A-5 WASTEWATER PUMP STATION CONVERSION AT BRADLEY PARK



PROJECT OVERVIEW





PROJECT SUMMARY



- A-5 wastewater pump station collects wastewater from Wells Rd to Whitehall Way, then is repumped by S-2 to WPB and eventually to ECR wastewater plant
- The station was due for upgrades and improvements based on condition
- Town received a Resilient Florida grant from FDEP for \$33,000 to elevate critical equipment to two feet above FEMA Base Flood Elevation and dry floodproof the station.
- Town had Kimley-Horn conduct structural analysis of the building to determine improvements needed for hardening and protecting interior components for resiliency
- Town reviewed new FEMA flood zone elevations with the grant requirements and Town Building Code.
- Town compared benefits and costs of hardening building vs. converting to a submersible pump station and demolishing building

FEMA FLOOD ZONE MAP



GEEMA FLOOD ZONE LOOKUP





New BFE: 7 + 2-ft = 9-ft NAVD

Current Finished Floor Elevation of A-5 = 7-ft NAVD (8.5-ft NGVD)

-Cannot raise critical equipment within building envelope per Town Building Code and FDEP grant



RESILIENCY STRUCTURAL ANALYSIS

 <u>Results:</u> The existing building that contains the electrical equipment and controls would require additional column bracing, additional reinforcement on all walls and wetwell/drywell bracing, and additional roof slab connection



MAINTAIN EXISTING BUILDING



- Some components of electrical equipment would be outside as the roof is not high enough to house them inside at the BFE + 2-ft
- More aged infrastructure to maintain over long term
- Town has plans to convert four (4) other stations to submersible in the next 5 years



CONVERSION TO SUBMERSIBLE PUMP STATION

- Demolish existing building
- Mount electrical equipment at nearby S-2 station
- Reuse existing wetwell
- Maintain landscaping or modify
- **BENEFITS**:
- Safer for staff to maintain/access
- Lower life-cycle maintenance costs
- Reduced visibility of above ground components







MAINTAIN BUILDING VS. CONVERSION TO SUBMERSIBLE



• <u>Maintain Building Option:</u>

- Cost to harden building: \$325,000
- Civil/Elec/Mech Improvements: \$1,548,000
- Engineering/Admin: \$585,000
- Contingency 25%: \$468,000
- TOTAL: \$2,926,000

- <u>Convert to Submersible Option:</u>
- Convert to submersible: \$974,000
- Civil/Elec/Mech Improvements: \$915,000
- Engineering/Admin: \$590,000
- Contingency 25%: \$472,000
- TOTAL: \$2,951,000

\$25,000 difference – but lower maintenance costs and safer for staff for long term

LANDSCAPE/PARK VIEW



• OPTIONS:

 1. Maintain existing landscaping as much as feasible and replace as-is upon completion of building demo and construction.

 2. Remove all or most existing landscaping and create new vista with water-view

*Both options will include screening of new electrical equipment

PHOTOS – SOUTH SIDE



Looking from South-east



Looking from South



PHOTOS – EAST SIDE



Looking from East



Looking from East/North-East

