

**OFFICE OF THE CITY COUNCIL**

**RESEARCH DIVISION**

117 WEST DUVAL STREET, SUITE 425

4TH FLOOR, CITY HALL

JACKSONVILLE, FLORIDA 32202

904-255-5137

**CITY COUNCIL SPECIAL COMMITTEE ON RESILIENCY**

**SUBCOMMITTEE ON INFRASTRUCTURE AND CONTINUED OPERATIONS**

**Virtual meeting via Zoom – no physical location**

 **November 13, 2020**

**8:30 a.m.**

**Location:** Virtual meeting via Zoom – no physical location

**In attendance:** Subcommittee members Garrett Dennis and Randy DeFoor; Subject matter experts Bruce Fouraker, Sandra Fradd, Mark Green, Lisa King, Joe Loretta, Amanda Polematidis, Jim Seaton, Nikole Ward

**Also**: Citizen subject matter experts Ramil Mijares, John Sapora; Jeff Clements, Yvonne Mitchell – Council Research Division; Steve Cassada, Eric Grantham and Melanie Wilkes – Council Support Services; Kristen Reed and Susan Kelly – Planning and Development Department; John Pappas and Kelsey Cox – Public Works Department; Melissa Long – Neighborhoods Department; Kealey West, Susan Grandin – Office of General Counsel; Tommy Carter – Council Auditor’s Office; Sean Lahav – Northeast Florida Regional Council; Nick Primrose – Jaxport; Kurtis Wilson and Hai Vu – JEA; Sandra Homrighouse – Ethics Office

**Meeting Convened**: 8:32 a.m.

Chairman Dennis convened the meeting and a roll call of the attendees was taken.

CIP Resilience Priorities

John Pappas, Director of Public Works, gave a presentation on the City’s infrastructure challenges, the Master Stormwater Plan, and the prioritization process for CIP projects to address those issues. The recently adopted CIP focuses on identified road and community flooding areas and added funding for an underdrain rehabilitation effort to protect roads and sidewalks, which will be an on-going effort. Funding was also included for bulkhead improvements on both the St. Johns River and its tributaries, both for inspection and maintenance. Drainage outfall improvements are also funded this year for maintenance and cleaning.

The most important tool for prioritization is the Master Stormwater Management Plan done in 2011 that modeled all of the City’s stormwater systems, evaluated conditions and identified potential stormwater improvements areas. Stormwater management is made up to 2 components – operations/maintenance and capital improvements. Capital projects are done via the Drainage System Rehab (DSR) program and the Capital Improvement Program (CIP). Mr. Pappas discussed the ranking methodology for the DSR program which evaluates the nature and age of the facility involved, the frequency, severity and type of flooding being experienced, and the impact on the community. The scoring of CIP funds for stormwater projects is based 60% on flood control, 20% on surface water improvements and 20% on operations and maintenance considerations. Water quality improvement is primarily focused on nitrogen reduction. Operations and maintenance focuses on reducing stormwater velocity.

The Mayor’s Storm Resiliency and Infrastructure Development Review Committee in 2019 looked at long-term strategies for infrastructure resiliency and led to a $500,000 CIP allocation and a $75,000 Florida DEP grant to fund a Storm Resiliency and Hardening Study currently underway. The study is looking at appropriate design standards and prioritizing the most critical infrastructure improvements needed immediately, then moving on to lower priorities. The CIP plan will prioritize the most needed elements in future years. The effort includes future climate projections (sea level rise, increasing rainfall intensity), selection of an appropriate storm event on which to base designs, an inventory of critical infrastructure, and development of design guidelines to protect infrastructure and guide future development. The effort is not “reinventing the wheel” by utilizing data and research from other entities (Northeast Florida Regional Council, US Army Corps of Engineers, JEA, and others) already working in this area. The results of the study will establish critical elevations for vulnerable infrastructure; develop inundation maps for areas at risk in 2040 and 2070, and development of a list of potential CIP projects to deal with identified issues. Updated design standards to address sensible development to meet future environmental conditions have been developed and will continue to be fine-tuned. The final report is due in the spring of 2021 and will inform the development of the 2022-25 CIP plan for next year’s budget. Mr. Pappas summarized the Public Works Department’s resiliency efforts: 1) maintain existing infrastructure; 2) determine appropriate new design standards; 3) identify critical infrastructure; 4) prioritize CIP projects; 5) implement CIP projects.

Chairman Dennis reported that his district had flooding yesterday from a very mild storm event and asked how those events are being evaluated. Mr. Pappas said tidal effects are increasingly important to the operation of the drainage system and rainfall intensity is increasing over time, overwhelming systems with the volume of rain falling in just a few hours. This year’s budget had funding for the first time to do routine maintenance of outfalls, which should help with system function. Bruce Fouraker said trees are a big help in absorbing and deflecting rainfall, and asked if they are being considered in the City’s stormwater calculations. Mr. Pappas said they are because there are studies that calculate the effect and the City is going to acquire that model and incorporate tree canopy effects into development permitting.

Council Member DeFoor said higher tides are a tremendous problem right now and asked if that is included in the modeling. Mr. Pappas said it is so that it can be determined what the impact is and how to address it. Ms. DeFoor said she knows that there are flooding problem areas that don’t show on the map presented earlier.

Chairman Dennis asked how much the City really needs to budget to deal with its stormwater needs. Mr. Pappas reiterated that the department has started budgeting specifically for outfall maintenance this year ($2.5M) in addition to the usual operations and maintenance funding, so they now need to see what that funding can accomplish in practice. The ongoing study needs to be completed to identify the top priorities for future action and get cost estimates for those priorities. Jim Seaton asked if there are any private sector stakeholders involved in the study to help prioritize needs. Lisa Sterling with the consulting team performing the study said they have invited representatives from the City’s six CPACs and Lori Boyer, Executive Director of the Downtown Investment Authority to participate in the workshops and bring the “outside of government” perspective to the table. They have also been looking at private sector assets like grocery stores, gas stations, hospitals, etc. to see how vulnerable they are and their impact on the community if damaged. Mr. Seaton asked if the study is looking at what other cities are doing with regard to resiliency. Ms. Sterling said Jacobs Engineering is doing the study and they are a national firm with long experience in this area and access to best practices nationally.

The Business Case for Resiliency in Southeast Florida

Alec Bogdanoff of Brizaga.com described a multi-county effort by the Southeast Florida Regional Climate Change Compact (comprised of Miami-Dade, Broward, Palm Beach and Monroe Counties) to identify the return on investment of doing resilience projects. Their focus is on higher frequency flooding events (rain and tide-influenced) rather than on hurricanes because that’s a more constant problem and the costs are less well understood. They have looked at risk and benefit on a parcel-by-parcel basis (where 25% or more of a parcel or structure is regularly impacted by the model conditions) and aggregated those figures into a total regional economic impact model. The projected economic impacts are quite considerable. The model for 2040 predicts $4.2 billion in property exposed to daily tidal inundation, 720 jobs impacted, and $28 million in fiscal losses from daily tidal inundation. By 2070 the impacts grow to a predicted $53.6 billion in property exposed to daily tidal inundation, 17,800 jobs impacted, and $384 million in fiscal losses from daily tidal inundation. Therefore there is a compelling business case to make significant investments in resilient infrastructure now to prepare to address the looming threats.

Mr. Bogdanoff said that adaptation can take place at two levels. Community-wide adaptation uses a combination of soft and hard engineering investments at the open coast, intracoastal and inland areas which provide regional benefits, while building-level adaptation makes structural improvements to protect individual properties. Their study estimates that community-wide adaptation strategies will produce $37.9 billion in benefits at a cost of $18.2 billion for a benefit-cost ratio of 2.08:1, and would support 85,000 job years (1 job times 10 years). Building-level adaptation will produce $17.6 billion in benefits at a cost of $4.4 billion for a benefit-cost ratio of 3.97:1, and would support 56,000 job years. The study made 10 recommendations ranging from developing actionable funding and financing plans to pay for resilience and investing in key vulnerable and emerging industries to making social vulnerability a priority during adaptation decision-making and conducting further in-depth analysis at the county and project level to optimize benefits and costs.

Jim Seaton asked about how the business community was solicited and energized to support this effort. Mr. Bogdanoff said the Chief Resiliency Officers in Miami-Dade and Broward Counties publicized the process and specifically went to the various chambers of commerce and to the business community to get them interested in private sector economic resiliency. In response to a question from Bruce Fouraker about whether calculations of projected property insurance savings were done, Mr. Bogdanoff said they had not because that is a very complex analysis that’s based on the national flood insurance program which is not entirely based on pure risk calculations. Analysts could make some educated guesses about the general range of the positive impact. A question was posed via the Zoom chat feature – does the South Florida Regional Climate Change Compact include Monroe County all the way south to Key West? Ms. Bogdanoff said it does.

AAA Working Group Comprehensive Plan amendments

Kristen Reed of the Planning and Development Department reviewed the latest draft of the Comp Plan amendments which included the responses to all the comments and questions posed at previous subcommittee meetings. About half a dozen policies were revised to reflect the insertions discussed at the last meeting and the revised AAA flood zone map was included. Assistant General Counsel Susan Grandin explained the process for moving the amendments through the legislative process in City Council and on to the state for review. Chairman Dennis requested any final comments or input from the subject matter experts in attendance – no additional comments were offered. Mr. Dennis said he will report the final recommendations to the full Special Committee on Resiliency on December 5th for action there. Kristen Reed will be present at that meeting to answer any questions.

Jim Seaton said there could be real value in looking at the building codes of other Florida cities and counties for resilience-related elements. He suggested the time is right to do a mid-course assessment of how the subcommittee is doing – what have we heard, what have we recommended, where are we going from here, what topics still need exploring? Council Member DeFoor said the subcommittee process is coming to a close so it is a good time for a summing up of what’s been accomplished so far. It seems to her like a good idea to recommend a change in the building code for roofs.

Amanda Polematidis read a statement into the record (see attached) regarding the recent action to allow the City Council to have 4 appointments to the JEA board. She recommends that the JEA board have at least 1 electric and 1 water/sewer engineering expert among its membership. She recommends that the City Council appoint JEA board members who are committed to making Jacksonville and the JEA service area more resilient. She believes JEA should “double down” on solar and battery technology and should adopt distributed energy resources decentralized throughout our community. Florida is the Sunshine State, yet it’s amazing that we don’t tap the potential of solar energy resources.

Council Member DeFoor said that the full Resiliency Committee will meet on November 20th with several speakers on the agenda, and then it’s time to start summing up and wrapping up recommendations. Yvonne Mitchell said all subcommittees meet on November 19th, and then the full Special Committee will meet on November 20th and December 11th. Chairman Dennis announced that the November 19th subcommittee meeting will be cancelled and the subcommittee will meet on December 3rd with an agenda based on what happens in the Special Committee meeting on the 20th.

Next meeting – December 3rd, 8:30 a.m.

**Meeting adjourned:** 10:00 a.m.

Minutes: Jeff Clements, Council Research Division

jeffc@coj.net 904-255-5137

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