

DEP AGREEMENT NO. **R1927**
CHANGE ORDER NO. # **1**

GRANTEE

City of St. Pete Beach
155 Corey Ave.
St. Pete Beach, FL 33706

DEP Agreement No. **R1927** as entered into on the 23rd day of December 2019, is hereby revised as follows:

1. **Attachment 3, Grant Work Plan, Task 3, Deliverable Due Date**, is hereby changed to 2/14/2020.

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

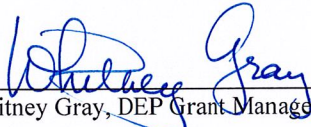
The parties agree to the terms and conditions of this Change Order and have duly authorized their respective representatives to sign it on the dates indicated below.

CITY OF ST. PETE BEACH

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION



Shelby Hughes, Grantee Grant Manager



Whitney Gray, DEP Grant Manager

Date: 12/20/2019

Date: 1/2/2020

**STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
GRANT WORK PLAN
DEP AGREEMENT NO.: R1927**

ATTACHMENT 3

Project Title: Vulnerability Assessment

Grantee Contact Information:

Organization Name: City of St. Pete Beach
Authorized Signer for the Organization: Vincent Tenaglia
Title: Assistant City Manager
Address: 155 Corey Avenue
City: St. Pete Beach
Zip Code: 33706
Area Code and Telephone Number: 727-363-9250
E-mail Address: vtenaglia@stpetebeach.org

Grant Manager Contact Information:

Organization Name: City of St. Pete Beach
Name: Vincent Tenaglia
Title: Assistant City Manager
Address: 155 Corey Avenue
City: St. Pete Beach
Zip Code: 33706
Area Code and Telephone Number: 727-363-9250
E-mail Address: vtenaglia@stpetebeach.org

Fiscal Agent Contact Information:

Organization Name: City of St. Pete Beach
Authorized Signer for the Organization: Vincent Tenaglia
Title: Assistant City Manager
Address: 155 Corey Avenue
City: St. Pete Beach
Zip Code: 33706
Area Code and Telephone Number: 727-363-9250
E-mail Address: vtenaglia@stpetebeach.org

FEID No.: F59-6000423

PROJECT LOCATION:

The City of St. Pete Beach is a barrier island located on the west coast of Florida in Pinellas County.



WORK PLAN

1. **Project Summary:** The goal of the Vulnerability Assessment is to evaluate the impacts of sea level rise and rainfall on facilities owned by the City, and to identify potential mitigation and adaptation strategies to protect them. The Vulnerability Assessment will be completed as part of the Coastal Resiliency Plan developed by Kimley-Horn and the City of St. Pete Beach in April 2019.
2. **Project Description:** The Coastal Resiliency Plan (CRP) developed by Kimley-Horn and the City of St. Pete Beach in April of 2019 identified and examined the effects of sea level rise and major rainfall events and initiated long-range planning for beach and island. The CRP included four projection scenarios and recommendations of action items moving forward. As recommended in the CRP, the City is applying for grant funding to complete a detailed Vulnerability Assessment to further evaluate impacts and to develop mitigation and adaptation strategies. The Vulnerability Assessment will require additional data review and flood/storm event modeling, including, but not limited to, the following scenarios:
 - Sea Level Rise for the low/medium/high projections
 - 25-yr/24-hour rainfall
 - 100-yr/24-hour rainfall
 - Predicted storm surge for up to three hurricane event scenarios using high tide conditions
 - Combined sea-level rise (low projection) with 25-yr/24-hr event
 - Combined sea-level rise (high projection) with 100-yr/24-hr event

The intent is to integrate the modeling results to assess vulnerabilities and develop a paired asset-threat relationship. A qualitative screening process will be implemented to develop a range of adaptation measures for each asset/threat pair determined to be vulnerable, focusing on the most vulnerable, most important assets first. Screening criteria may include economic feasibility, ability to increase resilience, community acceptance, environmental impacts, and socio-economic impacts.

The proposed Vulnerability Assessment will evaluate the following:

- Built environment vulnerabilities (i.e. wastewater/storm water infrastructure, roads, and city-owned buildings)
 - Identification of any City buildings that are not up to current Florida Building Code for both flooding and wind. This will require a review of finished floor elevations and field investigations.
 - Evaluation of City stormwater outfalls and recommendations for rehabilitation or retrofit with an inline check valve
- Consequence and risk of failure of existing infrastructure
- Adaptation Measures and Mitigation Strategies using qualitative and quantitative evaluation
- Recommendations for City of St. Pete Beach Comprehensive Plan and Land Development Code updates to proactively mitigate the effects of sea level rise

The results from the Vulnerability Assessment and evaluation screening will be prioritized to develop an overall strategy for adoption. The project deliverable will be a report summarizing the findings and outlining the adaptation strategy moving forward.

3. Project Need and Benefit:

The proposed project is required to begin planning and implementing adaptation strategies for sea level rise and storm events on the barrier island of St. Pete Beach. Based on the initial analysis, the City of St. Pete Beach will experience flooding, dune erosion, and ecosystem changes over a thirty-year planning horizon. The Vulnerability Assessment falls under Priority Area 1, as defined on the FDEP website: <https://floridadep.gov/resilience>.

This project is anticipated to be completed by March 1, 2020, with incremental deliverables for review by FDEP. The scope of services outlined below has will provided by Kimley-Horn under the City's Continuing Contract for Engineering Services executed in 2017.

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

FIXED PRICE	Grant Amount Requested
AGREEMENT TOTAL	\$70,000.00

- A. **Provide an explanation on what methods were used to determine the amount you are requesting:** Consultant Cost Estimate under 2017 Continuing Contract for Engineering Services.

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	Task Amount
1	Data Collection and Review	10/1/2019	\$ 15,000.00
2	Vulnerability Assessment	12/15/2019	\$ 12,000.00
3	Development and Evaluation of Adaptive Measures	01/15/2020	\$ 18,000.00
4	Report and Recommendations	03/01/2020	\$25,000.00
Total			\$70,000.00

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: Data Collection and Review

B. Description: The engineer will collect and review the following data:

- 1) Latest GIS files including shapefiles of the City's boundaries and infrastructure
- 2) Finished floor elevations (in NAVD88 datum) and as-built information of critical infrastructure including wastewater and storm water infrastructure, parks, buildings, and roadways
- 3) Available high-water marks
- 4) Repetitive loss locations
- 5) Most Recent DEM for Pinellas County
- 6) Sea Level Rise information from both the Army Corps of Engineers and National Oceanic and Atmospheric Administration.
- 7) Design rainfall events based on the Southwest Florida Water Management District's Basis of Review for the 25-year and 100-year/1-day events.

C. Deliverable: Letter summarizing all data references utilized in the assessment and any noted deficiencies or quality of the data.

Task # 2

A. Title: Vulnerability Assessment

B. Description: The Engineer will project flood risk derived from the 25-year, and 100-year precipitation events in combination with sea level rise scenarios listed above. The Engineer will integrate the modeling results to assess vulnerabilities. This will include the development of a paired asset-threat relationship in consultation with the City. The threats are estimated to include:

- 1) Sea Level Rise for the low/medium/high projections
- 2) 25-yr/24-hour rainfall
- 3) 100-yr/24-hour rainfall
- 4) Predicted storm surge for up to three hurricane event scenarios using high tide conditions
- 5) Combined sea-level rise (low projection) with 25-yr/24-hr event
- 6) Combined sea-level rise (high projection) with 100-yr/24-hr event

C. Deliverable: Report indicating the exhibits showing impacts of threats to critical infrastructure for each threat event.

Task # 3

A. Title: Development and Evaluation of Adaptive Measures

- B. Description:** Based on the results of Task 2, a table of vulnerabilities will be developed. The Engineer, in consultation with the City will develop a qualitative screening process to develop a range of adaptive measures for each asset/threat pair determined to be vulnerable, focusing on the most vulnerable, most important assets first. Screening criteria may include:
- 1) Economic Feasibility
 - 2) Ability to increase resilience
 - 3) Community Acceptance
 - 4) Environmental Impacts
 - 5) Socio-economic Impacts
- The results from the screening will be ranked by the Engineer and the City will prioritize the strategies for adoption.

- C. Deliverable:** Matrix of vulnerabilities by asset/threat pair and prioritization of adoption strategies

Task # 4

- A. Title:** Report and Recommendations
- B. Description:** A report summarizing the deliverables in Task 1-3, in addition to the recommended adaptation strategy. It is anticipated that the recommendations for implementation of the adaptation strategy will evaluate and establish the criteria required to update the City's Comprehensive Plan and Land Development Code. The recommendation of adaptive measures, including infrastructure hardening and rehabilitation, will evaluate the opinion of probable engineering and construction costs for budget planning. The Engineer has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions.
- C. Deliverable:** Summary Report of all deliverables provided in tasks 1 -3, and recommended adaptation strategies.