

## M E M O R A N D U M

**To:** Howard Tipton, Town Manager  
**From:** Isaac Brownman, Public Works Director  
**Report date:** February 10, 2023  
**Meeting date:** February 21, 2023  
**Subject:** Subaqueous Force Main Update

### **Recommended Action**

None, informational only.

### **Background**

The Town of Longboat Key operates and maintains the wastewater collection system for the island. The system consists of 47-lift stations pumping effluent to the Town's primary lift station, Lift Station D, on Gulf Bay Road. From Lift Station D, the material is pumped approximately four (4) miles through the Town's force main to the Manatee County Southwest Water Reclamation Facility (SWWRF) located on 65<sup>th</sup> Avenue East in Bradenton. The Town's force main is a 20-inch ductile iron pipe installed in 1973 and was put into service in 1975.

The Town Public Works staff has been engaged with and is providing an update on the following efforts: 1) work to permit the future replacement of the subaqueous portion of the force main, 2) address Consent Order obligations under an agreement between the Town and the Florida Department of Environmental Protection (FDEP), 3) rehabilitate a mainland portion of the force main pipeline, and 4) perform a screening assessment of the existing ductile iron force main.

The Town has received FDEP and U.S. Army Corps of Engineers permits to open cut Sarasota Bay and install a redundant subaqueous force main under Sarasota Bay. As part of the permit conditions, the Town will have to perform sea grass and mangrove mitigation within Sarasota Bay as part of the construction project. About eight (8) acres of sea grass mitigation and one (1) acre of mangrove mitigation are required to open cut. The Town has programmed a total of \$21.7 million from FY 2024 through FY 2025. The intent of the funding is to complete final design, obtain necessary easements, construct the new pipeline project, and construct the mitigation areas. Public Works is currently exploring construction delivery methods, options, and related costs.

The Town entered into a Consent Order agreement with the FDEP on February 24, 2021, as a result of a leak that was discovered on June 29, 2020, and repaired on June 30, 2020. The Consent Order includes commitments from the Town to complete a number of deliverables and restoration actions related to the Order. All deliverables are complete and up to date. The Town's Restoration Plan on Long Bar Pointe property has recently been approved, and Public Works

is taking steps to hire a contractor to begin that effort. That restoration effort will include replanting mangroves into the impact area, removing the haul road built to repair the leak, and restoring the surrounding wetland grades.

The Town also engaged in rehabilitating a portion of the mainland force main North of Sarasota Bay. The Town has received two back-to-back State appropriations to support rehabilitating the force main, in the amounts of \$1.25 million and \$800,000, respectively. The Town engaged with Murphy Pipeline Contractors to conduct lining the existing 20-inch ductile iron force main with an 18-inch high density polyethylene pipe. The work began November 2022 and extends from the Manatee County master wastewater flow meter at 53<sup>rd</sup> Avenue to the South into Long Bar Pointe property. The project is substantially complete and lined approximately 5,500-feet of pipeline to an existing valve on the Long Bar Pointe property. The project stopped short of the 2020 repair point as temporary access agreements were not available prior to construction completion.

Overall project cost is approximately \$2.64 million. This includes design, construction, and construction oversight. Options to continue with this project further South along Long Bar Pointe property or an alternative project are being explored with the Town's contractor in anticipation of obtaining temporary access agreements from Long Bar Pointe.

Regarding the current force main pipeline assessment effort, screening tools and analysis have been deployed and conducted. Results are being reviewed and summarized by the Town's engineers. Additional recommended screening methods are being evaluated as well.

### **Next Steps**

- Continue exploring final design and construction delivery options for the major subaqueous force main replacement project with Town consulting engineers and contractors. Develop an action plan.
- Continue meeting Consent Order requirements. Begin restoration actions in accordance with the Consent Order terms and FDEP authorizations.
- Complete the force main lining project and pursue opportunities to address the remaining portion of mainland pipe further South along Long Bar Pointe property. Evaluate feasibility, cost, and schedule of the options.
- Finalize the current pipeline assessment effort.

### **Staff Recommendation**

None, informational only.

### **Attachments**

- A. PowerPoint Presentation



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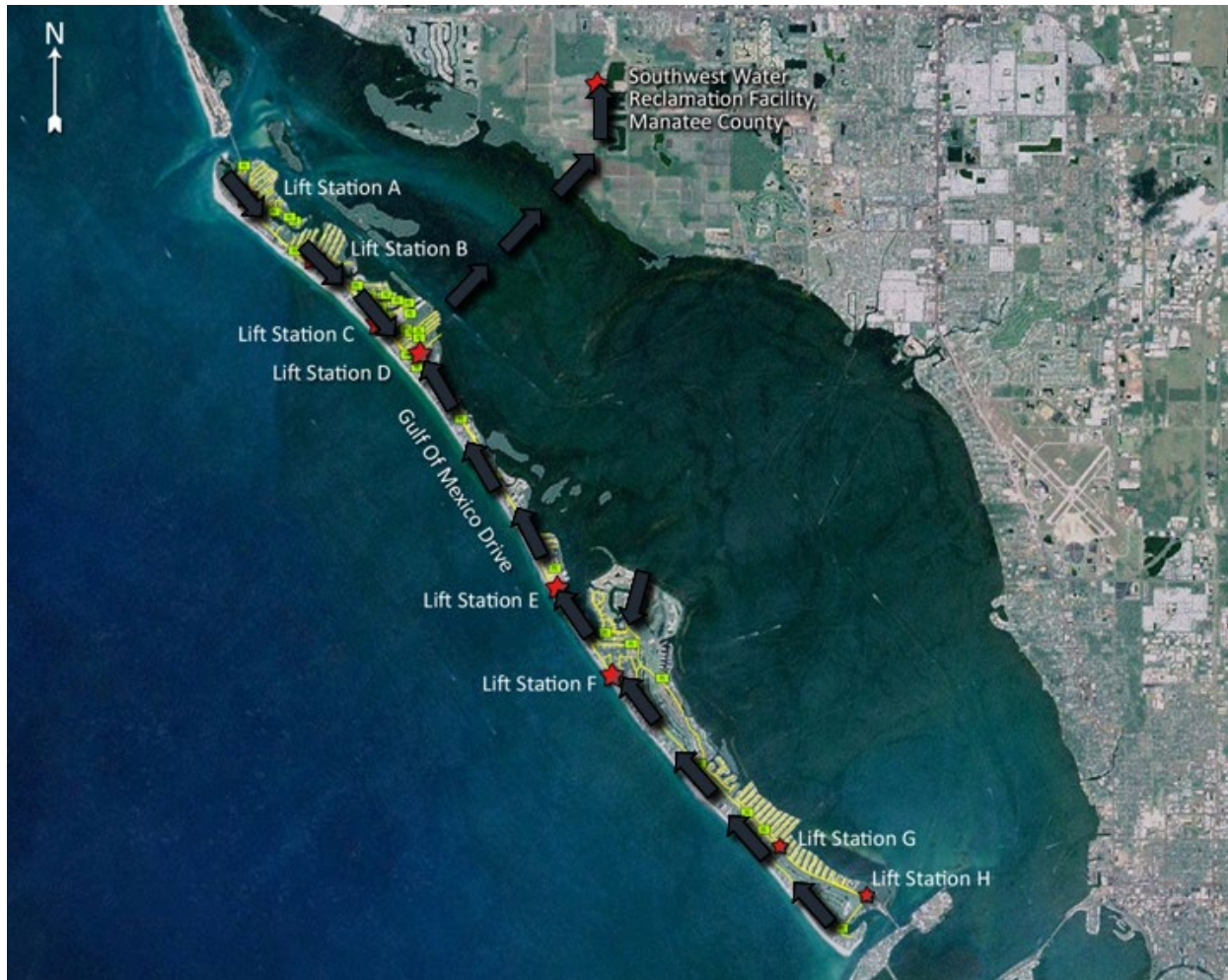
# Subaqueous Wastewater Line Update

Town Commission Regular Meeting

February 21, 2023



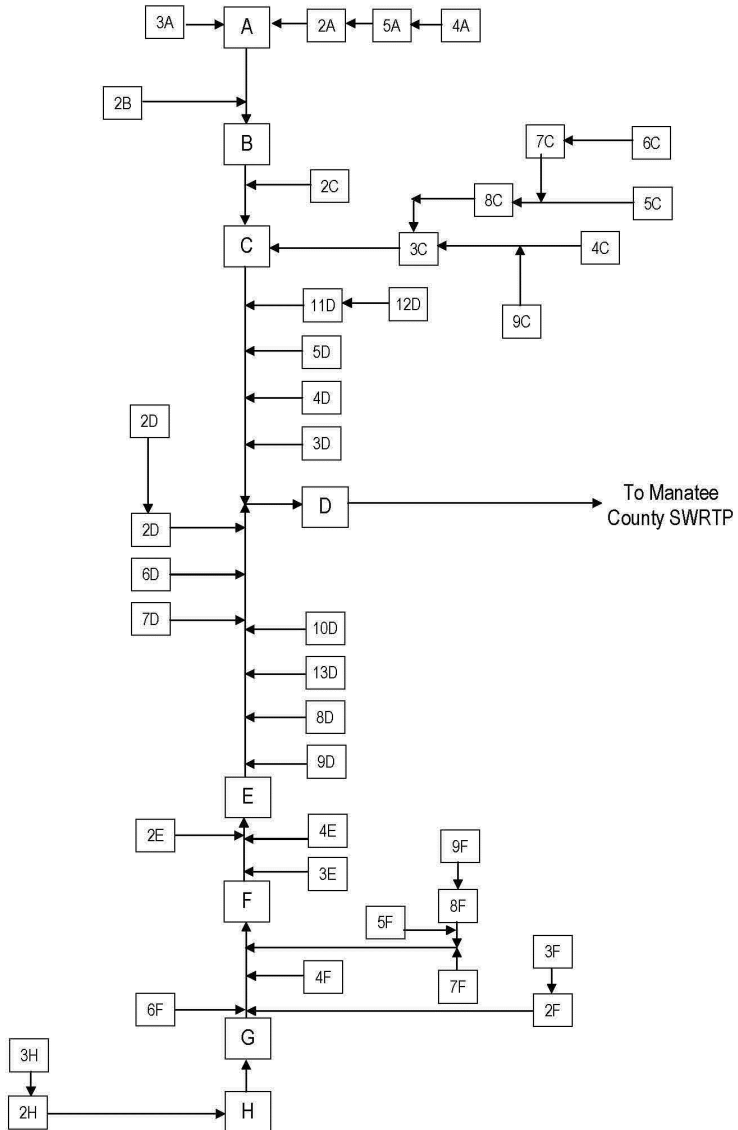
# Town Wastewater System Overview



- 47 Lift Stations island-wide to move effluent to Primary Lift Station (Lift Station D on Gulf Bay Road)
- Town effluent pumped from Lift Station D through a four (4) mile route to Manatee County Southwest Water Reclamation Facility on 65<sup>th</sup> Avenue East
  - Approx. 2-miles under Sarasota Bay
  - Approx. 2-miles under land
  - Town owns to master meter on 53<sup>rd</sup> Ave.
- Town's 20-inch ductile iron force main was installed in 1973 and into service in 1975



# Town Wastewater System Overview Cont.



Master Lift Station D – Gulf Bay Road



# Update on Current Force Main Efforts

1. Permitting the future replacement of the Subaqueous portion of the force main.
2. Address Consent Order obligations under an agreement between the Town and the Florida Department of Environmental Protection (FDEP).
3. Rehabilitate a mainland portion of the force main pipe line.
4. Perform a screening assessment of the existing ductile iron force main.



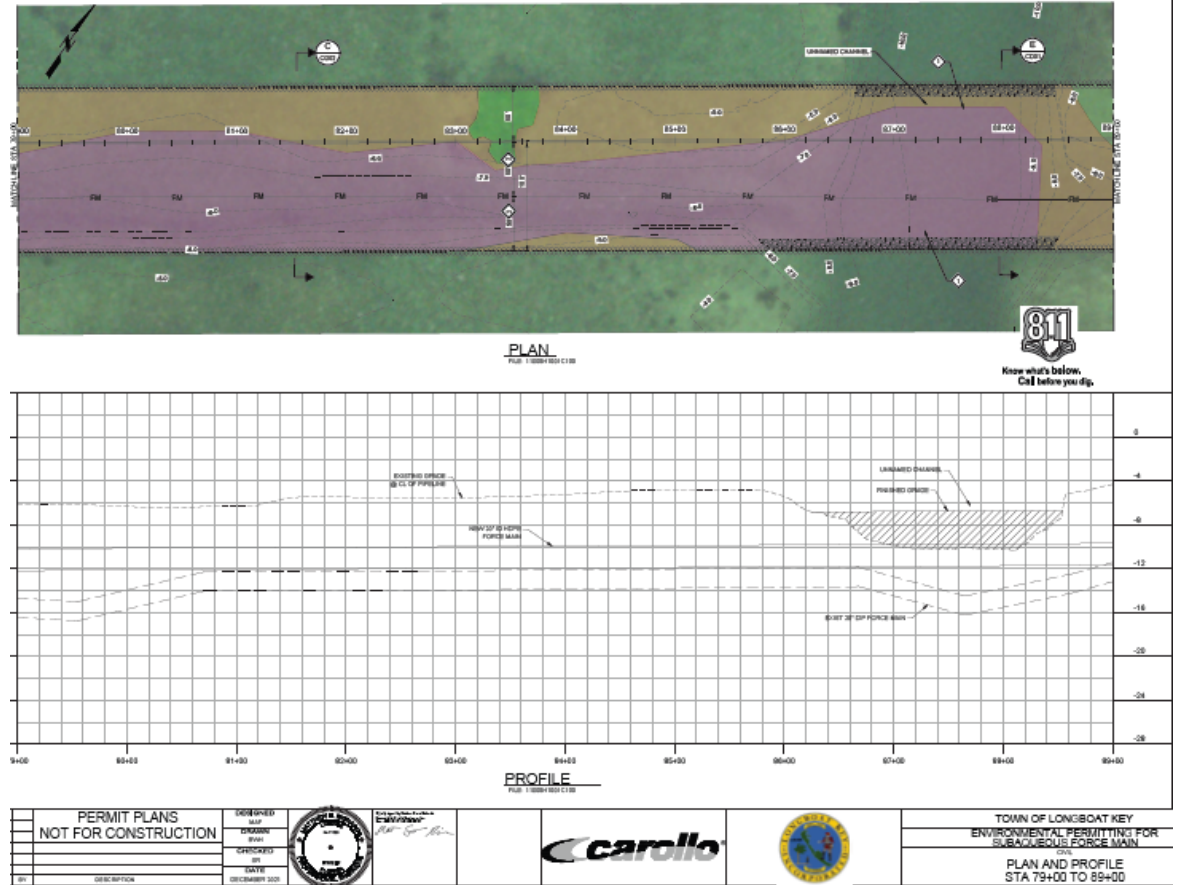
# Sub-Aqueous Force Main Permitting

## Town has received FDEP and U.S. ACOE permits:

- Open Cut Sarasota Bay
- Install a redundant subaqueous force main under Sarasota Bay.
- Town will have to perform sea grass and mangrove mitigation to open cut (8-acres and 1-acre, respectively).

## Town has programmed \$21.7 million over FY 2024 through FY 2025:

- Intent is to complete final design, obtain necessary easements, construct the new pipeline project, and construct the mitigation areas.
- Public Works is currently exploring construction delivery methods, options and related costs.





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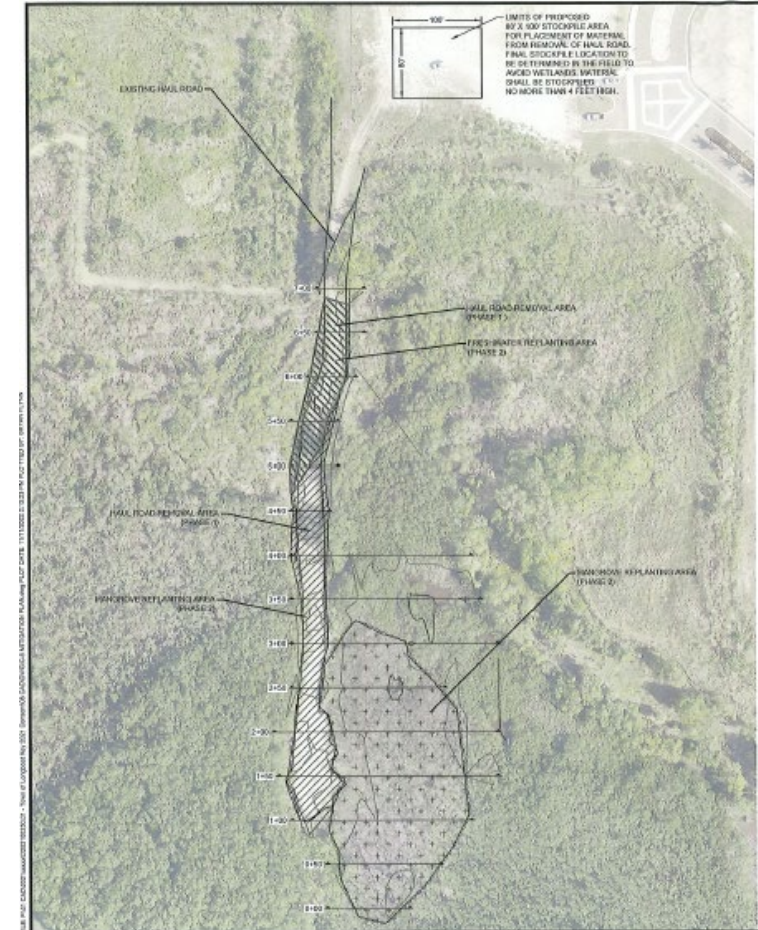
# Consent Order Update

## Town entered into a consent order with FDEP on February 24, 2021:

- All deliverables up to date. Quarterly updates to FDEP.
- In-Kind projects are complete (example picture below).
- Town's Restoration Plan for Long Bar Pointe approved:
  - Includes replanting mangroves, removing leak repair haul road, and restoring the surrounding wetland grades.



Lift Station "E" By-Pass Pump



Restoration area, imagery by ESA.  
Plan approved January 31, 2023





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# Consent Order Update (cont.)

Haul road removal from Long Bar Pointe, LLLP property:





# Mainland Force Main Lining Update

- Town granted two State appropriations in the amounts of \$1.25 million and \$800,000, respectively.
- Public Works engaged Murphy Pipeline Contractors to improve a mainland portion of existing force main north of Sarasota Bay:
  - Slip line with 18" High Density Polyethylene ("HDPE").
- Work began November 2022 and is substantially complete:
  - Lining from Manatee County flow meter at 53<sup>rd</sup> Ave. south into Long Bar Pointe
  - Approximately 5,500-feet of pipe
  - Stopped short of planned termination point (temporary access agreements not available prior to construction completion).
- Overall project cost is approximately \$2.64 million. This includes design, construction and construction oversight.
- Options being reviewed to continue further south along Long Bar Pointe property in anticipation of obtaining temporary access agreements from Long Bar Pointe.

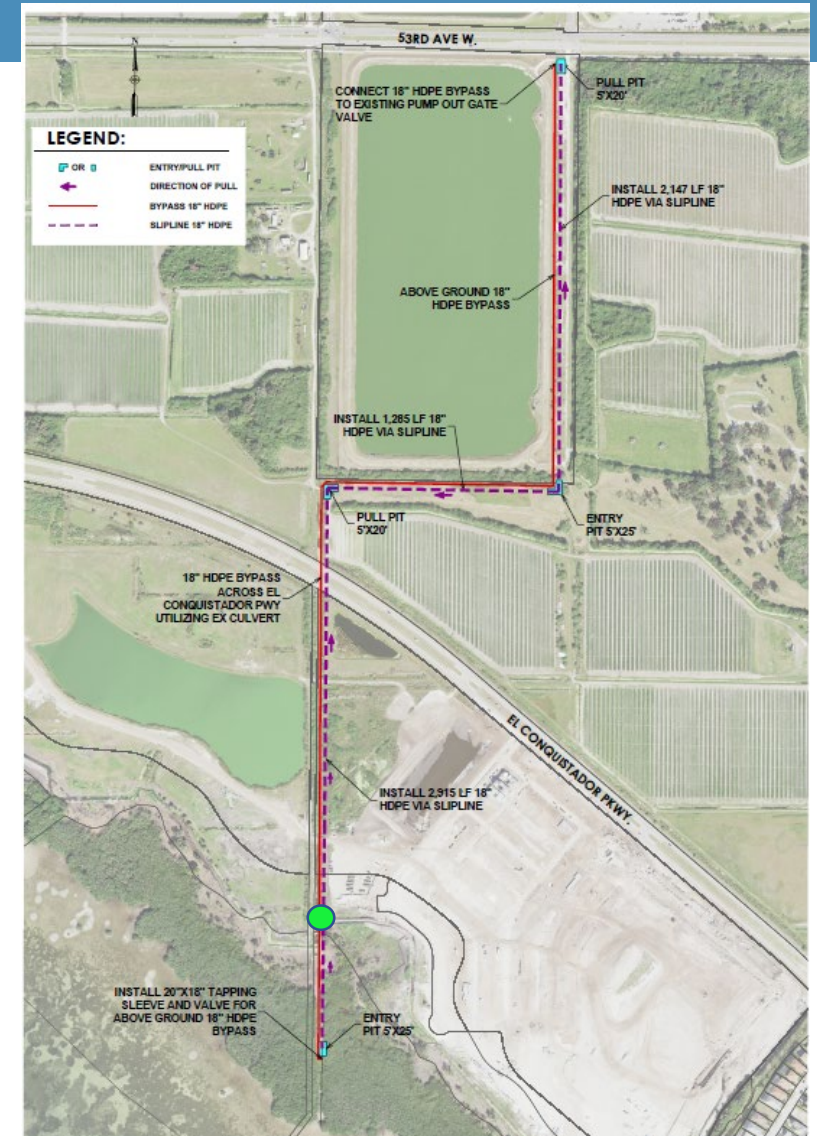


Exhibit – 1, by Chen Moore and Associates



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# Mainland Force Main Lining Update (cont.)

Dec 28, 2022 at 1:46:03 PM  
Bradenton FL 34210  
United States



Dec 29, 2022 at 2:06:30 PM  
Bradenton FL 34210  
United States



Dec 27, 2022 at 10:53:54 AM  
Bradenton FL 34210  
United States



Jan 3, 2023 at 9:49:45 AM

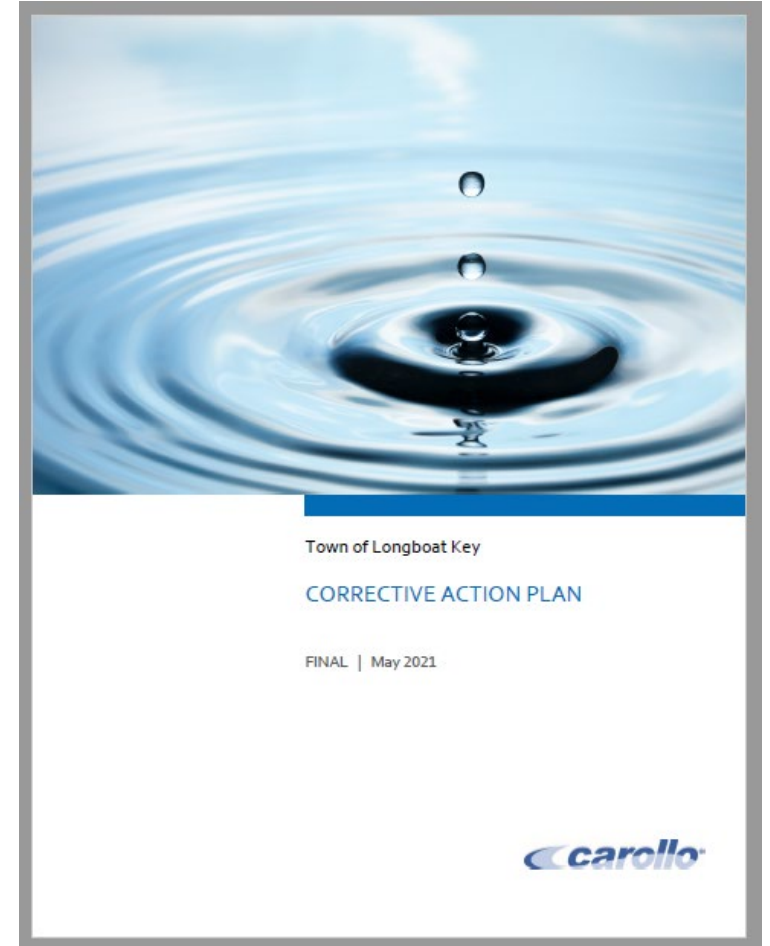




# Condition Assessment Update

## Perform condition assessment as planned and in accordance with Town's consent order

- Short-term assessment
  - Screening tools: Hydromax USA Nautilus for gas pockets and leak detection, V&A Consulting Engineers, Inc. using electro-potential survey for corrosion detection (mostly mainland), coupon extraction from the mainland lining project, and added dive testing.
- Work in progress
- Final report will be provided by Carollo Engineers anticipated Spring/ Summer 2023.





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# Condition Assessment Update

***Thank you!***

**End of Agenda Item**