

# **Hurricane Idalia St Armands Stormwater System**

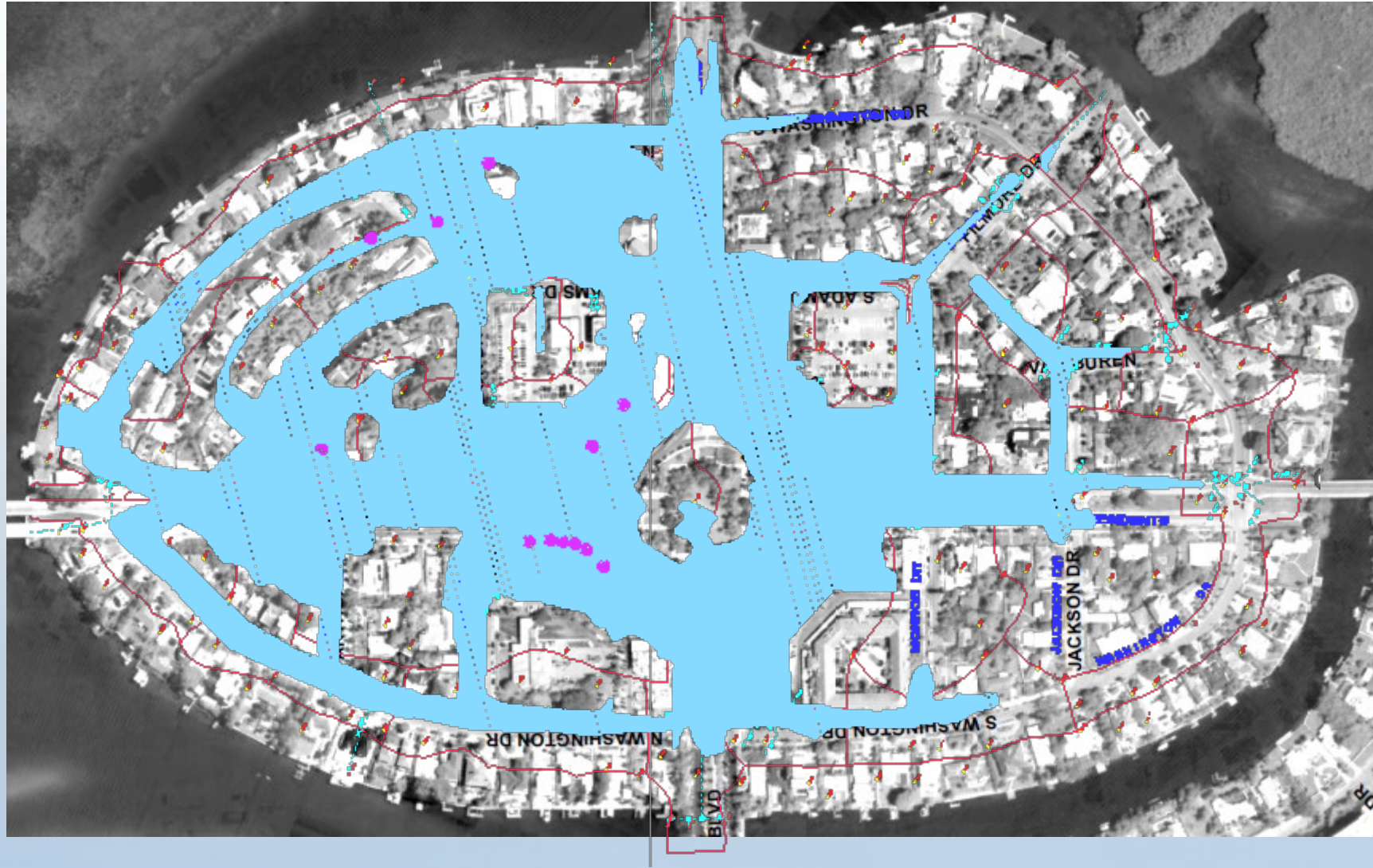
October 11, 2023

- The St Armands Stormwater System was constructed by Sarasota County in 2006 for the City of Sarasota
- Since that time, it has been operated and maintained by Sarasota County.
- Hurricane Idalia impacted the local area on Wednesday, August 30
- St Armands experienced significant flooding on Wednesday afternoon which receded or was pumped down by early Thursday morning.

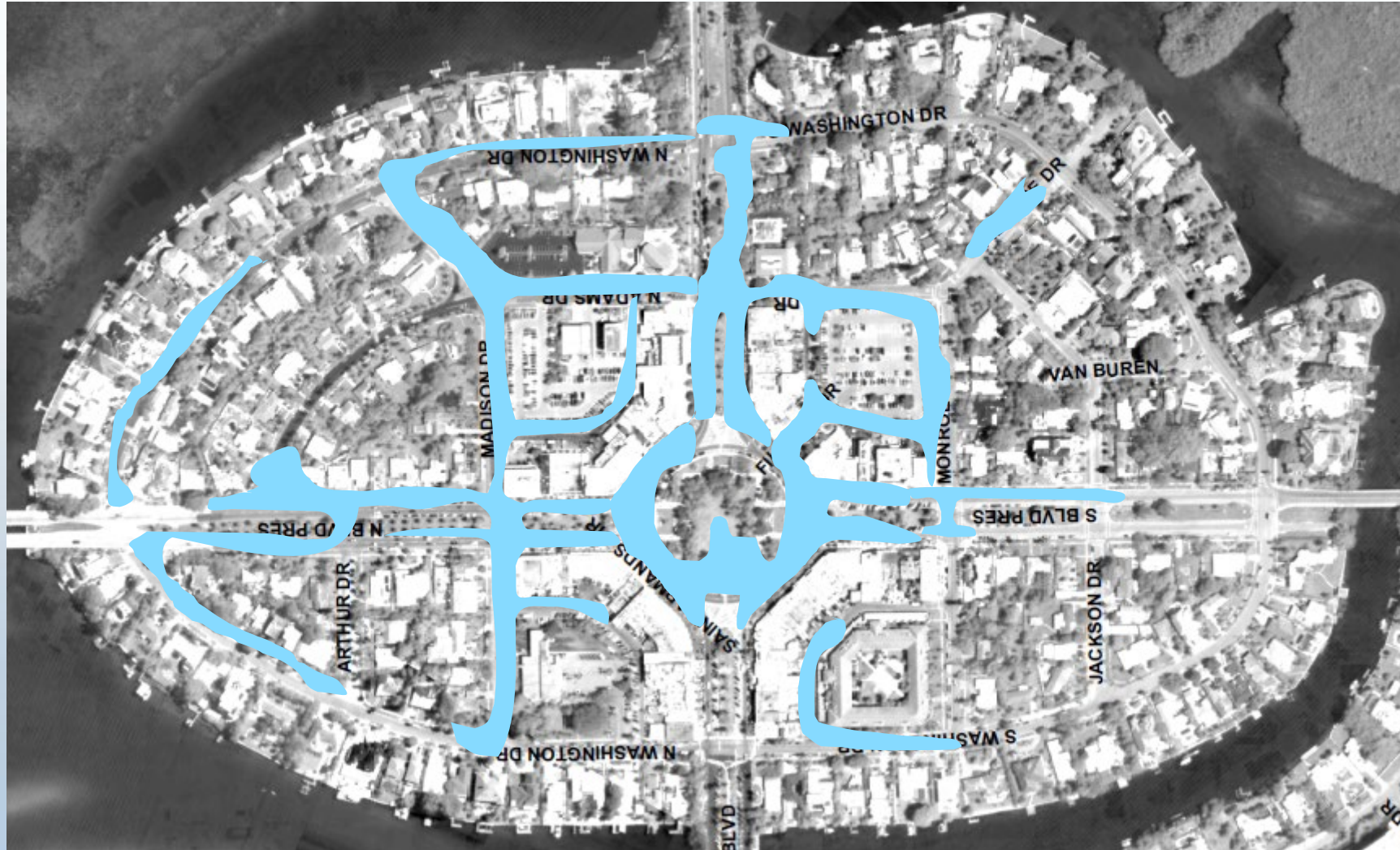
## System Design Level of Service (2006)

- No flooded structures in 25-yr, 24 hr storm event (8 inches of rain in 24 hrs)
- No roadway flooding in the 3-yr, 1 hr storm event (2.55 inches of rain in 1 hr)
- Design in excess of the above is not feasible due to expected storm surge in storm events greater than 25 yr, 24 hr that will overtop the island seawalls.

# Design Level of Service: Pre-Project Conditions



# Design Level of Service: Post-Project Conditions



## Stormwater Improvements - 2006

- 4 new pump stations, 1 rehabilitated pump station. 2 pumps per station.
- 9 new baffle boxes to collect suspended solids, yard debris, trash petroleum runoff prior to entering Sarasota Bay.
- 2 Emergency Generators and Control Centers.
- Multiple new stormwater structures and pipe sections.
- One-Way valves installed at each outfall to the bay to prohibit the surcharge of stormwater structures and flooding of low elevations during high tides.

# Location Map

## ST ARMANDS STORMWATER STRUCTURE LOCATIONS

PS: PUMP STATION  
NG: NORTH GENERATOR  
SG: SOUTH GENERATOR  
BB: BAFFLE BOX

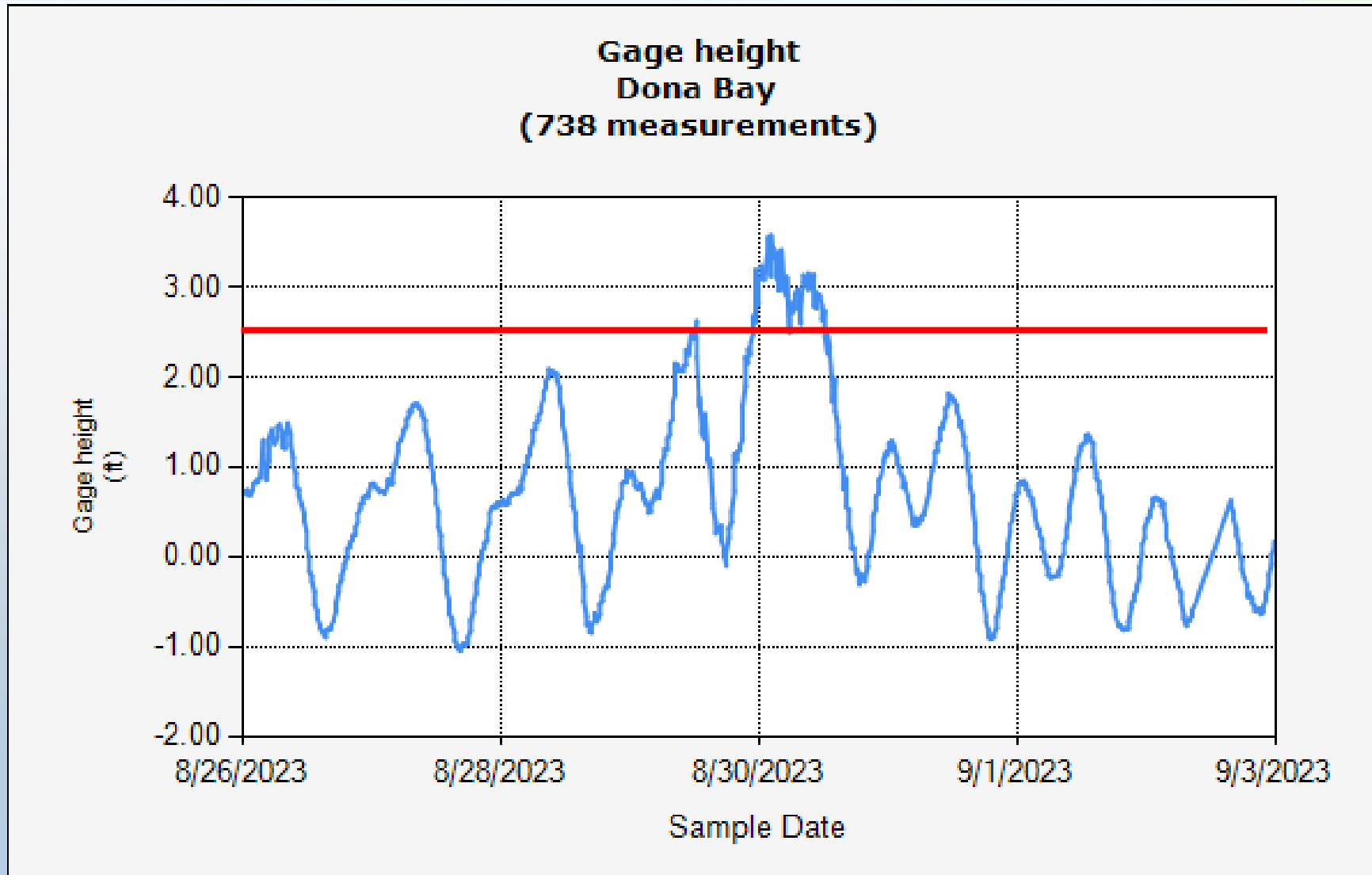


200

Feet



# Hurricane Idalia





# Hurricane Idalia

PS 105: Disabled at 4 AM 8/30/2023. Electric panel underwater

PS 175: Disabled at 4 AM 8/30/2023. Electric panel underwater

PS 2005: Power panel destroyed by a vehicle at 5 PM 8/28/2023. Mobile pump installed on 8/29/2023; Mobile pump disabled during the storm

PS 7010: Disabled at 6 PM 8/30/2023. Electrician determined the electric panel was underwater

PS3015: Still functioning

# Temporary Measures, Repairs and Improvements

- Mobile pump stations in place to provide adequate flood control.
- New pumps and electrical control panels contracted for installation by late November 2023 (due to fabrication time)
- New electrical control panels will be installed at higher elevation than existing panels.

## Summary

- Stormwater pumping system designed for rainfall events.
- Hurricane Idalia resulted in tidal and surge conditions that exceeded design criteria.
- Flooding conditions receded or were pumped down within 24hrs.
- Temporary pumping systems employed until repairs completed.
- Repairs include elevated electrical panels and new pumps.
- Resulting system will operate as designed.