



Consultant Work Order Proposal

April 24, 2024

Ms. Charlene Neuterman
Community Services Director
City of Cocoa
65 Stone Street
Cocoa, FL 32922
cneuterman@cocoafl.gov

Re: City of Cocoa Comprehensive Vulnerability Assessment

Dear Ms. Neuterman,

EXP U.S. Services, Inc. ("EXP") is pleased to submit this letter agreement to the **City of Cocoa** ("City") for professional services for the above-referenced project. These services are to be performed in conformance with the Master Agreement for General Civil Engineering Services ("Agreement"), Q-23-01-COC-C3, between the City and EXP, and is referred to herein as the contract.

SCOPE OF SERVICES

GENERAL

The City desires EXP to assist with the development of a Comprehensive Vulnerability Assessment (VA) which meets the requirements ([attachment A](#)) of the Resilient Florida funding that was awarded to the City in 2023. After receipt of authorization to proceed, EXP will provide the following services:

Task 1: Identify Vulnerability Assessment Data Standards

EXP will identify the data standards, to include the sea level rise scenarios and planning horizons, needed to perform the VA based on the requirements as defined in Section 380.093, F.S. The data standards must be pursuant to the requirements that are defined in s. 380.093, F.S., as of the date of beginning data collection efforts.

Prior to conducting the work for the Project, EXP will provide the following Task 1 deliverable:

1.1.) The proposed data standards (sea level rise scenarios and planning horizons) to be used in the VA.

Task 2: Kick-Off Meeting, Client Communication, and Decision Context

Setting the stage for a solution-oriented, stakeholder-driven process

EXP is committed to learning from the experiences of City staff and helping to ensure the final products drive Cocoa's future resilience roadmap, as well as serving as an example for other areas. In this preparatory and

planning stage, EXP will review and assess previous work and a needs assessment of gaps will enable us to build upon previous studies including the August 2020 [Resilient Cocoa Plan](#), projects and lessons learned.

EXP will develop an overall project management plan and address initial actions and then conduct a kick-off meeting for the project. Meeting attendees will discuss the project scope, project goals, schedule, key milestones, and deliverables in order to develop a consistent project approach.

EXP will provide the following Task 2 deliverables:

- 2.1.) Meeting agenda to include location, date, and time of meeting.
- 2.2.) Meeting sign-in sheets or attendance records with attendee names and affiliation.
- 2.3.) A copy of the presentation and any materials created for distribution at the meeting, as applicable.
- 2.4.) Kick-off meeting minutes, depicting all decisions, and agreed upon outcomes of the meeting.

Task 3: Public Outreach Meeting

EXP will attend up to two (2) outreach meetings to allow the public to provide input during the initial data collection stages, to include input on preferred methodologies, data for analyzing potential sea level rise impacts and/or flooding, guiding factors to consider, and critical assets important to the community. EXP will prepare social media notifications, meeting invitations, meeting materials, presentations, and graphics utilized during the meeting, as applicable.

EXP will provide the following Task 3 deliverables:

- 3.1.) Meeting agendas to include location, date, and time of meeting.
- 3.2.) Meeting sign-in sheets with attendee names and affiliation.
- 3.3.) A copy of the presentation and any materials created in preparation of or for distribution at the meeting.
- 3.4.) A copy of the file or weblink of the video or audio recording from the meeting.
- 3.5.) A summary report including attendee input and meeting outcomes.

Task 4: Acquire Background Data

Team EXP will review data sources and data collection methods in a preliminary evaluation. Determine which existing local, state, and federal data sets should be integrated. Define and identify the assumptions, data sources and owners, and metrics that will be vetted and used in the analysis. In addition, we will use the Florida Statewide Resilience Dataset as a key resource for data on:

1. Critical/regionally significant assets
2. Topographic data
3. Flood scenario-related data

Additional details on data are included in ([attachment A](#)).

EXP will provide the following Task 4 deliverables:

- 4.1.) A technical report to outline the data compiled and findings of the gap analysis.
- 4.2.) A summary report to include recommendations to address the identified data gaps and actions taken to rectify them, if applicable.
- 4.3.) GIS files with appropriate metadata of the data compiled, to include locations of critical assets owned or maintained by the Grantee as well as regionally significant assets that are classified and as defined in paragraphs 380.093(2)(a)1-4, F.S.

Task 5: Exposure Analysis

EXP will perform an exposure analysis to identify the depth of water caused by each sea level rise, storm surge, and/or flood scenario. The water surface depths (i.e. flood scenarios) used to evaluate assets shall include the following data: tidal flooding, current and future storm surge flooding, rainfall-induced flooding, and compound flooding, all as applicable, as well as the scenarios and standards used for the exposure analysis shall be pursuant to s. 380.093, F.S. GIS files and associated metadata must adhere to the Resilient Florida Program's GIS Data Standards (Exhibit I), and raw data sources shall be defined within the associated metadata.

EXP will provide the following Task 5 deliverables:

- 5.1.) A draft VA report that provides details on the modeling process, type of models utilized, and resulting tables and maps illustrating flood depths for each flood scenario.
- 5.2.) GIS files with results of the exposure analysis for each flood scenario as well as the appropriate metadata that identifies the methods used to create the flood layers.

Task 6: Sensitivity Analysis

EXP will perform the sensitivity analysis to measure the impact of flooding on assets and to apply the data from the exposure analysis to the inventory of critical assets created in the Acquire Background Data Task. The sensitivity analysis should include an evaluation of the impact of flood severity on each asset class and at each flood scenario and assign a risk level based on percentages of land area inundated and number of critical assets affected (see example table 6 below from Resilience FL VA guidance).

Table 6 Flood Inundation Damage and Risk Assessment Percentages

Overall Risk Assessment	Land Area Inundated (% of census tract or neighborhood)	Critical Assets Affected (percentage of total assets or within each asset category)
None	0%	0%
Low	<25%	<25%
Medium	25 – 50%	25 – 50%
High	50 – 75%	50 – 75%
Extreme	>75%	>75%

EXP will provide the following Task 6 deliverables:

6.1.) An updated draft VA report that provides details on the findings of the exposure analysis and the sensitivity analysis and includes visual presentation of the data via maps and tables, based on the statutorily required scenarios and standards.

6.2.) An initial list of critical and regionally significant assets that are impacted by flooding. The list of critical and regionally significant assets must be prioritized by area or immediate need and must identify which flood scenario(s) impacts each asset.

Task 7: Final Vulnerability Assessment Report, Maps, and Tables

EXP will finalize the VA report pursuant to the requirements in s. 380.093, F.S. The final VA must include all results from the exposure and sensitivity analyses, as well as a summary of identified risks. It should contain a list of critical and regionally significant assets that are impacted by flooding and sea-level rise, specifying for each asset the flood scenario(s) impacting the asset. GIS files and associated metadata must adhere to the Resilient Florida Program's GIS Data Standards, and raw data sources shall be defined within the associated metadata.

If Peril of Flood Compliance Update is required, more details can be found in Attachment A. Cocoa's Coastal Element in the Comprehensive Plan has language about the Peril of Flood. Team EXP will review the language and suggest potential changes or updates for the City to consider. We will also assist the City in identifying prioritized projects to add to the Brevard County LMS list

EXP will provide the following Task 7 deliverables:

7.1.) Final VA Report that provides details on the results and conclusions, including illustrations via maps and tables, based on the statutorily required scenarios and standards in s. 380.093, F.S.

7.2.) A final list of critical and regionally significant assets that are impacted by flooding. The list of critical and regionally significant assets must be prioritized by area or immediate need and must identify which flood scenario(s) impacts each asset.

7.3.) All electronic mapping data used to illustrate flooding and sea level rise impacts identified in the VA, to include the geospatial data in an electronic file format and GIS metadata.

7.4.) A signed Vulnerability Assessment Compliance Checklist Certification.

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DRAFT SCHEDULE

The preliminary project schedule is presented below. This schedule is projected in time increments after receipt of Authorization to Proceed. During project initiation, the required timelines will be confirmed, and the schedule updated accordingly.

Task	Estimated Time Required
1 - Identify Vulnerability Assessment Data Standards	ongoing
2 - Kick-Off Meeting, Client Communication, and Decision Context	ongoing
3 - Public Outreach Meeting	NTP + 1 month (1 month task)
4 - Acquire Background Data	NTP + 1 month (1 month task)
5 - Exposure Analysis	NTP + 4 months (3-month task)
6 - Sensitivity Analysis	NTP + 4 months (3-month task)
7 - Final Vulnerability Assessment Report, Maps, and Tables	NTP + 8 months (4-month task)

COMPENSATION

EXP will perform the above-mentioned services on a time and expense basis for a not-to-exceed amount/initial budget of seventy-four thousand nine-hundred forty-five dollars and fifty cents (**\$74,945.50**). The proposed not-to-exceed time and materials fee for conducting the scope described herein is shown in the table below. This fee covers EXP labor. Please refer to Attachment 'C' (end of document) for Labor breakdown associated with each task.

The task breakdown for the not-to-exceed fee is as follows:

Task	Fee
1 - Identify Vulnerability Assessment Data Standards	\$ 0.00
2 - Kick-Off Meeting, Client Communication, and Decision Context	\$ 7,718.50
3 - Public Outreach Meeting	\$ 7,532.50
4 - Acquire Background Data	\$ 4,694.00
5 - Exposure Analysis	\$ 10,114.50
6 - Sensitivity Analysis	\$ 10,060.00
7 - Final Vulnerability Assessment Report, Maps, and Tables	\$ 34,826.00
	TOTAL \$ 74,945.50

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POTENTIAL ADDITIONAL SERVICES

Public Presentation (Optional Task 8)

EXP can present the final VA results to local governing boards, technical committees, or other appropriate officers and elected officials. The purpose of the presentation is to share the findings from the final VA and provide recommendations of actions for adaptation strategies and future project funding. The presentation will also inform the public of the results and the future risk of sea level rise and increased flooding and encourage community participation when identifying mitigation strategies to address the flooding vulnerabilities. The Grantee will prepare all social media notifications, meeting invitations, meeting materials, presentations, and graphics utilized during the meeting, as applicable.

EXP will provide the following (Optional) Task 8 deliverables:

- 8.1.) Meeting agendas to include location, date, and time of meeting.
- 8.2.) Meeting sign-in sheets with attendee names and affiliation (i.e. local stakeholder, resident, local government staff).
- 8.3.) A copy of the presentation and any materials created in preparation of or for distribution at the meeting (i.e. social media posts, public announcements, graphics), as applicable.
- 8.4.) A copy of the file or weblink of the video or audio recording from the meeting, if applicable.
- 8.5.) A summary report including attendee input and meeting outcomes.

Grant Assistance

We know that FEMA provides pre-disaster mitigation funding because it is a wise investment to be preventative rather than reactive. On average, every dollar spent on pre-disaster mitigation saves \$6 in future losses. If the City desires to apply to FEMA's Building Resilient Infrastructure and Communities (BRIC) grant or similar federal funding sources, EXP can assist in identifying suitable project(s) to apply for a \$300,000 planning/project scoping (requires 25% match).

EXP can also support the development of FEMA's Building Resilient Infrastructure and Communities (BRIC) implementation grant application for up to \$50M, but it is likely required for this project to be in the Local Mitigation Strategy (LMS).

More details on BRIC are in [Attachment B](#).

Steering Committee

The City team should prepare a draft list of representatives to serve on the project Steering Committee based on discussions with the local government. It is recommended that the Committee be limited to no more than ten (10) representatives to better manage meeting outcomes. Team EXP will work with the City to prepare a draft email to the Steering Committee detailing the project purpose, goals, schedule, project meeting dates and locations, and overall desired outcomes to potential steering committee members, requesting their participation on the committee.

Team EXP will support in coordinating the steering committee meetings. The goal of the steering committee meetings is to assist in reviewing the goals of the project, review draft materials, provide input for study direction, assist in identifying geographic context, appropriate modeling methodologies, assist in identifying available data and resources, identify relevant assets, and review project findings and recommendations. A minimum of two (2) steering committee meetings is recommended, at the beginning and end of the project, however, more may be necessary to provide guidance at critical decision points throughout the project process. Additional guidelines and recommendations for stakeholders to include can be found in Chapter 1 of the [Florida Adaptation Planning Guidebook](#).

Adaptation Plan with Prioritized Projects

List of prioritized projects and criteria for evaluation - identify flood mitigation and adaptation strategies and associated short and long-term measures. We will present the funding context and return on investment associated with each potential solution.

The task breakdown for additional services is as follows:

Task	Fee
Public Presentation (Optional Task 8)	\$ 7,519.00
Planning Grant Assistance	\$ 15,000.00
Implementation Grant Assistance	\$ 45,000.00 (requires benefit cost analysis)
Steering Committee Coordination	\$ 9,000.00
Adaptation Plan with Prioritized Projects	\$ 125,000.00

Invoicing associated with additional services will be based on current contract hourly rates at the time of work effort. If additional funds become necessary, EXP will notify CITY of such, prior to exceeding the initial budget or subsequent amended budget. Invoices shall show the separate developments as 'Phases' with additional phases added upon reviews of other/future developments.

Title	Hourly Rate (FY 2024)	Hourly Rate (FY 2025)	Hourly Rate (FY 2026)	Hourly Rate (FY 2027)
**Please Refer to Hourly Rates provided within the master agreement (General Civil Engineering Services Q-23-01-COC-C3)				

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Contract Approval

EXP will perform the scope of services contained within this proposal agreement for total compensation of seventy-four thousand nine-hundred forty-five dollars and fifty cents (**\$74,945.50**). This proposal is valid for a period of thirty (30) days from date of submission. If authorization to proceed is not received during this period, this proposal may be withdrawn or modified by EXP.

Thank you for considering EXP to perform this work. Should you have any questions or require additional information from us, please feel free to contact me anytime via my cell (904) 540-4622 or via email at Patrick.Russell@exp.com. The EXP Team is looking forward to supporting the City in this very important endeavor.

Submitted by:
EXP U.S. Services, Inc.

 April 24, 2024
Signature Date

Patrick J. Russell, P.E., Project Manager
Name & Title

Client Authorization

Acceptance of Agreement

The above fees, terms, conditions and specifications are satisfactory and are hereby accepted. EXP is authorized to do the work as specified and payment will be made as outlined above.

For value received, the undersigned guarantees payment in accordance with the terms and conditions as stated above. By signing this agreement, I acknowledge that I have the legal authority to enter into this agreement and agree to be bound by the terms contained herein.

Signature Printed Name & Title

Date:

Work Order No.: 1

ATTACHMENT A

Resilient Florida

Statutory VA Requirements

A Vulnerability Assessment must include the following as outlined in s. 380.093, F.S.:

The depth of:

- a. Tidal flooding, including future high tide flooding, which must use thresholds published and provided by the department. To the extent practicable, the analysis should also geographically display the number of tidal flood days expected for each scenario and planning horizon.
- b. Current and future storm surge flooding using publicly available NOAA or FEMA storm surge data. The initial storm surge event used must equal or exceed the current 100-year flood event. Higher frequency storm events may be analyzed to understand the exposure of a critical asset.
- c. To the extent practicable, rainfall-induced flooding using spatiotemporal analysis or existing hydrologic and hydraulic modeling results. Future boundary conditions should be modified to consider sea level rise and high tide conditions.
- d. To the extent practicable, compound flooding or the combination of tidal, storm surge, and rainfall-induced flooding.

The following scenarios and standards:

- a. All analyses in NAVD 88.
- b. At least two local sea level rise scenarios, which must include the 2017 NOAA Intermediate- Low and Intermediate-High Sea level rise projections.
- c. At least two planning horizons that include planning horizons for the years 2040 and 2070.
- d. Local sea level data that has been interpolated between the two closest NOAA tide gauges. Local sea level data may be taken from one such gauge if the gauge has higher mean sea level. Data taken from an alternate gauge may be used with appropriate rationale and department approval, as long as it is publicly available or submitted to the department.
- e. Will encompass entire county/municipality and include all critical assets owned or maintained by the county/municipality, including regionally significant assets.
- f. Will use the most recent publicly available Digital Elevation Model and generally accepted modeling techniques.

The Deliverables required in addition to the above include:

- A list of critical assets (as defined in s. 380.093, F.S.) and regional assets that are impacted by flooding and sea level rise as identified in the assessment
- Data sets used to perform the Vulnerability Assessment as outlined in the above Report requirements
- GIS Shapefiles of all electronic mapping data used to illustrate flooding and sea level rise impacts identified in the assessment

Peril of Flood

In addition, to the Vulnerability Assessment requirements, the comprehensive plan language for the Peril of Flood statute must also be drafted within this project per s. 380.093, F.S.

The following deliverables are expected from a project that needs to begin the process of complying with the Peril of Flood statute:

- Draft comprehensive plan language in strike-through and underlined format which satisfies the Peril of Flood requirements in Section 163.3178(2)(f) Florida Statutes, which includes:
 - Examples of strategies, principles, and related engineering solutions that reduce flood risk in coastal areas which results from high-tide events, storm surge, flash floods, stormwater runoff, and the related impacts of sea-level rise,
 - Use of best practices development and redevelopment principles, strategies, and engineering solutions that will result in the removal of coastal real property from flood zone designations established by the Federal Emergency Management Agency,
 - Site development techniques and best practices that may reduce losses due to flooding and claims made under flood insurance policies issued in this state,
 - Be consistent with, or more stringent than, the flood-resistant construction requirements in the Florida Building Code and applicable flood plain management regulations set forth in 44 C.F.R. part 60,
 - Requirement that any construction activities seaward of the coastal construction control lines established pursuant to s. 161.053 be consistent with chapter 161, and
 - Encouragement of local governments to participate in the National Flood Insurance Program Community Rating System administered by the Federal Emergency Management Agency to achieve flood insurance premium discounts for their residents.

Critical Assets as defined by the statute include the following:

- Transportation and evacuation route types:
 - Airports
 - bridges
 - bus terminals
 - ports
 - major roadways
 - marinas
 - rail facilities
 - railroad bridges
- Critical infrastructure types:
 - wastewater treatment facilities and lift stations
 - stormwater treatment facilities and pump stations
 - drinking water facilities
 - water utility conveyance systems
 - electric production and supply facilities
 - solid and hazardous waste facilities
 - military installations
 - communications facilities
 - disaster debris management sites
- Critical community and emergency facilities types:
 - schools
 - colleges and universities
 - community centers
 - correctional facilities
 - disaster recovery centers

- emergency medical service facilities
- emergency operation centers
- fire stations
- health care facilities
- hospitals
- law enforcement facilities
- local government facilities
- logistical staging areas
- affordable public housing
- risk shelter inventory
- state government facilities

○ Natural, cultural, and historical resource types:

- conservation lands
- parks
- shorelines
- surface waters
- wetlands
- historical and cultural assets

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ATTACHMENT B

FEMA's Building Resilient Infrastructure and Communities (BRIC) Information

The funding available through BRIC is an opportunity to advance capital projects on a community level and will lead to significant savings by mitigating damages from future disasters. These potential funds would support project scoping for a wide range of mitigation projects which will enhance the City's level of protection to hazards. If awarded, the scoping process would set the groundwork for project selection, and the FEMA funds would also support the development of an infrastructure application for up to \$50M. When local jurisdictions use these scoping projects to develop an infrastructure application, that funded application actually gets 10 points awarded towards the 230-point maximum project score. This type of scoping project is described by FEMA as seed money. Their intention is to support the development of high quality, refined projects. Project scoping will entail the development of a range of capital improvements projects for the newly aggregated departments of utilities and public works. These projects will include feasible green infrastructure alternatives, large and small scale, which would provide the required level of protection (to BFE at minimum for a project that is eligible for FEMA funding). Mitigation alternatives would also need to comply with building codes, regulations, and policies. Any project selected for the FEMA application submission will likely include components related to partnerships, public outreach, and nature-based solutions.

Check out this [presentation](#) where EXP's Keren Bolter presented for the SE FL Climate Compact's VA Workshop on August 18, 2021.

You can also read more about BRIC here: <https://www.fema.gov/grants/mitigation/building-resilient-infrastructure-communities>



Mitigation Saves

EVERY \$1 SPENT ON MITIGATION, SAVES \$6 ON FUTURE DISASTER LOSSES

FEMA

www.nibs.org/page/mitigationsaves

Eligibility: BRIC funds can be used for "capability- and capacity-building" activities (i.e., building codes activities, partnerships, project scoping, and planning and planning-related activities), hazard mitigation projects, and project management costs. FEMA can also fund projects that utilize innovative project designs and/or partnerships. To be eligible for BRIC funding, projects must:

1. be cost-effective (according to FEMA's Benefit-Cost Analysis requirements);
2. decrease risk and impacts of future potential natural hazards;
3. meet the 2015 or 2018 International Building Codes;
4. be consistent with the applicant's FEMA-approved hazard mitigation plans; and
5. satisfy historic preservation and environmental compliance requirements.

Attachment 'C'
Cost & Labor Hour Breakdown

TASK DESCRIPTION	Technical Manager \$238		Senior Engineer \$176		Engineer \$176		Technician \$119		Subtotal Hours	Avg Hourly Rate	Travel	Copies/ printing	Total ODC	Total Task Cost										
	Hours	Cost	Hours	Cost	Hours	Cost	Hours	Cost																
Task 1: Identify Vulnerability Assessment Data Standards	0.0	\$ -	0.0	\$ -	0.0	\$ -	0.0	\$ -	0.0	--	\$ -	\$ -	\$ -	\$ -										
Task 2: Kick-Off Meeting, Client Communication, and Decision Context	5.0	\$ 1,190.00	8.0	\$ 1,408.00	10.5	\$ 1,848.00	27.5	\$ 3,272.50	51.0	\$ 151.34	\$ -	\$ -	\$ -	\$ 7,718.50										
Task 3: Public Outreach Meeting	5.0	\$ 1,190.00	7.0	\$ 1,232.00	14.5	\$ 2,552.00	21.5	\$ 2,558.50	48.0	\$ 156.93	\$ -	\$ -	\$ -	\$ 7,532.50										
Task 4: Acquire Background Data	2.0	\$ 476.00	3.5	\$ 616.00	11.0	\$ 1,936.00	14.0	\$ 1,666.00	30.5	\$ 153.90	\$ -	\$ -	\$ -	\$ 4,694.00										
Task 5: Exposure Analysis	7.5	\$ 1,785.00	9.0	\$ 1,584.00	15.0	\$ 2,640.00	34.5	\$ 4,105.50	66.0	\$ 153.25	\$ -	\$ -	\$ -	\$ 10,114.50										
Task 6: Sensitivity Analysis	8.0	\$ 1,904.00	6.0	\$ 1,056.00	16.0	\$ 2,816.00	36.0	\$ 4,284.00	66.0	\$ 152.42	\$ -	\$ -	\$ -	\$ 10,060.00										
Task 7: Final Vulnerability Assessment Report, Maps, and Tables	25.0	\$ 5,950.00	35.0	\$ 6,160.00	29.0	\$ 5,104.00	148.0	\$ 17,612.00	237.0	\$ 146.95	\$ -	\$ -	\$ -	\$ 34,826.00										
(Optional) Task 8: Public Presentation	8.0	\$ 1,904.00	9.0	\$ 1,584.00	6.0	\$ 1,056.00	25.0	\$ 2,975.00	48.0	\$ 156.65	\$ -	\$ -	\$ -	\$ 7,519.00										
BUDGET TOTALS (Not including Task 8)	60.5	\$ 14,399.00	77.5	\$ 13,640.00	102.0	\$ 17,952.00	306.5	\$ 36,473.50	546.5	--	--	--	--	\$ 74,945.50										
Percent Breakdown	11%		14%		19%		56%		--		--		--											
Total Sum Fee Computations																								
Labor														\$ 74,945.50										
Other Direct Costs (ODCs)														0										
Subconsultants														0										
Total Lump Sum Fee														\$ 74,945.50										

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