

**STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
GRANT WORK PLAN
DEP AGREEMENT NO.: R2120**

ATTACHMENT 3

I. TITLE PAGE

1. PROJECT TITLE: Coastal Resiliency Planning

2. GRANTEE Contact Information:

Organization Name: City of Daytona Beach

Name of Authorized Signer: James V. Chisholm

Title: City Manager

Address: 301 S. Ridgewood Avenue

City: Daytona Beach

Zip Code: 32114

Area Code and Telephone Number: 386-671-8010

E-mail Address: ChisholmJames@codb.us

3. GRANT MANAGER Contact Information:

Organization Name: City of Daytona Beach

Name: James Chisholm

Title: City Manager

Address: 301 S. Ridgewood Avenue

City: Daytona Beach

Zip Code: 32114

Area Code and Telephone Number: 386-671-8010

E-mail Address: ChisholmJames@codb.us

4. FISCAL AGENT Contact Information:

Organization Name: City of Daytona Beach

Name: Shannon Ponitz

Title: Utilities Director

Address: 125 Basin Street, Suite 100

City: Daytona Beach

Zip Code: 32114

Area Code and Telephone Number: 386-671-8801

E-mail Address: ponitzshannon@codb.us

5. FEID No. (a.k.a. Tax ID#): 59-6000304

Seq No. 014

6. WORK PERFORMED BY: (Select only one)

☐ Grantee ONLY
☒ Subcontractor ONLY
☐ BOTH the Grantee & Sub-Contractor
☐ To Be Determined

7. SUBCONTRACTORS CONTACT INFORMATION: *(If applicable & known)*

Organization Name: Not yet known

Name: _____

Title: _____

Address: _____

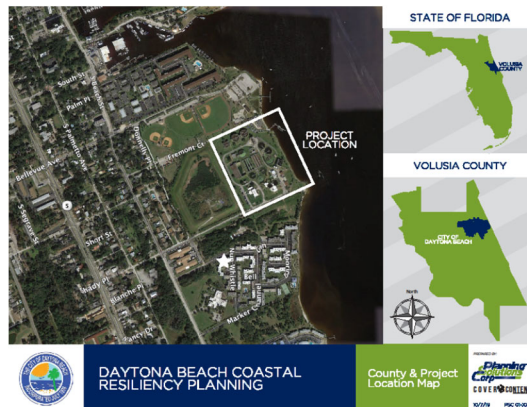
City: _____

Zip Code: _____

Area Code and Telephone Number: _____

E-mail Address: _____

8. PROJECT LOCATION:



A. List of County(ies): Volusia

B. List of City(ies)/Town(s)/Village(s): Daytona Beach

C. State Lands Lease Agreement Number(s): N/A

Provide lease agreement number(s) for any work that will be performed on State Lands. If work will not be on any state lands, please indicate N/A.

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II. WORK PLAN

- 9. PROJECT SUMMARY:** This work will cover the Resiliency Planning Grant Priority Areas by closing key gaps in compliance with Peril of Flood statute, identifying and developing an Adaptation Action Area and related updates to the Coastal Management Element in the comprehensive plan, conducting Vulnerability Assessment and Adaptation/Resiliency plan for critical City infrastructure, and outreach to neighboring coastal communities to coordinate similar plans at a regional level.
- 10. PROJECT DESCRIPTION:** This project will consist of two complementary efforts to protect the City of Daytona Beach from projected sea-level rise and flood event scenarios in accordance with Chapter 163.3178(2)(f)1, F. S., Peril of Flood.

The first effort is a GIS-based vulnerability assessment and adaptation plan for the City of Daytona Beach for sea-level rise scenarios, using existing publicly available data. Although general flood risk data already exist, these data have not been synthesized and analyzed from the perspective of large-scale sea-level rise scenarios and possible extreme flooding events associated with global climate and environmental change. This analysis is critical to inform the City's Comprehensive Plan, providing a long-term perspective of the impacts of sea-level rise.

The City is currently in the process of adopting the Peril of Flood amendment to its Comprehensive Plan. The amendment was adopted by the Planning Board on 9/26/19 and will be considered by the City Commission on 10/16/19 for the first reading and transmittal hearing to the State. They are expected to be adopted by the City Commission on 12/4/19 after State review. The vulnerability assessment associated with this amendment was limited due to funding constraints.

The second effort is to focus on potential sea-level rise effects on a critical element of the City's infrastructure identified from recent storm events: the Bethune Point Wastewater Treatment Plant. The implications of flooding impact to this treatment plant are pervasive, to include potential extensive risk to social stability, public health, and essential ecosystems. Work will consist of a site survey, an in-depth analysis of multiple future sea-level rise scenarios and associated impacts to existing plant components, identifying mitigation strategies, and conducting a cost-benefit analysis. These outcomes will be used as a starting point to create an EPA Road to Resilience for the facility/system.

Both efforts will substantially augment the City of Daytona Beach capability for long-term, effective response to sea-level rise and extreme flooding events.

11. PROJECT NEED AND BENEFIT:

- A. Explain the demonstrated need, which the project addresses.** The existing amendment to the City of Daytona Beach Coastal Management Element of the Comprehensive Plan in accordance with Chapter 163.3178(2)(f)1, F.S. will be augmented to include data and analysis from a vulnerability assessment to model and quantify the City's vulnerability to sea level rise scenarios (Task #1). This vulnerability assessment will also directly inform an adaptation plan which will form the basis for adoption of policies in the form of prioritized actions to reduce and mitigate associated flood risk and guide future actions in the City's Sustainability Action Plan, Comprehensive Plan, and other planning documents. Preliminary analysis identified the Bethune Point Wastewater Treatment Plant as critical infrastructure at peril of flood impact that should be immediately investigated.
- B. Explain how the proposed project meets the purpose of one or more of the Goals and Priorities for FRCP.** The Project will help prepare Daytona Beach, a coastal community, for current and future effects of rising sea levels.

The project provides community resilience planning and fulfills the purpose of **priority area 2** – development of adaptation action areas and associated goals, objectives and policies for communities

with a coastal management element in their comprehensive plan. **priority area 1** will also be reviewed to ensure full compliance with the model process outlined for adoption of Peril of Flood amendments and close any gaps identified. **Priority area 3** will be addressed with a vulnerability assessment. The outcomes will create an EPA Road to Resilience for a critically vulnerable facility/system and follow other best management practices.

- C. Discuss how the project is feasible and can be completed by the grant period deadline.** Existing publicly available data will be leveraged to develop an efficient GIS framework to conduct the analysis. The City has prepared a scope of services for the engineering consulting and survey services and is ready to proceed with a continuing engineering services consultant who is familiar with and has expertise with preparing similar products upon notice of and execution of the grant award. The project is expected to be completed well in advance of the grant deadline of 4/30/2021, as shown in the provided schedule.
- D. Explain how this project is addressing social vulnerability or vulnerability of historic resources or stormwater management systems.** The implications of flooding impact to the City in general and the wastewater treatment plant in particular are pervasive, to include potential extensive risk to social stability, public health, diverse physical historic structures, and essential ecosystem services. The outcomes of this project will substantially augment the City of Daytona Beach capability for long-term, effective response to sea-level rise and extreme flooding events, ultimately protecting the stability of this important urban center and contribute to implementation of the US Centers for Disease Control and Prevention BRACE framework for social vulnerability.

12. DESCRIPTION OF PROJECT OUTCOMES: The project outcomes are straightforward: (1) a comprehensive, up-to-date GIS-based report on the vulnerability of the City of Daytona Beach to sea-level rise and extreme flooding events, coupled with data-based adaptive plans to mitigate these vulnerabilities; (2) a specific, meaningful case study on vulnerabilities and specific mitigations related to sea-level rise on a key component of City infrastructure, the Bethune Point Wastewater Treatment Plant.

13. BUDGET SUMMARY: Allowable budget categories and form of payment with the costs for this project are listed in the table below.

BUDGET SUMMARY BREAKDOWN

Budget Categories	Payment	Task 1	Task 2	Task 3	Task 4	Grant Amount Awarded
Salaries & Fringe	Fixed Price	\$	\$	\$	\$	\$
Contractual Services*	Fixed Price	\$9,000	\$23,000	\$38,000	\$5,000	\$75,000
GRANT AGREEMENT TOTAL		\$9,000	\$23,000	\$38,000	\$5,000	\$75,000

- A. Describe how the project costs was determined:** City Staff reviewed similar products and associated costs from engineering consultants and survey firms.
- B. Contractual Services Selection*:** Upon a selected Sub-Contractor(s) (if applicable), the Grantee will Provide a signed certification statement giving a description of the procurement process that was utilized for the selection of the sub-contractors. The description must include:
- What procurement process was utilized
 - Justification as to how & why you made your final selection.
 - For competitively obtained Sub-Contractor also include:
 - A list of all entities that you received bids/quotes from,
 - Names and addresses of those entities that provided bids/quotes,
 - Actual amounts of the bids/quotes that were submitted.

- 14. PROJECT TIMELINE:** All tasks are to be completed and submitted no later than the task/deliverable due date listed in the table below. Requests for any change must be submitted prior to the current task/deliverable due date listed in the project timeline. Requests 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	Task Amount
1	Site Survey	12/31/2020	\$ 9,000.00
2	Vulnerability Assessment Adaptation Action Plan	02/01/2021	\$23,000.00
3	Technical Memorandum	03/19/2021	\$38,000.00
4	Cost Benefit Analysis	04/16/2021	\$ 5,000.00
Total			\$75,000

- 15. PERFORMANCE MEASURES:** The Grantee will submit all deliverables for each task via **one pdf document** to the Department's Grant Manager on or before the Task/Deliverable Due Date listed in the Project Timeline. The Department's Grant Manager will review the task/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.
- 16. CONSEQUENCES FOR NON-PERFORMANCE:** The Department will reduce each Task Funding Amount by 5% for every day that the task/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 task/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.
- 17. PAYMENT REQUEST SCHEUDLE:** 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 task/deliverable due date. Please refer to the [website Grants page](#) for "How to Request Payment", and "Checklist for Requesting Payment".

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 last task/deliverable due date.

- 18. FUNDING SOURCE:** Grantee agrees to include on all publications, printed reports, audiovisuals (including videos, slides, and websites except that unless required under special terms of this Agreement, this requirement does not apply to audiovisuals produced as research instruments or for documenting experimentation or findings and which are not intended for presentation to the general public) or similar materials must include the DEP logo (which can be found on the Department's website at <https://floridadep.gov/resilience> or by contacting the Department's Grant Manager for a copy) and the following statement on, the following language.

"This work was funded in part through a grant agreement from the Florida Department of Environmental Protection, Florida Resilient Coastlines Program, by a grant provided by the Office of Resilience and

Coastal Protection. The views, statements, findings, conclusions and recommendations expressed herein are those of the author(s) and do not necessarily reflect the views of the State of Florida or any of its subagencies.”

The next printed line shall identify the month and year of the publication.

III. TASKS & DELIVERABLES

Task #1

- A. Title:** Site Survey
- B. Goal:** Update survey data to obtain precise geo-referenced elevational data at the site.
- C. Description:** Develop a site survey at the WWTP to tie the NAVD 88 datum. This data will then be used to assess vulnerability to flooding.
- D. Deliverable(s):** The Grantee will submit all deliverables for each task via **one pdf document** to the Department’s Grant Manager on or before the Task/Deliverable Due Date listed in the Project Timeline.
 - 1) Site survey data tied to the NAVD 88 Datum at the WWTP

Task #2

- A. Title:** Vulnerability Assessment Adaptation Plan
- B. Goal:** Implement compliance with the Peril of Flood Statutes, consistent with policies anticipated to be adopted in December 4, 2020.
- C. Description:** Conduct GIS analysis to model and quantify the City’s vulnerability to sea level rise scenarios and other flood events that form the basis for adoption of policies in the form of prioritized actions to reduce and mitigate associated flood risk. The results of the Vulnerability Assessment and Adaptation Plan will be used to guide future actions in the City’s Sustainability Action Plan, Comprehensive Plan, and other planning documents.
- D. Deliverable(s):** The Grantee will submit all deliverables for each task via **one pdf document** to the Department’s Grant Manager on or before the Task/Deliverable Due Date listed in the Project Timeline.
 - 1) Report Summarizing Sea Level Rise/Flooding Data and Analysis including
 - a. maps showing modeling of storm surge and at least 1 other flooding scenario under current sea level conditions
 - 1) Maps showing modeling of at least 2 sea level rise scenarios over at least 2-time horizons, and in combination with storm surge and at least 1 other flooding scenario.

Task #3

- A. Title:** Technical Memorandum
- B. Goal:** Provide a planning level document that will assess the vulnerability of the City’s Bethune Point Wastewater Treatment Plant to flooding, storm surge today and in the future due to the impacts of projected sea level rise. The Bethune Point Advanced Wastewater Treatment plant was built in 1943

and is located on the western banks of the Halifax River/Indian River Lagoon. Due to its existing location, sea level rise and storm surge could significantly impact the operation and long-term functionality of the plant.

- C. Description:** The purpose of these services is to provide a planning level document that will assess the vulnerability of the CITY's Bethune Point Wastewater Treatment Plant (WWTP) to flooding, storm surge today and into the future as defined in the scope due to the impacts of projected sea level rise. The document will evaluate the impact of storm surge and sea level rise on the facility today and out to the year 2100 it will include interim assessments at year 2030, 2050 and 2070. The assessment will use the EPA's "Adaptation Strategy Guide for Water Utilities" as a guideline for the evaluation.

The evaluation will follow the first four steps of the five-step process laid out in the EPA "Adaptation Strategy Guide for Water Utilities" guideline for flooding and storm surge events only, as follows:

- Understand projected impacts and challenges.
- Identify thresholds of failure or damage.
- Assess risks.
- Determine adaptation options.

Projected MHHW will be determined for the analysis years 2030, 2050, 2070, 2100 using this procedure.

The WWTP will be evaluated for vulnerability to flooding/storm surge based on the survey calibrated to the NAVD 88 datum and existing and projected MHHW elevations. Each evaluation will compare the current and projected, MHHW and associated storm surge elevations for a category 1, 2, 3, 4, and 5 storms.

The project will assess vulnerability of equipment/structures essential for plant operation. The evaluation is intended to determine the vulnerability of the WWTP to flooding due to sea level rise and associated storm surge over the timeframes specified.

Based on thresholds of failure or damage identified, the vulnerability of each piece of equipment/structure to flooding will be determined.

Conceptual adaptation options will be developed for the WWTP based on the analysis. The adaptation options will include a planning level "opinion of probable cost" or range of costs as appropriate for each resiliency/hardening option.

- D. Deliverable(s):** The Grantee will submit all deliverables for each task via **one pdf document** to the Department's Grant Manager on or before the Task/Deliverable Due Date listed in the Project Timeline.

- 1) Technical Memorandum outlining impacts for 4 timeframes under different scenarios, adaptation options and costs
- 2) Copies of all announcements/advertisements for all workshops/meetings
- 3) Agendas and sign-in sheets from each workshop/meeting, indicating location, date, and time of workshop/meeting
- 4) Presentation(s) and other materials/handouts provided at each workshop/meeting
- 5) Brief summary report from each workshop/meeting including attendee input and workshop/meeting outcomes
- 6) Any materials created at each workshop/meeting (as applicable)

Task #4

- A. Title:** Benefit Cost Analysis
- B. Goal:** The goal of this task is to prepare a preliminary benefit-cost analysis that is available to be used for inclusion in future Hazard Mitigation Grant Program applications.
- C. Description:** The benefit cost analysis will evaluate the properties within the service area for the wastewater treatment plant which could benefit from the project and quantify this benefit for inclusion in the benefit cost analysis. The costs portion of the analysis will include costs for design, permitting, property acquisition, construction and maintenance of the selected project(s) that are recommended in the Technical Memorandum.
- D. Deliverable(s):** The Grantee will submit all deliverables for each task via **one pdf document** to the Department's Grant Manager on or before the Task/Deliverable Due Date listed in the Project Timeline.
 - 1) Table of Benefits and Costs for various scenarios