From: Randy Wertepny
Date: August 4, 2025 at 5:16:15 PM EDT
To: Francine Ramaglia
Cc: Kevin VanArman, Project Coordinator
Subject: LG Vulnerability Assessment and Overall Drainage Considerations

Francine,

The draft report of the Vulnerability Assessment has been completed and is planned for submission to FDEP on August 15. Please feel free to forward the draft report and backup information to the Council.

Please note that the results of the modeling show that there are several areas within the Town that are vulnerable to flooding, not just during future conditions that incorporate changes in climate and increased sea levels, but during current anticipated storm events. The largest storm that the Town has experienced in recent years was Tropical Storm Issac that dropped over 12 inches of rainfall within a 3 day period has a similar intensity and rainfall distribution of a rainfall event that has a 4% chance of occurring or more commonly referred to as a 25 year event. Based on SFWMD rainfall records for nearby stations, the last rainfall event as larger as Isaac occurred in November of 1987. The purpose of the Vulnerability Assessment was to evaluate the impacts to the Town associated with a storm event that has a 1% chance of occurring (100 year event) and to determine the resiliency of the Town stormwater management system with future impacts associated with climate change (increased rainfall intensity and sea level rise). However, based on Council Member Coleman's inquiring regarding Tropical Storm Issac we included the modeling results of the 25 year design event as the 25 year event closely resembles the rainfall distribution that occurred during Issac. We have also included the 10 year event for calibration purposes.

The Vulnerability Assessment identifies a few areas of concern that the Town should be aware of and begin preparations to address the Town wide drainage concerns:

1. Storage – There are limited areas within the Town that are available for stormwater attenuation. Typical stormwater management systems in South Florida have 10% of their surface area as lakes / wet pods. The total surface water within the town is approximately 4%, about 1% of which is the Town's canal system. Therefore, there is a significant deficit in areas within the Town available to store stormwater runoff.

2. Conveyance – Maintenance and improvements are required within the Town. Portions of the canal system should be restored to their design section (remove excess sediment and muck from bottom of the canal and reconstruct / stabilize canal banks). In addition, there are areas within the Town where conveyance is needed or should be restored to convey stormwater runoff to the canal system, similar to the proposed improvements within Loxahatchee Homes area.

3. Operational Challenges – Modification to the Town's discharge structures should occur to improve operational efficiencies and maximize discharge during larger storm events and provide controls to maintain water levels during the dry season to the extent possible.

The Town has been working diligently on several aspects of the Town's surface water management systems and should continue their efforts in the following ways:

1. Grant / funding opportunities: The Town has been working on several funding opportunities and should continue to apply for grant opportunities, state appropriations and other funding sources to improve the Town's stormwater management systems. With the completion of the Vulnerability Assessment, the Town's Resilient Florida implementation grants will receive higher rankings, however, the Town should start positioning themselves to further increase their funding opportunities with preparing for "shovel ready" projects.

2. Watershed Management Planning: Fingers crossed the Town will be awarded the watershed master planning grant that will allow the Town to evaluate and explore various improvements to the surface water management system and to establish a capital improvement plan for drainage system components beyond maintenance needs.

3. Rights-of-way and easements: The Town should continue its efforts in documenting available rights-of-way and recorded easements to construct or maintain conveyance systems within Town. This data base / record will assist the Town with other Town needs similar to how this was used for the proposed equestrian trail along the west side of the F Road Canal.

4. Secondary Drainage Systems: The Town should also consider taking over maintenance of the secondary canal systems where necessary. Not all residents of the Town are equipped to maintain these system, especially in areas where the properties were subdivided to unconforming lots (per current standards) that are primarily used for residential purposes. The Town could also consider setting up units of development through the Water Control District (WCD) that could be used as a funding mechanism to convert these systems to the Town and directly assess the residents adjacent to the canal to clear and re-establish the drainage system before officially taking over maintenance responsibility.

5. Operation and Maintenance: The GIS databases created through the Vulnerability Assessment have been set up for continued monitoring. The Town's public works department / WCD should incorporate routine inspections of the Town's system and document repairs, replacements or other information for each asset. This could also be used with capital improvement planning to budget for the replacement of old and wearing assets.

6. Land Acquisition: The Town should start exploring opportunities to purchase land for storage, ideally close to the Town's discharge facilities.

7. Floodplain: The majority of the Town is located in the floodplain. Residents within the Town do not seem to understand the concerns or the State requirements (not FEMA) to protect the existing floodplain and not expand it that could place others at risk. The Town could consider establishing a proportional share approach to floodplain compensating storage. This would ultimately have to be approved by SFWMD, but each property could be required to construct lakes within X% of their property to protect the floodplain. This could also assist the Town with providing some of the much needed additional storage within the Town and reduce the land acquisition costs.

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