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AGENDA
CITY OF LAKE WORTH BEACH
UTILITY CITY COMMISSION MEETING - ADDITIONS
CITY HALL COMMISSION CHAMBER
TUESDAY, AUGUST 30, 2022 - 6:00 PM

The following items were added to the agenda:

NEW BUSINESS:

H. Resolution No. 72-2022 -- Resilient Florida Grant application for the City's Intracoastal Infrastructure Vulnerability Assessment Project

I. Resolution No. 73-2022 Resilient Florida Grant application for the 10th Avenue North and 13th Avenue North Stormwater Resiliency Improvements Project

The City Commission has adopted Rules of Decorum for Citizen Participation (See Resolution No. 25-2021). The Rules of Decorum are posted within the City Hall Chambers, City Hall Conference Room, posted online at: https://lakeworthbeachfl.gov/government/virtual-meetings/, and available through the City Clerk's office. Compliance with the Rules of Decorum is expected and appreciated.

If a person decides to appeal any decision made by the board, agency or commission with respect to any matter considered at such meeting or hearing, he or she will need a record of the proceedings, and that, for such purpose, he or she may need to ensure that a verbatim record of the proceedings is made, which record includes the testimony and evidence upon which the appeal is to be based. (F.S. 286.0105)

EXECUTIVE BRIEF
UTILITY MEETING

AGENDA DATE: August 30, 2022 **DEPARTMENT:** Water Utility

TITLE:

Resolution No. 72-2022 Resilient Florida Grant application for the City's Intracoastal Infrastructure Vulnerability Assessment Project

SUMMARY:

The resolution approves and authorizes the submission of an application to the Florida Department of Environmental Protection for $100,000 in funding assistance under the Resilient Florida Grant Program. These funds will be used to conduct a stormwater outfall, seawall and wastewater system vulnerability assessment of the City's current infrastructure.

BACKGROUND AND JUSTIFICATION:

Resolution No. 72- 2022 approves and authorizes the submission of an application for $100,000 in grant funding under the Resilient Florida Grant Program planning projects to conduct a stormwater outfall, seawall and wastewater system vulnerability assessment of the City's current infrastructure and its ability to withstand flooding and sea level rise.

In 2021, with the assistance of the FDEP Resilient Florida Program, the Southeast Palm Beach County Coastal Resilience Partnership published a Multi-Jurisdictional Climate Change Vulnerability Assessment report, creating a regional overview which included the City of Lake Worth Beach. Per this report, approximately 75% of the City faces access trouble due to current rainfall-induced flood levels and is also vulnerable to increased tidal flooding.

The Intracoastal Infrastructure Vulnerability Assessment will provide a detailed study of the City's most vulnerable areas along the West Palm Beach Canal and Lake Worth Lagoon. Many critical assets are located within this project area, including the Lake Worth Beach Sanitation Department, College Park Historic District, Bryant Park and Pier, Snook Islands Natural Area, Lake Avenue Bridge (an evacuation route), and many churches, schools, parks, cemeteries, and community and art centers

The assessment will be consistent with the community resilience planning efforts contained in the Resilient Florida guidelines and it will provide an assessment of the City's stormwater outfalls, seawalls and wastewater systems. The primary component of the plan will provide an assessment of the City's ability to cope with tidal flooding vulnerability as NOAA 2070 data has projected a 33-inch sea level rise from 2020 stages. These data for NOAA Intermediate Low and Intermediate High curves for 2040 and 2070 will be gathered and mapped for the project area, and will include the tidal, rainfall-induced and both current and future storm surge flooding depths. This vulnerability assessment report will be shared with the State for use in the state-wide database.

The City will be requesting $100,000 in grant funding.

MOTION:

Move to approve/disapprove Resolution No. 72-2022 authorizing the submission of an application to the Florida Department of Environmental Protection for $100,000 in funding assistance under the Resilient Florida Grant Program for the Intracoastal Infrastructure Vulnerability Assessment Project.

ATTACHMENT(S):

Fiscal Impact Analysis – Not Applicable
Resolution 72-2022
Application

RESOLUTION NO. 72-2022 OF THE CITY OF LAKE WORTH BEACH, FLORIDA, AUTHORIZING THE SUBMISSION OF AN APPLICATION TO THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION FOR GRANT FUNDING IN THE AMOUNT OF $100,000 PROVIDED THROUGH THE RESILIENT FLORIDA PROGRAM TO CONDUCT THE CITY'S INTRACOASTAL INFRASTRUCTURE VULNERABILITY ASSESSMENT; PROVIDING FOR AN EFFECTIVE DATE; AND FOR OTHER PURPOSES.

WHEREAS, the Florida Department of Environmental Protection has announced the Fiscal Year 2023 Resilient Florida Grant Program ("Program") for the purpose of providing grant funds to effectively address the impacts of flooding and sea level rise within the State of Florida; and

WHEREAS, these funds are made available for applications from counties, municipalities, water management districts, flood control districts and regional resilience entities for assistance to analyze and plan for vulnerabilities, as well as to implement projects for adaptation and mitigation; and

WHEREAS, the City of Lake Worth Beach ("City") is eligible to submit an application for funding assistance under the Program; and

WHEREAS, the City of Lake Worth Beach ("City") desires to apply for $100,000 in grant funding to conduct the Critical Shoreline Infrastructure Vulnerability Assessment Project to study the city's vulnerability to tidal flooding and sea level rise that is projected to significantly increase; and

WHEREAS, the City must submit its application during the announced submission period of July 1, 2022 through September 1, 2022; and

WHEREAS, this will serve a valid public purpose.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COMMISSION OF LAKE WORTH BEACH, FLORIDA, that:

SECTION 1: The City Commission of the City of Lake Worth Beach, Florida, hereby approves the submission of an application to the Florida Department of Environmental Protection for grant funds made available through the Fiscal Year 2023 Resilient Florida Program in the amount of $100,000 for conducting the City's Intracoastal Infrastructure Vulnerability Assessment Project to study the City's vulnerability to tidal flooding and sea level rise that is projected to significantly increase.

SECTION 2: The City Commission of the City of Lake Worth Beach, Florida hereby authorizes the City Manager, or her designee, to execute any programmatic documents related to the submission of the application.

SECTION 3: Upon execution of the resolution, one copy shall be forwarded to the Water Utilities Director. The fully executed original shall be maintained by the City Clerk as a public record of the City.

SECTION 4: This resolution shall become effective upon adoption.

The passage of this resolution was moved by Commissioner _____, seconded by Commissioner _____, and upon being put to a vote, the vote was as follows:

Mayor Betty Resch
Vice Mayor Christopher McVoy
Commissioner Sarah Malega
Commissioner Kimberly Stokes
Commissioner Reinaldo Diaz

The Mayor thereupon declared this resolution duly passed and adopted on the _____ day of _____, 2022.

LAKE WORTH BEACH CITY COMMISSION

By: _____
Betty Resch, Mayor

ATTEST:

_____
Melissa Ann Coyne, City Clerk

RCP Application

Grant Funding Type: Funding for Resilient Florida – Planning Projects

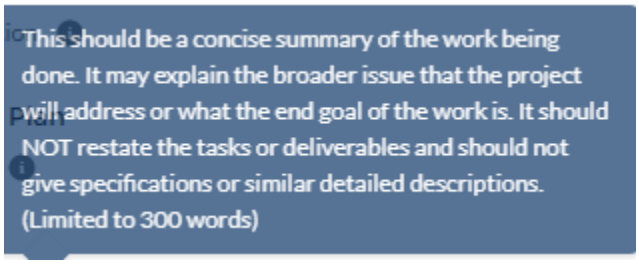
1. Applicant and Project Information
   - **Applicant Account**: City of Lake Worth Beach
   - **Applicant Grant Manager**: Julie Parham
   - **Applicant Authorized Signee**: Carmen Davis
   - **Applicant Fiscal Agent**: Bruce Miller

2. Project Information
   - **Choose the project type you are submitting**:
     - Adaption planning (Statutory VA is a pre-req)
     - Complete Vulnerability Assessment (entire community)
     - Partial Vulnerability Assessment (part of community)
     - Updated to Existing Assessment for Statutory compliance
     - Comprehensive Plan Amendments for Peril of Flood
   - **Project Title (20-word limit)**: City of Lake Worth Beach Intracoastal Infrastructure Vulnerability Assessment
   - **Total Grant Funding Amount Requested**: $100,000
   - **Total Grant Match Amount**: $0
   - **List any municipalities directly served by the project and included in the scope of work:** City of Lake Worth Beach
   - **Area served – County**: Palm Beach County
   - **Will the vulnerability assessment include any state managed lands such as National Estuarine Research Reserves (NERRs) or Aquatic Preserves (APs)**? No
   - **Total Population:** 37,728 (per 2020 census map on City GIS website)
   - **Percent of Population** (what percentage of the total population will be served by this planning project): 37% (Area estimate east of US1 = 2.42 sq mi/ 6.46 sq mi total = 37%)

3. Project Work Plan
   - **Project Summary (75-word limit)**:

The Intracoastal Infrastructure Vulnerability Assessment will complete a vulnerability assessment consistent with s.380.093 F.S. for the portion of the City east of US1 and along the West Palm Beach Canal. The City will also conduct a physical assessment of the critical infrastructure in this area, including seawalls, stormwater, and wastewater systems owned and maintained by the City. The Assessment will meet State data requirements and provide actionable data to inform future resiliency measures.

- **Project Description (300-word limit)**:



In 2021, the Coastal Resilience Partnership of Southeast Palm Beach County (CRP) published a Multi-Jurisdictional Climate Change Vulnerability Assessment (CCVA) report, creating a regional vulnerability overview which included the City of Lake Worth Beach. Per this report, approximately 75% of the City faces access trouble due to current rainfall-induced flood levels, and is also vulnerable to tidal flooding, which is expected to increase.

The CCVA provides valuable information on the effects of climate change along the Intracoastal Waterway, but it needs to be updated to meet the requirements of s.380.093 F.S. The Intracoastal Infrastructure Vulnerability Assessment will provide updated data for the eastern portion of the City of Lake Worth Beach along the Intracoastal Waterway (also known as the Lake Worth Lagoon) and West Palm Beach canal. Approximately half of the project area lies within a current (c. 2017) FEMA Flood Zone, and is subject to the compound effects of rainfall-induced flooding, storm surge wave action, and tidal flooding, including king tides. Many critical assets are located within the project area, including the Lake Worth Beach Sanitation Department, College Park Historic District, Bryant Park and Pier, Snook Islands Natural Area, Lake Avenue Bridge (an evacuation route), the Lake Worth Public Library, and many churches, schools, parks, cemeteries, and community and art centers.

The project also includes a physical assessment of critical infrastructure within this area, including stormwater and wastewater system installations and seawalls. The combination of mapped flooding and physical evaluation data will enable the City to have a clearer understanding of the most vulnerable critical assets within the flood-prone Intracoastal region, and help to define and prioritize future implementation efforts to increase the resiliency of Lake Worth Beach.

4. Project Need and Benefit

- **Explain the demonstrated need, which the project addresses**:

  NOAA Tidal Gauge readings at the Lake Worth Pier, taken since 1970, show a steady increase in sea level elevation. The observed rise to date is equivalent to a rate of 1.25 feet every 100 years. Approximately half of the eastern portion of the City currently lies within a FEMA-designated flood zone, which is expected to widen in future years. The CRP Vulnerability Assessment report forecasts a 46% increase in area parcels with medium to high flood risk by 2040, and a 663% increase in affected parcels by 2070. The CRP's report

provides a regional view of threats to community resilience. The City's Intracoastal Vulnerability Assessment will focus specifically on Lake Worth Beach's jurisdiction, to better pinpoint anticipated effects to the community. This Assessment will allow community leaders to better define an adaptation plan and prioritize future implementation projects.

- **Explain how the proposed project fits into one or more of the Project Types**:

  The CRP's CCVA is the only current vulnerability assessment that includes the City of Lake Worth Beach. However, the CCVA does not meet the new standards of s.380.093(3)(b), F.S. for a vulnerability assessment. The City will prepare an assessment for the Intracoastal area that meets the current statutory requirements, providing flood depths for specified scenarios and identifying critical assets within the project area that are threatened by changing conditions. At the completion of this project, a final vulnerability assessment report will be shared with the State.

- **If the project is a Vulnerability Assessment for Peril of Flood compliance or other, please describe how the project will meet the outlined requirements for a Vulnerability Assessment under s.380.093,F.S**.:
  As a coastal community is southeast Florida, the City of Lake Worth Beach is subject to the Peril of Flood statute, which requires a coastal management component within the City's comprehensive plan. By detailing floodwater encroachment in present and future conditions, and the subsequent threat to critical assets, this vulnerability assessment will enable city leaders to outline a management plan specific to its coastal region. Draft comprehensive plan language will be developed based on the findings of this Intracoastal vulnerability assessment.

- **If applicable, explain how the proposed project adapts critical assets to the effects of flooding and sea level rise as defined in s.380.093,F.S**.:

  This project is an assessment of current and future threats to the critical assets within the Lake Worth Beach intracoastal region. Going forward, the City will use the flood data and physical assessment information compiled for this vulnerability assessment to determine a plan for adapting these critical assets to flooding and sea level rise threats.

- **Discuss how the project is feasible and can be completed by the grant period deadline**:
  The City proposes to hire a qualified contractor to collect data and build a GIS model consistent with the requirements of s.380.093 F.S. The project area has been selected to target the area of City-owned and maintained infrastructure that is most vulnerable to sea level rise and flooding impacts. The three-year work period will allow for the City to complete the procurement process for contractor selection, collect flooding data and physical assessment reports, and to generate a vulnerability assessment report for the intracoastal area from these findings.

- **Has the applicant entity performed a prior vulnerability assessment, separate from what is being proposed in this application**? Yes (pull-down selection)

Uploads

- Map of project area (map must have a minimum scale of 1" = 200' and include a compass rose and legend) ***REQUIRED***
- Geographic extent of the project area in GIS format
- Draft or signed resolution or letter of support from local governing board ***REQUIRED***
- Vulnerability Assessment Report or other local study or report
- Final design and permitting documents (if applicable)
- Match or additional cost-share documents (if applicable)
- Subcontractor or other local or regional partnership agreements (if applicable)

Tasks (need at least one task to be able to submit)

- **Task Number**: 1
- **Task Title (dropdown menu, if not available leave blank and enter into 'Title Other' field**:
  - Pre-Design or Feasibility Study
  - Data Collection or Study
  - Stakeholder Coordination and Planning
  - Design and Permitting or Preconstruction Activity
  - Project Management
  - Bidding and Contractor Selection
  - Construction
  - Monitoring
  - Public Education
  - Equipment Purchase
  - Land Acquisition
  - Site Clean-Up
  - Peril of Flood Compliance
  - Vulnerability Assessment Geographic Information System
  - Salary-Wages
  - Acquire Background Data and Perform Gap Analysis
  - Set Context
  - Critical and Regionally Significant Asset Inventory
  - Exposure Analysis, Sensitivity Analysis, and Focus Area Mapping
  - Final Vulnerability Assessment Report
  - Set Context – Establish goals, motivations, and assemble stakeholder team
  - Acquire Background Data
  - Draft Vulnerability Assessment
  - Final Vulnerability Assessment
  - Local Mitigation Strategy
  - Peril of Flood Compliance (if applicable)
- **Work Performed By**:

- Grantee only
- Contractor only
- Grantee and Contractor

- **Task Description**:

  The City will contract for professional support services through a competitive qualifications-based solicitation process in accordance with City procurement policies and standards. The selected consultant will build a GIS model of the City's Intracoastal region consistent with s.380.093 F.S., which will include a complete list of critical assets for the project area. Tidal, rainfall-induced, and current and future storm surge flooding depths will be defined, and the NOAA Intermediate Low and Intermediate High sea-level rise curves for the planning horizons of 2040 and 2070 will be provided for this portion of the city along the Intracoastal Waterway. The City will also conduct a physical assessment of City-owned and maintained critical infrastructure in the project area. The data will be summarized in a Final Vulnerability Assessment Report as the project deliverable.

- **Goal**: Conduct Vulnerability Assessment of intracoastal area infrastructure
- **Time to Completion**:
  - 1-6 months
  - 1 year
  - 2 years
  - 3 years
  - Other
- **Select deliverables associated with each task. If not listed, add to 'Other Deliverable' field**:
  - Meeting agenda and sigh-in sheets indicating location, date, and time of meeting
  - Presentation(s) from the meeting
  - Summary report including attendee input and meeting outcomes defining motivations, geographic context, relevant assets, and planning goals for the project
  - Report outlining the data compiled and findings of the gap analysis-
  - Summary of recommendations to address the identified data gaps and actions taken to rectify them, if applicable
  - GIS files with appropriate metadata of the data compiled, to include locations of critical assets owned or maintained by the county/municipality and regionally significant assets
  - A report summarizing the areas identified as focus areas, with justification for choosing each area
  - Table listing each focus area with any critical assets that are contained inside the focus area
  - Maps illustrating the location of each focus area compared to the location of all critical assets within the geographic extent of the study
  - Final Vulnerability Assessment Report detailing the findings, including illustrations via maps and tables, based on the statutory scenarios and standards outlined in the Technical Standards Guidance
  - A final list of critical and regionally significant assets that are impacted by flooding, prioritized by area of immediate need, specifying for each asset which flood scenario it was impacted by

- Letter to FDEP and FDEM Mitigation Bureau Planning Unit, signed by the LMSWG Chair, or Designee
- Draft comprehensive plan coastal management element language in strike-through and underlined format that satisfies the Peril of Flood requirements

Task Budget Category (for each task)

- **Applicant Task Number**: Task 1 – $100,000
- **Expense Budget Category**:
  - Contractual Services
  - Salary/Fringe
  - Equipment
  - Miscellaneous/Other Expenses
  - Land Acquisition
- **Budget Amount**: $100,000
- **Match Amount**: $0

~~Task Personnel Grantee~~

~~**Only necessary if the Grantee is performing work on the project as indicated previously under "task Category". This section is NOT required if a contractor is the only budget category on the project.~~

EXECUTIVE BRIEF
UTILITY MEETING

AGENDA DATE: August 30, 2022 **DEPARTMENT:** Water Utilities

TITLE:

Resolution No. 73-2022 Resilient Florida Grant application for the 10th Avenue North and 13th Avenue North Stormwater Resiliency Improvements Project

SUMMARY:

The resolution approves and authorizes the submission of an application to the Florida Department of Environmental Protection for $350,000 in funding assistance under the Resilient Florida Grant Program. These funds will be used to implement mitigation measures to relieve the chronic flooding of the City's public golf course at 10th and 13th Avenues North and the Lake Worth Lagoon where stormwater outfalls are located.

BACKGROUND AND JUSTIFICATION:

Resolution No. 73- 2022 approves and authorizes the submission of an application for $350,000 in grant funding under the Resilient Florida Grant Program to relieve the chronic flooding of the City's public golf course at 10th Avenue North and 13th Avenue North where stormwater outfalls are located. The worsening flood conditions at these locations have caused considerable loss of land in the golf course and standing water in the surrounding neighborhood. As a condition of the grant funding the City will be required to provide a local cost share of $350,000 for the project. The source of the local cost share funding is the FY 2024 capital improvement project budget.

The proposed mitigation measures include the installation of two 54 x 36" elliptical outfall check valves, one 32" outfall check valve and upgrades and re-lining of the existing stormwater outfalls. These proposed improvements will prevent further erosion of land in the golf course and alleviate water backing up in the stormwater system from ongoing sea level rise and king tides.

MOTION:

Move to approve/disapprove Resolution No. 73-2022 authorizing the submission of an application to the Florida Department of Environmental Protection for $350,000 in funding assistance under the Resilient Florida Grant Program for the 10th Avenue North and 13th Avenue North Stormwater Resiliency Improvements Project.

ATTACHMENT(S):

Fiscal Impact Analysis – N/A
Resolution 73-2022
Application

RESOLUTION NO. 73-2022 OF THE CITY OF LAKE WORTH BEACH, FLORIDA, AUTHORIZING THE SUBMISSION OF AN APPLICATION TO THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION FOR GRANT FUNDING IN THE AMOUNT OF $350,000 PROVIDED THROUGH THE RESILIENT FLORIDA PROGRAM TO IMPLEMENT FLOOD MITIGATION MEASURES AT 10TH AVENUE NORTH AND 13TH AVENUE NORTH AND THE LAKE WORTH LAGOON; PROVIDING FOR AN EFFECTIVE DATE; AND FOR OTHER PURPOSES.

WHEREAS, the Florida Department of Environmental Protection has announced the Fiscal Year 2023 Resilient Florida Grant Program ("Program") for the purpose of providing grant funds to effectively address the impacts of flooding and sea level rise within the State of Florida; and

WHEREAS, these funds are made available for applications from counties, municipalities, water management districts, flood control districts and regional resilience entities for assistance to analyze and plan for vulnerabilities, as well as to implement projects for adaptation and mitigation; and

WHEREAS, the City of Lake Worth Beach ("City" is eligible to apply for funding assistance under the Program; and

WHEREAS, the City of Lake Worth Beach ("City") desires to apply for $350,000 in grant funding to implement mitigation measures for the outfalls at 10th Avenue North and 13th Avenue North at the Lake Worth Lagoon to relieve chronic flooding at the City's public golf course and the surrounding neighborhood; and

WHEREAS, the City will be required to provide a local cost share of $350,000 for these Program grant funds, if awarded; and

WHEREAS, the local cost share matching funds will come from the FY 2024 capital improvement project budget; and

WHEREAS, the City must submit its application during the announced submission period of July 1, 2022 through September 1, 2022; and

WHEREAS, this will serve a valid public purpose.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COMMISSION OF LAKE WORTH BEACH, FLORIDA, that:

SECTION 1: The City Commission of the City of Lake Worth Beach, Florida, hereby approves the submission of an application to the Florida Department of Environmental

Protection for grant funds made available through the Fiscal Year 2023 Resilient Florida Program in the amount of $350,000 for mitigation measures of the outfalls at 10th Avenue North and 13th Avenue North and the Lake Worth Lagoon to relieve the chronic flooding of the City's public golf course and surrounding neighborhood.

SECTION 2: The City Commission of the City of Lake Worth Beach, Florida hereby authorizes the City Manager, or her designee, to execute any programmatic documents related to the submission of the application.

SECTION 3: Upon execution of the resolution, one copy shall be forwarded to the Water Utilities Director. The fully executed original shall be maintained by the City Clerk as a public record of the City.

SECTION 4: This resolution shall become effective upon adoption.

The passage of this resolution was moved by Commissioner _____, seconded by Commissioner _____, and upon being put to a vote, the vote was as follows:

Mayor Betty Resch
Vice Mayor Christopher McVoy
Commissioner Sarah Malega
Commissioner Kimberly Stokes
Commissioner Reinaldo Diaz

The Mayor thereupon declared this resolution duly passed and adopted on the _____ day of _____, 2022.

LAKE WORTH BEACH CITY COMMISSION

By: _____
Betty Resch, Mayor

ATTEST:

_____
Melissa Ann Coyne, City Clerk

RCP Application

Grant Funding Type: Funding for Resilient Florida – Infrastructure Grants

1. Applicant and Project Information
   - **Applicant Account**: City of Lake Worth Beach
   - **Applicant Grant Manager**: Julie Parham
   - **Applicant Authorized Signee**: Carmen Davis
   - **Applicant Fiscal Agent**: Bruce Miller

2. Project Information
   - **Choose the Entity Category**:
     - County, Municipality, or Authorized Special District Addressing Risks of Flooding or Sea Level Rise Identified in a Vulnerability Assessment
     - Eligible Entity Mitigating Risks of Flooding or Sea Level Rise on Water Supply or Water Resources of the State
   - **Choose the project type you are submitting**:
     - Adapt critical assets to effects of flooding and sea level rise
     - Mitigate threats from flooding and sea level rise
     - Coastal Flood Control
     - Cultural or community resource
     - Domestic Wastewater Infrastructure
     - Drinking Water Supply
     - Emergency Facilities
     - Land Acquisition and Conservation
     - Living Shoreline
     - Natural System Restoration
     - Stormwater Infrastructure
     - Transportation and Evacuation
     - Utilities Infrastructure
     - Cost Overrun Request for Previous Award Amount (subject to available funding)
   - **Project Title (20-word limit)**: 10th and 13th Avenues North Stormwater Improvements for Intracoastal Resilience
   - **List the Cities/Towns/Villages:** City of Lake Worth Beach

- **Project Geo Location:** (use mid point along Lagoon) 26°37'43"N / 80°02'47"W
- **Project Location (narrative – neighborhood, part of town, intersection, etc).:** The project area is located along the Lake Worth Lagoon within the Northeast Lucerne Historic Preservation District. The stormwater outfalls along 10th and 13th Avenues North have been identified as contributing to flooding and erosion issues in the area. The outfalls are located within the Lake Worth Beach Golf Club, a recreational resource open to the community. In addition to the golf course, the outfall system provides drainage to approximately 230 acres of residential and commercial properties to the west.
- **State Lands Utilized:** None/ Yes/ No
- **Area Served:** Palm Beach
- **Sponsor County:** None

2A. General Information - Background

- **Explain the demonstrated need(s) and how the project will address those needs:**

  Worsening flood conditions have been observed along the Lake Worth Lagoon shoreline, and erosion in the project area has caused sinkholes. In 2019, the City contracted with an engineering firm to inspect the stormwater system along 10th and 13th Avenues North. They identified portions of the pipe system where joints have separated, causing sand and soil intrusion. The contributing drainage basin is subject to chronic flooding due to heavy rainfall, storm surges, and king tides. In their Floodplain Management Plan Annual Progress Report 2021, the City identified the 10th and 13th Avenues North Stormwater Improvements as a recommended implementation project to improve conditions in this area. The proposed project is listed in the City's Capital Improvement Plan for FY 2023.

- **Explain how the proposed project fits into the Project Types chosen above:**

  This project proposes upgrades to existing stormwater infrastructure to address flooding and erosion issues adjacent to the Intracoastal Waterway. The City plans to install outfall check valves on three large existing outfalls (2- 54x86" and 1-42") that discharge directly to the Intracoastal, which will alleviate flood conditions in the Northeast Lucerne Historic Preservation District to the west. Lining, grout, and replacement of pipes, as necessary, will be used to address separation in existing pipe joints to address current erosion and sinkhole issues. These improvements will result in a reduction in discharged sediment, which, in addition to reduced pest control measures required in times of standing water, will improve the water quality of local runoff to the Intracoastal.

2B. Project Scoring Criteria

- **Tier 1 criteria (40%)**
  - **Does the project reduce risk of flooding or sea level rise identified in a comprehensive VA or the comprehensive statewide vulnerability & sea level rise assessment? (None/ Yes/No – explain if yes)**
    The Coastal Resilience Partnership of Southeast Palm Beach County (CRP) Climate Change Vulnerability Assessment (CCVA) describes tidal flooding as the primary threat to the City of Lake Worth Beach, with storm surges, rainfall-induced flooding, and high winds as additional areas of vulnerability. While the scope of the 10th and 13th Avenues improvements is small, it will address a known, ongoing flooding and erosion problem. Check valves will enable tidal controls on large stormwater outfalls to the Intracoastal, and will help to reduce the effects of sea level rise. Repair or replacement of stormwater pipes in poor condition will provide improved drainage to the area, lessening the threat of flooding and reducing sediment levels in outflow.
  - **Does the project reduce risk of compound flooding identified in a VA or the comprehensive statewide assessment? (None/ Yes/No – explain if yes)**
    Compound flooding is the combination of more than one type of flooding event, either from storm surges, tide levels, rainfall, or sea level rise. The project area has witnessed recurring compound flooding, primarily due to rainfall plus high tide conditions. The proposed stormwater improvements will address these issues through improved drainage and reduced sedimentation of the Lagoon estuary.

  - **Does the project reduce risk to or adapt a regionally significant asset? This can include relocation. (None/ Yes/No – explain if yes)**

(a) "Critical asset" includes:

1. Transportation assets and evacuation routes, including airports, bridges, bus terminals, ports, major roadways, marinas, rail facilities, and railroad bridges.

2. Critical infrastructure, including 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, and disaster debris management sites.

3. Critical community and emergency facilities, including schools, colleges, 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, and state government facilities.

4. Natural, cultural, and historical resources, including conservation lands, parks, shorelines, surface waters, wetlands, and historical and cultural assets.

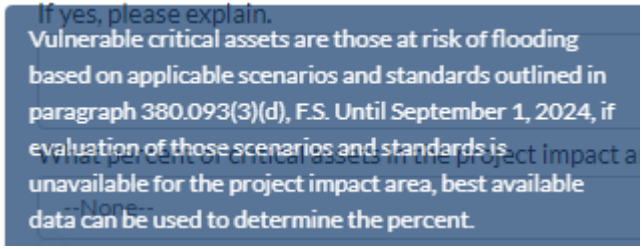
(b) "Department" means the Department of Environmental Protection.

(c) "Preconstruction activities" means activities associated with a project that occur before construction begins, including, but not limited to, design of the project, permitting for the project, surveys and data collection, site development, solicitation, public hearings, local code or comprehensive plan amendments, establishing local funding sources, and easement acquisition.

(d) "Regionally significant assets" means critical assets that support the needs of communities spanning multiple geopolitical jurisdictions, including, but not limited to, water resource facilities, regional medical centers, emergency operations centers, regional utilities, major transportation hubs and corridors, airports, and seaports.

- **What percent of critical assets in the project impact area are considered to be vulnerable? Choose:**
  - None
  - 1-20%
  - 20-40%
  - 40-60%
  - 60-80%
  - 80% or more

- **Please describe the method used to determine the percent selected as well as provide a list of critical assets in the project impact area.**



All of the assets within the approximately 285-acre project area are subject to impaired drainage and access impacts, and will benefit from increased stormwater resiliency. These include Lake Worth's Lift Station No. 4, Believer's Victory Church, Lake Worth Golf Club, local roads used by residents for storm evacuation, and approximately 0.4 miles of Intracoastal shoreline.

- **Does the project contribute to existing flood mitigation projects that reduce upland flood damage cost by incorporating new or enhanced structure or natural system restoration & revegetation?**
  (None/ Yes, both/No – explain if yes)

  The costs of flooding and seawater intrusion in this area are wide-reaching. Property damage and reduced access have become common, and many parcels throughout Palm Beach County have been subject to changes in flood insurance requirements as FEMA flood zones are adjusted to reflect changing conditions. City managers at the Lake Worth Golf Club have observed that routine saltwater intrusion is deteriorating the health of shoreline plantings, weakening root systems, and increasing vulnerability to erosion. The 10th and 13th Avenue improvements offers new or enhanced stormwater structures, and will include natural plantings and restoration of any disturbed area during construction, to promote revegetation of the shoreline within the project area.

- **Tier 2 criteria (30%)**
  a. **What is the current frequency of flooding or erosion in the project impact area?**
  (No current/ Has experienced in last 3 years/ At least 3 times in past 5 years or ongoing erosion)
  City managers at the Lake Worth Golf Club estimate that the area experiences flood events primarily in the fall of each year, with flooding conditions typically lasting 4-5 days each month during that time. In 2019, the City contracted with an engineering firm

to inspect the stormwater system within the project area. Their report, which is included in this application, documented ongoing erosion due to joint separation at multiple locations within the pipe system.

b. **What is the current severity of flooding or erosion in the project impact area?**
(No current/ >3" in last 3 years or unmitigated erosion/ >1' for current & past 3 years, flooded for 7 days, or erosion critical for critical asset)
If choose last option, explain & provide documentation.
Routine flooding, often preventing safe access for multiple days, has been observed within the project area. Recent engineering inspections have noted deterioration in the stormwater system which is contributing to ongoing erosion.

c. **Status of project design**
(Not designed/ Partial or environmental, geotech site reports completed/ Design complete)
Have to include s&s plans with app if design complete

d. **Permit & easement acquisition status**
(Identified/ All applied for & at least 1 approved/ All obtained/ None req'd)
Provide list if any required w/ status.
FDEP ERP for Stormwater Modification/ Mangrove Trim will be obtained. No easements are required as the stormwater system is owned and maintained by the City.

e. Are local funding sources committed as cost share or is project in financially disadvantaged community? (None/Yes/No)
   i. Yes – explain & provide documentation Yes, the City has budgeted a 50% cost share in the amount of $350,000. Please see the project budget estimate and approved capital improvement plan attached.

f. Does project include environmental habitat enhancement or nature-based solutions? (None/Yes/No)
   i. Yes – explain

Project construction will involve minimal disturbance to the Lagoon shoreline for installation of backflow prevention devices on existing stormwater outfalls. Following completion of stormwater improvements, nature-based solutions (e.g., rock revetment, sand, and native plantings) will be installed to protect the shoreline and encourage natural recruitment and resilience.

g. Does project impact area include area identified as state or fed critical habitat for threatened & endangered species? (None/Yes/No)

h. **Yes – explain.** The targeted stormwater pipes are direct outfalls to the Lake Worth Lagoon, which is a critical habitat to many plants and animals. It is a brackish estuary that provides an important haven to manatees, juvenile sea turtles, and sea grasses. The health of the Lagoon is sensitive to salinity levels and turbidity. The proposed stormwater improvements will provide better control of stormwater outflows to the Lagoon, and will address identified areas of erosion, reducing sediment discharge to the Lagoon.

i. **Is project cost-effective? (None/Yes/No)**

- **Yes – explain**

The City has completed a preliminary study to determine the scope of repairs needed. The project will proceed with a design-build approach to ensure improvements are completed in a timely manner. Further, although the scale of the 10th and 13th Avenue improvements is relatively small, the project will address known erosion issues to a fragile estuary system, and will help to address flooding and saltwater intrusion issues on land.

- **Tier 3 criteria (20%) – *explanation/ documentation with all as applicable***
  - i. **Is 50% local, state, or fed cost share secured for project? (Selection – can say if appropriated but not released yet)** Yes. The City has budgeted a 50% cost share in the amount of $350,000. Please see the project budget estimate and approved capital improvement plan attached.
  - **Has state funding been previously awarded for the project? (None/ Preconstruction/ Design/ Permitting/Construction of previous phases)** The City has applied for State funding for this project through the Florida House of Representatives and Florida Senate, but it has not received funding.
  - **Will this project exceed FL Building Code flood-resistant requirements & local floodplain management regulations? (Yes/No/Do not apply)**
    The project will meet or exceed the standards in Sec. 23.7-13 of the City of Lake Worth Floodplain Management ordinances, including the criteria for limitations on sites in coastal high hazard areas, as applicable.
- **Tier 4 criteria (10%)**
  - **Does this project include innovative technologies designed to reduce project costs and provide regional collaboration? (If yes, specify & explain how will reduce cost and provide regional collaboration)** No
  - **Does the critical asset being adapted or the project impact area contain a financially disadvantaged community? (If yes, include metric)** No
- **Additional Information (all are None/ Yes/No, with explanations req'd for 'yes')**
  - **Will this project benefit a spring?** No
  - **Will this project protect water sources using alternative water supplies?** No
  - **Will this project construct, upgrade, or expand facilities to provide waste treatment?** No

- **Will this project convert septic to sewer?** No
- **Does this project include green stormwater infrastructure?** Yes. Following the construction of stormwater improvements, nature-based restoration measures will be taken to protect the area shoreline from future erosion and encourage native plant recruitment.
- **Has this project been submitted to other programs for funding?** Yes. The project has been submitted to the Florida House of Representatives Appropriations Project Request and the Florida Senate Local Funding Initiative Request, but it has not received funding.

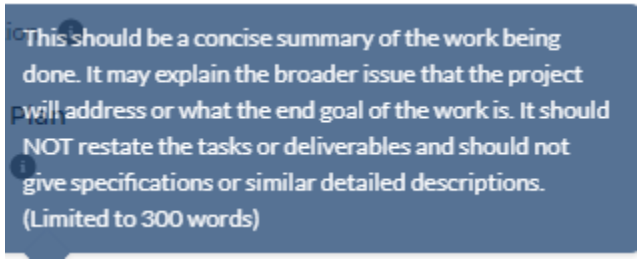
- **What is the population of your community?** 37,728 (per 2020 census map on City GIS website)

3. Project Work Plan

- **Project Summary (75-word limit)**:

  This is a stormwater infrastructure project that will address known flooding and erosion issues along the Intracoastal Waterway in Lake Worth Beach. There are three main tasks: 1) to install outfall check valves on large existing outfalls that discharge directly to the Intracoastal Waterway; 2) to line and/or replace storm sewer pipes to amend existing joint separation; and 3) to support the existing living shoreline in the area with nature-based revetment and plantings.

- **Project Description (300-word limit)**:



The 10th and 13th Street North stormwater outfalls are direct discharge connections to the Lake Worth Lagoon, a 20-mile portion of the Intracoastal Waterway in southeast Florida. The Lagoon is a brackish estuary that is an important nursery habitat for many marine plant and animal species. The existing pipes are located along the Lake Worth Golf Club, which is maintained by the City as a 1.3-mile long living shoreline. The area has been subject to worsening flood conditions due to the compound effects of heavy rainfall, storm surges, king tides, and the rising sea level. Three existing pipes provide drainage for a portion of the golf course, as well as the approximately 230-mile neighborhood immediately to the west. Sinkholes have developed within the project area, and physical inspections by a contracted engineer found separated

pipe joints in the existing system. These separations allow sand and soil to cave into the storm sewer pipes, creating erosion and discharging sediment directly into the fragile Lagoon.

The proposed stormwater upgrades to this area include the installation of backflow prevention devices on the three existing outfalls to the Lagoon. The current lack of controls on the stormwater pipes leaves the upstream residential and commercial properties within the Northeast Lucerne Historic Preservation District vulnerable to tidal flooding, which is expected to be a greater concern as sea levels rise. The stormwater pipes will also be lined or replaced, as necessary, to curb the existing sediment discharge through the joints. The stormwater system upgrades will also include restoration of the living shoreline surrounding these outfalls, to protect this area and encourage nature-based stability through plant recruitment. Though relatively small in scope, this project offers benefits upstream and downstream of the stormwater infrastructure, helping to address existing flooding and water quality issues.

Tasks and Deliverables

At least one task is required to submit application. Select the Tasks and associated Deliverables for the Project. Example language is shown. Provide additional language as needed.

- Pre-Design or Feasibility Study

Deliverables: Final pre-design documents, feasibility study, or comparable certificate of completion, signed by a Florida-registered Professional Engineer. If applicable, the Sea Level Impact Projection study report.

- Data Collection or Study

Deliverables: Final report or study to include the process and methodology and any data gaps.

- Stakeholder Coordination and Planning

Deliverables: A summary report from each workshop or meeting, including attendee feedback and outcomes, and a copy of all materials created at each workshop or meeting.

- Design and Permitting or Preconstruction Activities

Deliverables: Final design documents signed by a Florida-registered Professional Engineer. If applicable, final permit documents from all appropriate state and federal regulatory agencies.

- Project Management

Deliverables: Project management reports signed by the Florida-registered Professional Engineer, to include a summary of project and site inspection(s), meeting minutes, and field notes, as applicable.

- Bidding and Contractor Selection
- Work performed by:
- Task Description
- Goal:
- Time to Completion:

Deliverables: Public notice of advertisement for the bid, complete bid package, and written notice of selected contractor(s).

- Construction

Work performed by: Contractor only
Task Description: Contractor will construct the stormwater upgrades according to the final design plans and specifications.
Goal: Improve flooding resilience for the affected drainage area and curb existing erosion to the Lagoon.
Time to Completion: 3 years

Deliverables: Final design and Certificate of Occupancy (if applicable) and Certificate of Completion signed by a Florida-registered Professional Engineer.

- Permit-Required Monitoring

Deliverable: Copy of completed monitoring data, surveys, and final reports for the permitrequired work, and documentation of submittal to the appropriate state or federal regulatory agencies.

- Public Education

Deliverables: Copy of printed material for distribution, including text and graphics, link to website material developed, and dated photograph(s) of installed materials at the project location, if applicable.

- Equipment Purchase

Deliverables: Purchase order(s) and vendor invoice(s) for delivery, installation, and other necessary costs, as applicable.

- Land Acquisition

Deliverables: Copies of all appraisals, the closing statement or all closing documents, title exam/insurance, property survey, boundary map, and the deed, recorded easement, or property interest.

- Site Clean Up

Deliverables: Dated color photographs of on-going work and a signed acceptance of the completed work to date, as provided in the Grantee's Certification of Payment Request.

Task Budget Category

Complete for each task identified above. If multiple budget categories are needed for a single task, submit multiple entries until the budget for that task is completed.

Expense budget category

- Contractual services
- Salary/fringe
- Equipment
- Miscellaneous/other expenses
- Land acquisition

Budget amount $700,000

Match amount $350,000

~~Task Personnel Grantee* *Only required if grantee is performing work~~