



City of Miami Beach, 1700 Convention Center Drive, Miami Beach, Florida 33139, www.miamibeachfl.gov

COMMISSION MEMORANDUM

TO: Mayor Dan Gelber and Members of the City Commission

FROM: Jimmy L. Morales, City Manager

DATE: November 18, 2020

SUBJECT: **A RESOLUTION OF THE MAYOR AND CITY COMMISSION OF THE CITY OF MIAMI BEACH, FLORIDA, CREATING A NEW “MIAMI BEACH RESILIENCY FUND,” CONSISTING OF ALL UNCOMMITTED AMOUNTS IN FUND NOS. 320 AND 433, AND ALL FUTURE PAYMENTS RECEIVED BY THE CITY PURSUANT TO SECTION V.A OF THE AMENDED AND RESTATED INTERLOCAL COOPERATION AGREEMENT BETWEEN THE CITY AND MIAMI-DADE COUNTY, DATED JANUARY 20, 2015; FURTHER, UNTIL SUCH TIME AS THE CITY BEGINS TO RECEIVE MINIMUM FIXED RENT PAYMENTS PURSUANT TO THE CITY’S JULY 31, 2018 LEASE AGREEMENT FOR THE CONVENTION HEADQUARTER HOTEL, APPROVING THE ALLOCATION OF \$666,666.66 ANNUALLY FROM THE MIAMI BEACH RESILIENCY FUND, FOR A PRIVATE PROPERTY FLOODING AND SEA LEVEL RISE RESILIENCE PROGRAM.**

ADMINISTRATION RECOMMENDATION

Adopt the Resolution.

STRATEGIC PLAN SUPPORTED

Environment and Infrastructure – Reduce Risk from Storms, High Tides, Groundwater, and Sea Level Rise

BACKGROUND

At the City Commission meeting on February 12, 2020, an item to explore the creation of a resiliency fund was referred to the Finance & Economic Resiliency Committee and Budget Advisory Committee. That item has been withdrawn and replaced with this item. In addition, a separate but related item for a Private Property Resiliency Adaptation program concept was presented at the September 22, 2020 Land Use and Sustainability Committee. The Committee moved the item by acclamation to the full City Commission with direction to staff to provide funding options.

ANALYSIS

RESILIENCY FUND

The amended and restated Interlocal Cooperation Agreement with Miami-Dade County (Miami-Dade ILA) approved on November 19, 2014 (resolution #2014-28836) authorized a modification to the payments from the County to the City of funds that were restricted for capital projects within the former South Pointe Redevelopment Agency geographic area. The amended agreement removed restrictions on the City’s use of these funds, thus allowing the City to use the funding for sea level

rise mitigation or other projects in the City.

The City Commission subsequently earmarked the Miami-Dade ILA fund for stormwater capital projects to offset the need for an additional stormwater rate increase needed for the third \$100 million in planned capital projects. The Financial Feasibility Report developed for the 2017 Stormwater Bonds (the second \$100 million) included an anticipated \$103 million from this funding source (actual amounts to be received are dependent on growth in property values). The Engineer's Report developed by AECOM for the 2017 Stormwater Bonds estimated the total cost of the Stormwater program at \$658.9 million.

Since the Miami-Dade ILA was amended and restated in 2014, this funding source (funds 320 and 433) has generated \$68 million, of which \$5.7 million has been spent, \$24.2 million is committed, and \$38.0 million is uncommitted. Between now and the last payment in 2022, the City currently estimates receiving an additional \$35 million (actual amounts to be received are dependent on growth in property values).

The attached resolution would create the City's new "Resiliency Fund" by allocating the \$38.0 million of uncommitted and \$35 million of anticipated Miami-Dade ILA revenue (funds 320 and 433) for a total of \$73 million. The intended use of the new Resiliency Fund would continue to be for stormwater, flooding, and resiliency projects. The resolution also proposes designating a portion of this fund for a new private property flooding and sea level rise resilience program.

On November 6, 2018, the voters approved ballot question 2 by 79.5% regarding the use of rent payments received by the City from the proposed Convention Center Hotel Lease. This question requires the City Commission to adopt an ordinance dedicating all the guaranteed rent payments the City receives from the Convention Center Hotel lease to enhance funding, in equal portions annually, for City projects addressing the following areas:

- stormwater projects (in lieu of rate increases)
- traffic reduction measures, and
- education

To illustrate the proposed use of the Convention Center Hotel guaranteed rent payments, the Hotel's guaranteed rent to the City is fixed at \$2,000,000. Once this funding is available, the City would dedicate \$666,666.66 for each of the areas above, including stormwater projects.

Since it will be several years until this dedicated funding is available and there is currently a strong need to make public and private investments to enhance resiliency, the attached resolution proposes to allocate an annual amount of \$666,666.66 from the City's Resiliency Fund to create a private adaptation resilience program until the time the Convention Center Hotel guaranteed rent is available for this purpose.

PRIVATE PROPERTY FLOODING AND SEA LEVEL RISE RESILIENCE PROGRAM

Cities and private property owners generally rebuild more resiliently after a disaster with the help of federal funding. However, damage can be avoided through flood mitigation, the implementation of actions to reduce or eliminate the long-term risk of flood damage to buildings, other structures and infrastructure.

Staff developed the private property flooding and sea level rise resilience program concept through a multi-disciplinary departmental approach, best practice research, and market research industry

meetings. The program is innovative, and approaches from other cities provided learnings and were presented at the Land Use and Sustainability Committee. Best practice research focused on private adaptation programs implemented by other cities and entities. This included programs from the Global Resilient Cities Network (formerly known as 100 Resilient Cities), including the San Francisco Utilities Commission; Norfolk, Virginia; City of New Orleans, Louisiana; Washington DC; Berkeley California. The program concept was also discussed with the City's National Flood Insurance Program (NFIP) for Public Information Committee (PPI) for feedback.

The closest program was discovered to be the San Francisco Public Utilities Commission that created the Floodwater Management Grant Assistance Program in 2013 to help private properties make property improvements to help protect against flooding. The program is funded with \$1 million annually from combined stormwater and wastewater operating revenues. The program has had forty potential applicants since 2013. The projects to date have been primarily small scale, assisting with efforts such as backflow valves and trench drains. The utility manages the projects and oversees a pool of contractors to design and construct the projects.

The purpose of the program an envisioned is to incentivize property owners to take action to reduce the risk of damage from flooding now and in the future. If funding is obtained, the program is envisioned as a grant program designed to through a 50/50 matching grant between the City and grantee. The program would include an application process and submittal time frames, established criteria, a staff committee to score and rank the applications, and reimbursement based on the completion of permitted work. Initial impressions are that grants up to \$20,000 per property from the City would be appropriate for the first year of the program to help mitigate low elevation properties (the highest priority).

Preliminary criteria to qualify for the program can be broken down into income/assessed property values, flood risk and extent of benefit. The staff team would develop a ranking system to prioritize the funding based on need and severity of flood risk. Recommended preliminary criteria include the following:

- Income or Assessed Property Value: Property owners with lower income, lower assessed property values, or that lease to lower income renters.
- Group A: A property with low elevation or evidence of flooding.
- Group B: Two or more properties with low elevation or evidence of flooding that can increase the extent of benefit through flood mitigation for a greater number of properties/residents.
- Group C: All other properties within the FEMA Special Flood Hazard Area, with increased risk of flooding within the next 30 years due to sea level rise projections.

Market research and the City's own plans and studies provided insight into the practical and feasible grant program options including:

1. **Flood risk and mitigation assessment**: An assessment can help property owners determine what type of improvement is needed for the property.
2. **Green infrastructure**: Incorporating both the natural environment and engineered elements such as rain gardens and bioswales can reduce flooding and improve groundwater quality. Florida friendly landscaping filters and reduces stormwater runoff, while proper tree planting also manages runoff through the rooting system (taking up water and promoting soil infiltration), dense leaf canopies (reducing erosion from rainwater) and by providing surface area that assists with rainwater evaporation.

3. **Cisterns and rain barrels:** Capturing water can reduce the amount of stormwater and harvesting rainwater for other uses.
4. **Replacing impermeable with permeable materials:** Permeable pavements and surfaces can allow direct infiltration of water into the ground. By allowing water to naturally infiltrate into the ground as opposed to ponding or runoff, and replenish the groundwater lens.
5. **Appliance and equipment elevation:** Mechanical and electrical equipment can be elevated to avoid flood damage.
6. **Dry floodproofing:** This process makes a building watertight to prevent entry of water into interior spaces.
7. **Garage floor and yard elevation:** There many cases where the main floor of a home is higher, however, the garage is at a lower elevation and is susceptible to flooding. In such cases, it may be possible to construct a garage floor or garage at a higher elevation and raise portions of the yard to provide access to the raised garage without impacting the main structure.
8. **Elevate interior first finished floor:** This strategy consists of buildings being adapted internally by raising the first floor.
9. **Wet flood proofing:** This method makes uninhabited areas of the property structure resistant to flood damage by allowing water to enter and exit the outside area of the property.
10. **Blue roofs:** Capture rainwater by functioning as a tank-like structure. Water can be collected for reuse within the building for non-potable needs such as irrigation.
11. **Green roofs:** Capture rainwater and slowly release it through evaporation and plant use-reducing the amount of rainwater that otherwise would runoff in an impervious roof surface
12. **Flood barriers:** Barriers can be an effective option, but they require an assessment of the property to ensure that they won't create an adverse effect on neighboring properties.

Additional market research insights include:

- Solutions must be tailored to each property's conditions. Collective private property work is more powerful than individual property adaptation.
- The market for flood mitigation is evolving, with innovative techniques and products. Flood barriers exist that are lightweight and practical to install in the event of flooding from high tides or storms, however some products need to have Miami-Dade County Product Approval.
- For buildings below base flood elevation (BFE), elevation is the most effective option, however it may be cost prohibitive for many property owners. Elevation, however, offers the most benefits from potential long-term flood insurance savings and avoided flood damages.

PROGRAM FEEDBACK

To understand the interest from the community, feedback was gathered through a simple questionnaire distributed through existing City communications channels. The results were provided to the City Commission on October 19, 2020 through LTC #367-2020.

Noteworthy observations include:

- 50% of the respondents have observed flooding on the road in front of their house, with 29% on the lawn and 27% in the garage, and 13% in the habitable areas of their property.
- Out of those experiencing flooding, 45% reported drained with no damage, and 32% reported replacement or renovation needed.

- 77% of respondents indicated they would apply for a 50/50 matching grant if offered
- The top five options selected were
 - Engineering assessment to learn how to reduce risk (49%)
 - Green infrastructure such as bioswales, retention areas, and rain gardens (46%)
 - Yard and/or driveway grading (32%)
 - Dry floodproofing measures to make the structure watertight (29%), and
 - Garage flood and/or yard elevation (28%)

PROGRAM BUDGET AND STAFF RESOURCES

This program as detailed would be new grant program offered by the City of Miami Beach. From a staff resources perspective, the program would require personnel to ensure that the program is well-run, can meet demand, and can comply with all anticipated Inspector General audit requirements. Expertise in grant administration, monitoring and flood mitigation will be required and requested through the FY 2021-2022 Annual Operating Budget process.

Miami Beach Flooding Vulnerability and Resilience Investments

Miami Beach is low-lying, and 93% of all buildings are in the FEMA Special Flood Hazard Area. Miami Beach faces flood risk from high tides, storms, hurricanes, and sea level rise. On July 24, 2020, the Mayor and City Commission adopted 2019 update of the *Unified Regional Sea Level Rise Projection for Southeast Florida*, developed by the Southeast Florida Climate Change Compact for planning purposes. The projections further highlight the need to prepare for increased flooding in the future.

- Short term: by **2040, sea level is projected to rise 10 to 17 inches** above 2000 mean sea level.
- Medium term: by **2070, sea level is projected to rise 21 to 54 inches** above 2000 mean sea level.
- Long term: by **2120, sea level is projected to rise 40 to 136 inches** above 2000 mean sea level.

Investment in Resilience Makes Sense

Being proactive makes significant financial sense- the National Institute of Building Sciences (NIBS) [released a finding](#) that every \$1 invested in disaster mitigation by three federal agencies saves society \$6. *The Natural Hazard Mitigation Saves: 2017 Interim Report* was the first part of the long-awaited update to a [2005 study](#) that had identified a lower return on investment.

Additionally, the City's Business Case Analysis of the Stormwater Program results were released early this year, illustrating significant benefits for resilience investments. The study was presented to the City Commission on January 27, 2020. For specific private properties analyzed, flood mitigation for private properties have a benefit-cost ration of 2.8. This means that every dollar spend saves nearly three dollars in avoided damages and other benefits.

From the regional perspective, the Southeast Florida Regional Climate Change Compact, along with local business and nonprofit communities, partnered with the Urban Land Institute (ULI) to comprehensively assess the economic impact of investment in resilience in southeast Florida. The study found that climate adaptation measures are predicted to offer a significant return on investment, protecting communities, jobs, and properties. The study specifically found that building-

level adaptation have a 5.18 benefit-cost ratio. Lack of adaptation investment and infrastructure now will have major consequences for the future economic well-being of the region. The full report can be accessed through: <https://seflorida.uli.org/business-case-for-resilience-southeast-florida/>

From the overall community perspective, the 2019 Community Satisfaction Survey shows that 43% of residents are satisfied, 33% neutral, and 24% dissatisfied with their buildings' flood risk protections. In addition, "efforts to manage stormwater drainage and flooding" was ranked in the top 3 priorities for the City.

CONCLUSION

This action would enhance the City's strong commitment to resiliency by: (1) reaffirming the City's intent to earmark \$73 million for resiliency efforts by creating a dedicated Resiliency Fund; (2) expanding our robust resiliency program to create an innovative property adaptation program; and (3) dedicating funding of \$666,666 annually to incentivize private property adaptation; and (4) identifying staff resources through FY 2021-2022 Operating Budget development.

The Administration recommends that the Mayor and City Commission adopt the Resolution to create the City's new Resiliency Fund from uncommitted and anticipated revenue from the Miami-Dade ILA, approve the dedication of \$666,666.66 from the Resiliency Fund on an annual basis for a Private Property Flooding and Sea Level Rise Resilience Program until the Convention Center Hotel funding is available for this purpose.

JLM/JW/AK