal adaptation projects completed successfully and in a timely manner, will be partnering with the town. In addition, the proximity of a respected college with strong engineering/environmental programs, the Florida Institute of Technology (FIT) in Melbourne, FL will provide an excellent source of students and professors well-qualified to participate in such projects.

4. **Budget Summary:** Allowable budget categories and costs for this project are listed in the table below.

FIXED PRICE	Grant Amount Awarded
AGREEMENT TOTAL	\$39,500

5. **Project Timeline:** All tasks are to be completed and submitted no later than the Deliverable due date listed in the table below. Request for any change must be submitted prior to the current deliverable due date listed in the project timeline. Request are to be sent via separate email to the Department's Grant Manager, with the details of the request being made and the reason for the request.

PROJECT TIMELINE

Task No.	Task Title	Deliverable Due Date	Funding Amount
1	Case Studies of Similar Small Coastal Communities Using Green Infrastructure	03/01/2020	\$6,000
2	Stakeholder Engagement	04/15/2020	\$10,000
3	Opportunities for Green Infrastructure Adaptation Planning in Melbourne Beach, FL	04/30/2020	\$23,500
Total			\$39,500

6. **Performance Measure:** The Department's Grant Manager will review the deliverables to verify that they meet the specifications in the Grant Work Plan and this task description, to include any work being performed by any sub-contractor(s). Upon review and written acceptance by the Department's Grant Manager of all deliverables under this task, the Grantee may proceed with payment request submittal. All deliverable documents must be provided in an electronic downloadable format.
7. **Consequences for Non-Performance:** The Department will reduce each Task Funding Amount by 5% for every day that the Deliverable(s) is not received on the specified due date in the most recent Project Timeline, for the Agreement. Should a Change Order or Amendment be requested on the date of or after the most current Deliverable Due Date, the 5% reduction of that Task Funding Amount will be imposed until the date of the requested change is received, via email by the Department.
8. **Payment Request Schedule:** Grantee may submit a request for the Task Funding Amount to be paid using the Exhibit C, after all Deliverables for that Task have been approved by the Department. Request(s) for payment must include the Exhibit A showing 100% completion of that Task and must be submitted within 45 days of the Deliverable Due Date.

Or

Grantee may submit one request for the Grant Amount Awarded, by using the Exhibit C, after the project is 100% completed. The request for the Grant Amount Awarded, must include an Exhibit A showing 100% completion for all Tasks, and must be submitted within 45 days of the Deliverable Due Date.

TASKS & DELIVERABLES

Task # 1

- A. Title:** Case Studies of Similar Small Coastal Communities Using Green Infrastructure
- B. Description:** A detailed examination will be made of three (3) small coastal communities similar to Melbourne Beach which have developed green infrastructure projects as ways of achieving one (1) or more of the following goals: limiting flooding due to sea level rise; improving water quality; and/or improving bicycle/pedestrian interconnectivity within the town and surrounding communities. Through literature review or phone interviews, the following information will be gathered relative to the green infrastructure projects: overview of the local community; a description of the administration of implementation of the green infrastructure program, including funding, public engagement, and policy changes required; recommendation and/or cautions from the jurisdiction's administrator of the program; and will conclude with analysis of similarities and differences of these communities' programs and Melbourne Beach's needs.
- C. Deliverable:** A comprehensive report detailing all of the case studies will be provided. It will include any applicable tables, maps, and other relevant graphics.

Task # 2

- A. Title:** Stakeholder Engagement
- B. Description:** Two (2) workshops will be held as part of the project. One workshop will solicit feedback from residents of Melbourne Beach while the second workshop will include staff from Melbourne Beach and Indian River County, the Space Coast TPO, FDOT, FDEP, and FDEO. The workshops will include a presentation outlining the case studies and the communities' use of green infrastructure to help mitigate flood issues, provide pedestrian facilities, and improve water quality. As part of the workshops, a walking tour of the town will be utilized to visit potential sites identified through the project to implement identified strategies, discuss their applicability to the study area, potential constraints and other solutions. Input from the workshops including recommendations, constraints, and other potential solutions will be documented in a workshop summary and will be included in the final adaptation plan.
- C. Deliverable:** Presentation, sign-in sheets, agenda, notice/invite to the workshops, summary report of the workshop.

Task # 3

- A. Title:** Opportunities for Green Infrastructure Adaptation Planning in Melbourne Beach, FL
- B. Description:** Utilizing the case studies, feedback from the workshops, and data and analysis of the towns' existing infrastructure and other data, a Green Infrastructure Adaptation Plan will be developed. The plan will analyze the potential for inclusion of different techniques, scales and uses of green infrastructure throughout the Town to improve water quality of discharge entering the lagoon, improve flood impacts in vulnerable areas of the town and incorporate pedestrian facilities to improve connectivity and quality of life throughout the town and into adjacent Indian River County. to determine the possibilities for constructing the green infrastructure technique(s)

chosen. A final Plan will include a brief summary of the planning process (case study research and stakeholder engagement), recommendations for demonstration projects, and description of potential project locations to include location map(s), renderings, strategies, potential constraints and other recommendations. Next steps will also be included in the plan to help facilitate implementation of feasible projects. The final plan will be hosted on the Melbourne Beach website, as well as the Town's resilient project page on the PerilofFlood.net website. A presentation will also be developed to summarize the process for town staff to utilize for future project discussion.

- C. Deliverable:** Final "Opportunities for Green Infrastructure Adaptation Planning in Melbourne Beach, FL" plan; and power point presentation.