

April 22, 2026

Megan Wepfer
Public Works Director
City of Madeira Beach
505 150th Avenue
Madeira Beach, Florida 33708

RE: City of Madeira Beach
Proposal for Vulnerability Assessment Update & Adaptation Plan

Dear Ms. Wepfer:

Advanced Engineering & Design, Inc. (AED) is pleased to provide this proposal for a Vulnerability Assessment (VA) Update and an Adaptation Plan (AP).

Located on a barrier island off the coast of Pinellas County, the City of Madeira Beach (City) is aware of its exposure to storm surge, sea level rise, and other environmental threats inherent to its geography. As a narrow strip of land bordered by the Gulf of America to the west and Boca Ciega Bay to the east, the entire City is within close proximity to the coast. Its residential neighborhoods, commercial corridors, and recreational amenities are all situated in an environment that is challenged by water.

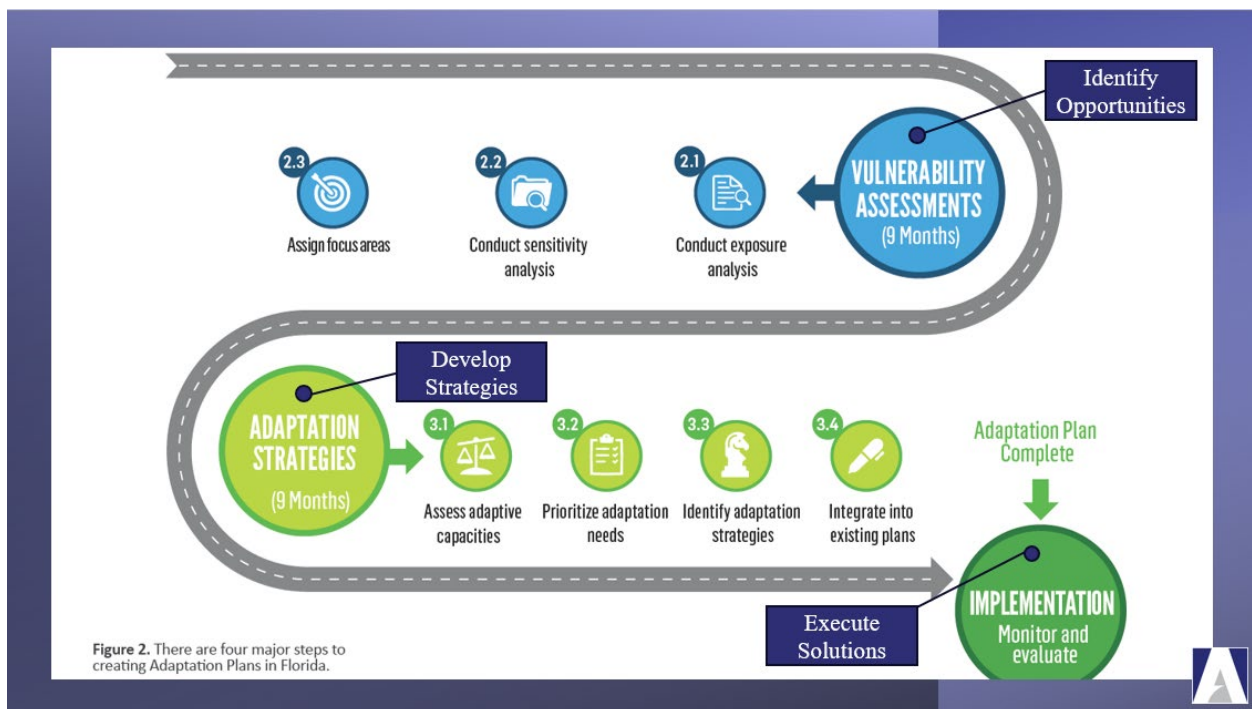
While the broader risks facing barrier island communities are well-documented, the City recognizes that local conditions demand a more precise understanding of vulnerability. Specifically, the City seeks clarity on which facilities and infrastructure are the first to experience impacts during storm or flood events, and which areas warrant designation as priority zones for future planning and investment. This assessment will also serve as a public-facing engagement tool to facilitate meaningful dialogue with residents, business owners, and visitors about the risks the community faces and the steps being taken to address them.

The City currently has a VA completed as part of a broader Pinellas County effort; however, the regional scope of that initiative limited the depth of City-specific analysis. Since that work was initiated, FDEP has also updated its data standards including revised planning horizons and sea level rise scenarios. This effort will build upon that foundation by evaluating additional assets (e.g., seawalls) and focus areas, incorporating meaningful input from City Staff, City Leaders, and residents, and aligning the City's VA with current FDEP data standards and AED's FDEP-approved SEA Score



methodology. In doing so, it will also position the City for its next resiliency journey milestone: the AP.

Following the VA Update, AED will develop the City's AP. Community resiliency can be envisioned as a progression through three major milestones, as illustrated in the figure below. Beginning with the VA, advancing to the development of adaptation strategies through the AP, and culminating in the implementation of those strategies. The VA establishes the analytical foundation. It identifies where a community's vulnerabilities, challenges, and opportunities lie. The AP then translates that foundation into actionable strategies for addressing the identified vulnerabilities, challenges, and opportunities. Implementation, the final milestone, is where those strategies are put into practice. This effort will fully address the first two milestones and lay the groundwork for the third milestone.



The scope of work presented below is intended to meet the statutory requirements set forth by the State of Florida for both VAs and APs. As such, the following services are offered:

1.00 Acquire Background Data

Data related to critical or regionally important assets, as well as topographic and flood scenario information, will be collected.

The CONSULTANT shall:

- 1.01 Acquire pertinent data to administer the assessment. This will include, but not be limited to, the following: critical and non-critical asset information, topographic data, flood scenario data, and other pertinent datasets.
- 1.02 Develop a geodatabase of all assets to be included in the VA.
- 1.03 Perform a gap analysis.
- 1.04 Prepare a technical memorandum documenting this effort.
- 1.05 Submit all deliverables associated with Task 1.00 to the FDEP and respond to comments.

2.00 Exposure and Sensitivity Analyses

Exposure and sensitivity analyses will be performed in accordance with the requirements of the Resilient Florida Program. The exposure analysis will identify the depth of water associated with each applicable sea level rise, storm surge, and extreme rainfall scenarios included in the study. The sensitivity analysis will measure the potential impact of flooding on critical assets by applying the results of the exposure analysis to the critical asset inventory developed in Task 1.00. The sensitivity analysis will include an evaluation of flood severity impacts on each asset across all applicable flood scenarios and will assign a corresponding risk level (based on SEA Score) to each asset.

The CONSULTANT shall:

- 2.01 Perform an exposure analysis based on the specified flood scenarios.
- 2.02 Develop a geodatabase of all flood scenario floodplains to be included in the VA.
- 2.03 Perform a sensitivity analysis.
- 2.04 Prepare a draft VA report.
- 2.05 Submit all deliverables associated with Task 2.00 to the FDEP and respond to comments.

3.00 Final Vulnerability Assessment Report

Preparation and finalization of the VA report in accordance with the requirements of Section 380.093, F.S. The final VA report shall be a comprehensive document that consolidates all analytical work performed under this scope including the asset inventory, exposure analysis results, sensitivity analysis results, and risk level metrics (SEA Score).

The CONSULTANT shall:

- 3.01 Prepare a final VA report.
- 3.02 Prepare the VA Compliance Checklist Certification.
- 3.03 Submit all deliverables associated with Task 3.00 to the FDEP and respond to comments.

4.00 Draft Adaptation Needs and Strategies

Adaptation needs exemplified in the VA (Task 3.00) will inform the development of targeted adaptation strategies, supported by figures illustrating impacted assets and/or focus areas. A draft AP will be prepared in accordance with the Florida Adaptation Planning Guidebook.

The CONSULTANT shall:

- 4.01 Develop adaptation strategies based on the findings of the VA.
- 4.02 Prepare a draft AP.
- 4.03 Submit all deliverables associated with Task 4.00 to the FDEP and respond to comments.

5.00 Community Prioritization of Adaptation Needs

A public meeting will be held to present the draft AP and to solicit community input on adaptation needs and strategies. The meeting's content will include a review of the assessed adaptive capacities, identified adaptation needs, and proposed adaptation strategies developed as part of the draft AP. The meeting will provide attendees with an opportunity to offer community-specific feedback on the draft AP content and to participate in a structured prioritization exercise for identified adaptation needs.

The CONSULTANT shall:

- 5.01 Plan, coordinate, and facilitate a public meeting in cooperation with the City.
- 5.02 Prepare all materials necessary to support the meeting, including but not limited to social media notifications, meeting invitations, presentation materials, graphics, and any supplemental handouts or displays.
- 5.03 Draft a summary report or meeting minutes that includes stakeholder input and meeting outcomes.
- 5.04 Submit all deliverables associated with Task 5.00 to the FDEP and respond to comments.

6.00 Final Adaptation Plan

A final AP incorporating all components of the draft AP, including any corrections or revisions identified during the review and public meeting process will be provided. The final AP will be consistent with the requirements of the Florida Adaptation Planning Guidebook. The final AP will

also include a prioritized project list for each asset class as defined in subsection 380.093(2), Florida Statutes, for consideration and implementation.

The CONSULTANT shall:

- 6.01 Provide a list of prioritized projects for each of the four (4) asset classes.
- 6.02 Prepare the final AP.
- 6.03 Submit all deliverables associated with Task 6.00 to the FDEP and respond to comments.

7.00 Public Outreach Meetings and Stakeholder Engagement

A series of public meetings and stakeholder engagement events are incorporated into this effort including the following: one (1) kick-off meeting, a minimum of two (2) steering committee meetings, two (2) public outreach meetings associated with VA, one (1) public presentation of the final VA, one (1) public outreach meeting associated with the AP, and one (1) public presentation of the final AP.

The CONSULTANT shall:

- 7.01 Assist the City in assembling the steering committee.
- 7.02 Prepare all pre-and-post materials (agendas, minutes, summaries, etc.) associated with each meeting outlined in the Grant Work Plan.
- 7.03 Attend / facilitate each meeting / stakeholder engagement.
- 7.04 Submit all deliverables associated with Task 7.00 to the FDEP and respond to comments.

Assumptions:

- The VA update will consist of twenty-one (21) or fewer flood scenarios.
- Topographic survey, if needed, shall be performed under a separate scope of services.

Performance Schedule

The following schedule is proposed upon issuance of a Notice to Proceed:

Acquire Background Data	12 Weeks
Exposure & Sensitivity Analyses	32 Weeks
Final VA Report	40 Weeks
Draft Adaptation Needs & Strategies	56 Weeks
Community Prioritization of Adaptation Needs	64 Weeks
Final AP	72 Weeks
Public Outreach Meetings & Stakeholder Engagement	80 Weeks

Compensation to the Consultant

For the Scope of Services described in this work assignment Advanced Engineering & Design, Inc. shall be compensated a Lump Sum of \$484,481.43 in accordance with the terms of the Continuing Contract for Professional Services.

We look forward to working with you on this project and assure you that we will provide our best effort to make it a successful one. Please feel free to give me a call if you have any questions.

Sincerely,



Cody J. Stewart, M.S., ENV SP, WEDG, GGEP
Director of Resilience & Sustainability
Advanced Engineering & Design, Inc.

CC: Justin Keller, P.E., CFM, ENV SP

Attachment(s): PLB

