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COMMITTEE MEMORANDUM

TO: Sustainability and Resiliency Committee

FROM: Jimmy L. Morales, City Manager

DATE: September 25, 2019

SUBJECT: **DISCUSSION REGARDING PRIVATE SEAWALLS**

BACKGROUND

At the December 12, 2018 City Commission meeting, during Item R7F, private seawalls were discussed and assigned to Public Works for further dialogue at the Sustainability and Resiliency Committee. Subsequently, at the January 29, 2019 Commission goals conference retreat, Commissioner Aleman requested that a financial seawall strategy be developed to encourage private property owners to retrofit seawalls. In addition, the Urban Land Institute's Advisory Services Panel Report (2018) recognized the need to create financing for private seawall enhancements. Private seawall elevation assessment and funding options were discussed at the March 20, 2019 Sustainability and Resiliency Committee and staff committed to conducting research and bringing back a framework of options as an interdisciplinary team.

At the June 26, 2019 Sustainability and Resiliency Committee, the seawall discussion was presented including public financing options such as a special assessment district. The Committee concurred with the staff recommendation to 1) survey the appetite of the financial and banking sector (within the appropriate procurement mechanism) to create innovative and economical financing packages to incentivize owners to invest in their property, and 2) to proceed with purchasing drone LIDAR equipment, as the best of the four options presented, to survey the elevation of sea walls with the purpose of providing adequate information needed for financing options.

ANALYSIS

The staff team has been moving forward with the phased approach presented on June 26, 2019. Phase one of the project is in progress and includes gauging interest with the banking industry and procuring the drone LIDAR equipment. On June 28, 2019, the city issued the Invitation to Industry Review Meeting (2019-316-AY) for Financing Options for Private Property Resiliency Improvements (Attachment 1). In concept, the city's role would be a facilitator assisting property owners obtain private financing and vetting a pool of contractors. Four banks responded and met with staff. While three banks did not have interest, one has experience with community-based partnerships that aggregate private properties, generate working capital, and provide low-interest loans.

As an additional method to encourage property owners to plan for seawall elevation over time, staff created a guidance document to provide steps and resources (Attachment 2). This will be provided on MBRisingabove.com and will be distributed through the city's communication's channels to bring attention to the need to plan for seawall replacements over time and in light of our vulnerabilities to tidal flooding.

Phase one of this effort also includes obtaining an understanding of existing private seawall elevation citywide. Staff utilized budgetary savings to procure drone LIDAR, equipment needed to determine the height of the seawalls. Having this equipment in-house will also be beneficial for multiple programs, such as dune management and disaster recovery surveying. Training will take place in October and flying will begin the first week in November. The time-frame for completion is approximately three-to-four months, weather permitting. Staff will prioritize areas with anecdotally low-lying seawalls that have been overtopped during high tides and storm events and that have impacted public storm drainage infrastructure. The drone LIDAR can be conducted without accessing private property and will provide the highest quality data. Public Works will communicate the purpose and the timing of the project to neighborhoods.

LEGISLATION

Legislation is an important tool to improve resilience through the elevation of seawalls for sea level rise over time. On June 8, 2016, the city established higher elevation standards through Resolution 2016-29454. At this time, the seawall elevation for new construction was changed from 3.2 feet NAVD88 to 5.7 feet NAVD88. For existing seawalls being replaced/ repaired, not associated with new building construction, a minimum of 4.0 NAVD88 elevation is required, with the design to accommodate height to a minimum of 5.7 NAVD. At the time, the city did not address the issue of seawalls being in "good repair" or more specifically the potential for tidal waters overtopping barriers and impacting adjacent property and public right-of-way.

Other governments in our region are also taking action in this area. Recently, on August 22nd, 2019, the Broward County Planning Council approved draft "Resiliency Standards for Tidal Flood Protection" (Attachment 3). The Planning Council will be transmitting the policy to the state for review. The draft standards will then be scheduled for public hearing and for consideration of adoption by the Broward County Commission. Cities within the would then need to adopt their own ordinances within two-years.

The purpose of the draft Broward County standards is to:

(a) Provide a standard for flood mitigation infrastructure that serves as a barrier to tidal flooding, not seepage, by accounting for water levels predicted under combined conditions of sea level rise, high tides and high frequency storm surge through the year 2070; and,
(b) Ensure new shoreline structures and major shoreline improvements are designed for use as tidal flood barriers with application of consistent standards that account for future tidal flood conditions and coastal water levels predicted with sea level rise in accordance with current regional sea level rise projections, as updated and adopted by the Broward County Board of County Commissioners.

Overtopping of flood barriers is addressed within the draft ordinance: "All property owners must maintain a tidal flood barrier in good repair. A tidal flood barrier is presumed to be in disrepair if it allows tidal waters to flow unimpeded through or over the barrier and on to adjacent property or public rights-of-way. Failure to maintain flood mitigation infrastructure shall be a citable offense." Requirements for correction, including time frames, are provided as well.
The draft Broward standards also includes a definition for tidal flood barriers. It expands the definition beyond seawalls: "Tidal flood barrier means any structure or shoreline feature, including but not limited to, berms, canal banks, green-grey infrastructure, seawalls, seawall caps, upland stem walls, or other infrastructure that impedes tidal waters from flowing onto adjacent property or public rights- of-way, located within or along a tidally-influenced area. This

definition is not meant to include rip rap, derelict erosion control structures or permeable earthen mounds that do not provide an impermeable water barrier to tidal flooding."

RECOMMENDATION

This information is presented to the members of the Sustainability and Resiliency Committee as a status update and recommendation for next steps. Staff will move forward with the drone LIDAR project, continue to conduct meetings with the banking industry, and monitor any funding opportunities. Staff also recommends updating the city's legislation to include 1) an expanded definition of tidal flood barriers, and 2) require tidal flood barriers to be in good repair. For the purpose of resilience, a tidal flood barrier is presumed to be in disrepair if it allows tidal waters to flow unimpeded through or over the barrier and on to adjacent property or public rights-of-way.

Attachments:

Attachment 1: RFI Private Financing Options
Attachment 2: Seawall Steps Flyer
Attachment 3: Broward County Proposed ARTICLE XXV Resiliency Standards