

TASK ORDER NO. 15

SCOPE OF SERVICES AND FEE PROPOSAL

2022 NEW PORT RICHEY VULNERABILITY ASSESSMENT

CITY OF NEW PORT RICHEY

I. PROJECT SCOPE

Description:

The City of New Port Richey (CITY) provides vital infrastructure, facilities, and services to the residents of the City. With the CITY's location directly adjacent to the Gulf of Mexico and Pithlachascotee River, the impacts of severe storms and sea level rise pose risks to the CITY's assets and infrastructure. The CITY has requested Stroud Engineering Consultants, Inc. (ENGINEER) assist the CITY in conducting a vulnerability assessment to evaluate potential flooding impacts. Products of this assessment include GIS files, inventory and priority lists, exposure and sensitivity analysis, and adaption plans.

Mr. Brent Heath, P.E. will serve as the ENGINEER's project manager on this task order for the duration of the scope of services. The ENGINEER will provide project management as part of this work authorization, which shall include: continuous management and coordination of the overall project; preparation of miscellaneous correspondence; coordination of subconsultant services; necessary coordination and scheduling of task activities; and attendance at project meetings (as requested) with the CITY. A written summary of the project status and completed tasks will be provided with each invoice submitted by the ENGINEER.

Based on the above background discussion, the following specific tasks and services are anticipated for this project, and are included in this Scope of Services:

TASK 1 CRITICAL ASSETS INVENTORY

- The ENGINEER will coordinate with the CITY to identify critical assets such as City Hall, Library, Police Station, Fire Station Nos. 1 & 2, Water Treatment Facility, Wastewater Treatment Facility, Wastewater Lift Stations, and other valuable and indispensable infrastructure.
- The identified assets will be ranked for significance or consequence of loss (police, hospital, etc.) and flooding priority (i.e., what has the potential to flood first). Each identified asset will be categorized by function and ranked in the case of an emergency. Upon completion of the modeling, the adaptation plan will identify and prioritize assets based on the potential to flood first.
- All communities, neighborhoods, and residential areas within the city limits will be classified and identified for potential evaluation in the various analyses outlined below.

TASK 2 EXPOSURE ANALYSIS

- Using GIS, LiDAR, and NOAA models, the ENGINEER in coordination with the CITY will generate multi-tiered shapefiles including, but not limited to, critical assets, stormwater infrastructure, seawall delineation, areas prone to rain-based flooding, storm surge predictive modeling, and NOAA's 40- and 70-year sea level rise predictions. This information will be used for the basis of the sensitivity analysis.

- Most of this task's effort will be conducted using GIS and various databases, including local NOAA tidal gauges, the CITY's rainfall data, LiDAR, NOAA's storm surge data from historical events, NOAA's SLOSH model, and the CITY's critical assets inventory.
- The tidal gauges and the CITY's rain databases will be analyzed for the rate of change over time, increased flood stage during tropical storm or hurricane events that affected the area, and river swelling and receding with localized but severe rain events.
- The ENGINEER will obtain and use the most recent LiDAR data as a basis for the GIS modeling. The GIS and modeling work will be performed by the ENGINEER along with the CITY's Public Works Department staff.
- The ENGINEER will develop various scenarios and analyzed for potential severity of flooding. These scenarios will include the extreme rain event in 2015, Tropical Storm Debbie in 2012, Hurricane Hermine in 2006, and other notable storms. The modeling effort will also focus on NOAA's 40- and 70-year sea level rise prediction. The CITY may desire to survey specific areas for clarification where known flooding does not agree with modeling outputs.

TASK 3 SENSITIVITY ANALYSIS

- Upon completion of the GIS modeling, the ENGINEER will review the results with the CITY. Based on the CITY's ranking that identified each asset by function in the case of an emergency, overall CITY function, government and educational facilities, and historical, natural, recreational areas of significance, and high-risk residential communities.
- Upon completion of the modeling using various extensions available in GIS, the sensitivity analysis will identify and prioritize assets with the potential to flood first, type of area affected by flooding (i.e., public utilities, evacuation routes, government facilities, schools, etc.), and approximate value of affected areas.
- The ENGINEER will provide the CITY with the list of assets organized by priority, approximate level of flooding and possible damage, and general costs associated with damage potentially caused by flooding and sea level rise at the outcomes associated with the modeled situations. The ENGINEER will assist the CITY in reviewing the list of assets, prioritization of the assets, associated damage evaluation, and costing. Upon review, the CITY will provide a final draft of the asset list with flooding potential and prioritization level for the CITY to finalize and approve.

TASK 4 ADAPTATION PLAN

- The ENGINEER will generate various conceptual plans that mitigate or reduce the impacts of flooding and sea level rise in areas susceptible to flooding. These plans may include the construction of new infrastructure, maintaining or restoring wetlands and coastal areas, modifying land uses, repair or retrofit facilities, use of hard or soft shorelines, stormwater maintenance and repair, seawall construction or repair, etc.
- The ENGINEER will provide a draft adaptation plan that outlines potential methods of protection against sea level rise for the CITY's assets. This may include, but is not limited to, construction of berms to retain water outside of a given area, living shorelines to reduce storm surge, seawall creation or strengthening, and possible relocation. The ENGINEER will review the various techniques for each assets identified, costs associated with the proposed adaptation method, and potential timeline for implementation for each asset. The ENGINEER will provide a final draft of the adaptation plan for the CITY to finalize and approve.

TASK 5 PERIL OF FLOOD PLAN AMENDMENTS

- The ENGINEER will review and develop best management practices for coastal zones. Best management practices may include the following concepts: harden facilities, elevate facilities, increase stormwater flow out of or around evacuation routes, protecting or enhancing natural resources, minimize development in coastal areas, encourage redevelopment practices that result in building outside of flood zones and above potential flood levels, identify stormwater practices that may reduce losses due to flooding, creation of high-hazard areas, etc.
- The ENGINEER will assist the CITY to update the POF plan amendments to incorporate the approved Adaptation Plan.

TASK 6 MEETINGS & PUBLIC OUTREACH

- The ENGINEER will work with CITY staff through conference calls, video calls, and meetings. The ENGINEER will attend one city council meeting to present the results of the evaluations and the proposed adaptation plan. The ENGINEER will coordinate with the CITY staff to host up to two (2) public outreach events.

II. DELIVERABLES

This Scope of Services is to include the following deliverables:

- List of Assets with Initial Prioritization Ranking
- A minimum of two sea level rise scenarios with up to 3 additional scenarios
- GIS files associated with sea level rise scenarios
- Damage evaluation due to predicted sea level rise
- Adaptation Plan
- Assistance with POF Plan Amendment
- Meetings and presentations for City Council as needed.

III. ADDITIONAL SERVICES REQUIRING AUTHORIZATION IN ADVANCE

During the course of the work, the ENGINEER shall notify the CITY in writing of any unanticipated costs or out of scope work and shall provide a new estimate for that work to the CITY for approval.

If required by the ENGINEER and authorized by the CITY, additional services related to this Work Authorization shall be provided by the ENGINEER for additional professional fees negotiated with and agreed to by the CITY.

IV. EXCLUSIONS AND CONDITIONS

This following exclusions and conditions apply to the Scope of Services:

1. It is the ENGINEER's understanding that the CITY will provide the following items to support the ENGINEER's efforts:
 - Existing GIS files for evacuation routes, hospitals, police stations, fire stations, bus stations, water and wastewater treatment facilities, lift stations, pump stations, stormwater facilities and network, airports, historical buildings or landmarks, etc.
 - Attend meetings as requested by ENGINEER.
 - Provide review of files, documents, and other associated exhibits per the request of ENGINEER.
 - Provide review in the development of the list of assets, prioritization of assets, modeling results, flooding and damage evaluation, adaptation strategies, and construction costs, etc.
 - Provide input on timing of adaptation plan and POF plan amendments.

V. ENGINEER’S COMPENSATION

For Tasks 1 – 6 described above, the CITY will compensate the ENGINEER on a fixed fee basis. Compensation to the ENGINEER for the services included in the above tasks shall not exceed the following:

1.	CRITICAL INVENTORY LIST	\$ 10,000.00
2.	EXPOSURE ANALYSIS	\$ 36,500.00
3.	SENSITIVITY ANALYSIS	\$ 36,500.00
4.	ADAPTATION PLAN	\$ 17,000.00
5.	PERIL OF FLOOD PLAN AMENDMENTS	\$ 5,000.00
6.	MEETINGS & PUBLIC OUTREACH	\$ 4,500.00
	TOTAL AUTHORIZATION	\$ 109,500.00

VI. SCHEDULE

The ENGINEER will begin the activities described herein immediately upon receiving written notice to proceed. The estimated project schedule is outlined as follows:

<u>Task</u>	<u>Completion Date</u>
Critical Inventory List	December 2022
Exposure Analysis	March 2023
Sensitivity Analysis	May 2023
Adaptation Plan	August 2023
Peril Of Flood Plan Amendments	March 2024

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2022 NEW PORT RICHEY VULNERABILITY ASSESSMENT

Stroud Engineering Consultants, Inc.

A. SCOPE OF SERVICES – The City of New Port Richey hereby authorizes the firm of Stroud Engineering Consultants, Inc. to perform the specific services summarized on the attached statement entitled TASK ORDER NO. 15, SCOPE OF SERVICES AND FEE PROPOSAL.

B. TIME OF COMPLETION – Work under this Authorization will begin upon Notice to Proceed from the City and will be completed within the schedule presented on the attached statement entitled TASK ORDER NO. 15, SCOPE OF SERVICES AND FEE PROPOSAL.

C. KEY PERSONNEL – Stroud Engineering Consultants, Inc. shall appoint a single representative with whom the City of New Port Richey shall coordinate. This representative shall have the authority to transmit instructions, receive information, interpret and deliver decisions, etc. Key personnel assigned to the project by Stroud Engineering Consultants, Inc. shall not be removed from the project without the prior written approval of the City of New Port Richey. For this authorization key personnel are as follows: Brent Heath, P.E.

D. COMPENSATION – Professional fees for this authorization will be fixed fee in accordance with the AGREEMENT FOR GENERAL UTILITY ENGINEER, WATER-RESOURCE AND ENVIRONMENTAL CONTINUING SERVICES (GUE&WR&EC) with the City of New Port Richey, dated February 11, 2020.

E. ACCEPTANCE – By signature hereon, the parties each accept the provisions of this TASK ORDER NO. 15, and authorize the Consultant to proceed at the direction of the City's representative, in accordance with the SCOPE OF SERVICES AND FEE PROPOSAL.

Witness:

STROUD ENGINEERING CONSULTANTS, INC.

Brent A. Heath, President

Date

Attest:

CITY OF NEW PORT RICHEY, FLORIDA

City Clerk

Mayor

Date