

EXHIBIT F

DEP AGREEMENT NO. CM837

Community Based Resiliency in New Smyrna Beach

New Smyrna Beach

Final Project Report



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June 2019

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Executive Summary

New Smyrna Beach, Florida is renowned for its beaches, surfing, arts, history and health care industry. The City and the East Central Florida Regional Planning Council (ECFRPC) used this grant to engage residents and businesses in the conversation of resiliency. This multi-component project includes a vulnerability assessment, an evaluation of the City's Comprehensive Plan, extensive public engagement thorough meetings and an on-line survey, resulting in the formulation of actions for the City to consider in fortify their resiliency programs. As a part of the vulnerability analysis, GIS visualizations were crafted for public education and engagement related to sea level rise, nuisance flooding and impacts to the 100-year coastal flood areas with sea level rise.

Methodology

The impacts to the City from sea level rise were derived relative to the U.S. Army Corps of Engineers (USACE) projection rate curves and NOAA's 2017 projections. HAZUS-MH coastal flooding layers were used to assess the potential for frequent or "nuisance" flooding, as well as data from the pilot project conducted by the ECFRPC, funded by FDEP, to assess coastal flooding from the 100-year storm plus inundation projections for 2040, 2070 and 2100 utilizing a minimum of the USACE High and maximum curve to be determined by the City. This work was performed though Stetson University. A vulnerability assessment using these data and parameters assessed facilities critical to City function; health and safety, and evacuation support, as well as all roadway facilities, land use and social characteristics to help identify social vulnerabilities to better assist in public services and response.

These results were compiled into GIS databases and ESRI story map visualizations for educational purposes.

Also, an assessment was conducted by UCF to systematically assess and test the quality, breadth, and depth of the City's comprehensive plan and to determine the capacity of the plans to aid in the resiliency of the City. The team assessed the goals, objectives and policies from the Comprehensive Plan and the existing tools and strategies to see if the various inter-organizational coordination components were adequate within the City and County and to see how the implementation and monitoring of these resources worked. Analysis was also conducted on the County Comprehensive Plan and the County Comprehensive Emergency Management Plan for connections to the City and it's linkage to resilience.

Outcome

The outcomes were the actions that the City can take to address resiliency.

These steps include:

1. The adoption of a Coastal Planning Area for the portion of the City east of Interstate 95 for the purpose of initiating more immediate actions to address the impacts from the perils of flood.
2. Undertake a visioning process to develop one or more Adaptation Action Areas (AAA). It is recommended that the visioning process begin within one year and that the AAAs be adopted to coincide with the next Evaluation and Appraisal Report.
3. Prohibition of development within the 100 year floodplain.
4. Adoption of Peril of Flood policies that are required per Florida Statute 163, and include the requisite components.

Further Recommendations

The Transportation and Future Land Use Elements of the Comprehensive Plan should be updated to include reference to findings from the vulnerability assessment and include associated policies that ensure sea level rise, current and future flood risks, and enhanced surge are considered in planning decisions.

Based upon the findings of the vulnerability assessment, it would be advantageous for City staff (planning, stormwater, Building Official, etc.) to reassess required elevations of properties, especially in areas identified as vulnerable to sea level rise, flooding and storm surge such as the Coastal High Hazard Area (CHHA) or other designated zones. Many local governments are updating ordinances to increase the base floor elevation of the lowest floor. Examples include: elevating the lowest habitable floor to 10 feet above BFE in CHHA areas; elevating first floor to a minimum of either 7 feet NGVD or 30 inches above the highest point of any abutting street. The Vulnerability Assessment can guide City officials to address elevation requirements, and the ordinances should be adjusted accordingly.

The Capital Improvement Element should be updated to include a policies that require projects funded by the City to include an assessment of sea level rise, future flood risks, and elevated storm surge to determine acceptable risk and associated costs for adapting or mitigating those risks.

It is recommended that the City develop a "Community Fiscal and Resilience Balancing Test" that will examine and promote the planning and construction of infrastructure in a cost-effective, technologically and environmentally sound manner that balances the benefits, costs and

challenges of infrastructure with design considerations for future impacts during the service-life of the project.

Finally, Volusia County has developed a website for the beach environment that is an excellent reference that discusses the coastline environment, habitat conservation and other educational materials and useful links. See the URL below for the Volusia County website.

<https://www.volusia.org/services/growth-and-resource-management/environmental-management/natural-resources/sea-turtles/beach-environment.shtml>

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