



# BUILDING SUSTAINABLE UTILITY INFRASTRUCTURE

## Williamson Boulevard Reuse Line

Williamson Blvd between Dunn Ave and Mason Ave | Zone 4 | Sustainability & Environment

The Williamson Boulevard Reuse Line is a critical component of the City's Water Reuse Master Plan. It improves system reliability by creating a hydraulic loop by filling in a gap in the existing system.



The city is intentionally implementing a sustainable infrastructure system that connects our resources, protects our environment and benefits our future.





# Sustainable Infrastructure

## Alternative Water Supply

- Reduces drinking water demand due to use of reclaimed wastewater (reuse water) for irrigation, industrial and other uses.

## Water Quality

- Reduces nutrient loads to the Halifax River / Indian River Lagoon: 5,918 lbs/nitrogen annually and 1,972 lbs/phosphorous annually



## FAST FACTS



### IRRIGATION

Irrigation is ideal for water reuse and saves drinking water for consumption needs.



### NUTRIENT LOAD REDUCTION

Less nutrients entering the Halifax River / Indian River Lagoon means a healthier river.



### PURPLE PIPES

Purple is a color used to easily identify reuse lines from other utility pipe systems and to indicate it is not for consumption.

# 2,200

### FEET OF WATER MAIN

Used to construct the reuse line along Williamson Blvd.



## PARTNERSHIPS / COLLABORATIVE

### St. Johns River Water Management District (SJRWMD)

Executive Director, Ann B. Shortelle, Ph.D.  
Governing Board Chairman, Douglas Burnett  
Governing Board Treasurer, Ron Howse  
Governing Board, Susan Dolan  
Governing Board, Douglas C. Bournique  
Governing Board, Daniel Davis

### COMMUNITY USERS

Residents  
Tourists  
Businesses

### CITY OF DAYTONA BEACH

Derrick L. Henry, Mayor  
Jim Chisholm, City Manager

### CITY COMMISSION

Zone 1 Commissioner, Ruth Trager  
Zone 2 Commissioner, Aaron Delgado  
Zone 3 Commissioner, Quanita May  
Zone 4 Commissioner, Robert A. Gilliland  
Zone 5 Commissioner, Dannette Henry  
Zone 6 Commissioner, Paula R. Reed

TOTAL COST  
**\$990,635**

GRANTS AWARDED  
SJRWMD: \$368,353



#worldfamousDB  
@DBcitynews

FOLLOW US:





# REUSE TANK KEY TO COST EFFECTIVE SUSTAINABLE WATER SUPPLY

## 2.5 Million Gallon Reuse Tank

129 Valor Blvd | Zone 4 | Sustainability & Environment

The 2.5 million gallon water reuse tank is a critical component of the City's Water Reuse Master Plan. It will allow the City to meet growing irrigation demands within the utility service area and is a part of the reuse system expansion.



The city is intentionally implementing a sustainable infrastructure system that connects our resources, protects our environment and benefits our future.





# Sustainable Water Supply

- Conservation** • By using reclaimed water, our community can conserve traditional freshwater supplies.
- Wide Variety of Uses** • Reclaimed water can be safely used for a wide variety of purposes, including industrial uses and landscape irrigation for golf courses, parks, highway medians, and residential properties.



## FAST FACTS



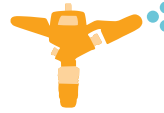
### BENNETT SWAMP RESTORATION

Reuse water is a safe resource being used to restore the Bennett Swamp wetland in Daytona Beach.



### NUTRIENT LOAD REDUCTION

Reuse tanks can help prevent nutrients entering the Halifax River / Indian River Lagoon creating a healthier river.



### PROVIDING IRRIGATION

Stores reuse water for irrigation which conserves fresh, drinking water for homes and businesses.



### WATER PROTECTION

Reuse water allows the City to help protect and further extend Florida's overall water supply.



## PARTNERSHIPS / COLLABORATIVE

**St. Johns River Water Management District (SJRWMD)**  
Executive Director, Ann B. Shortelle, Ph.D.  
Governing Board Chairman, Douglas Burnett  
Governing Board Treasurer, Ron Howse  
Governing Board, Susan Dolan  
Governing Board, Douglas C. Bournique  
Governing Board, Daniel Davis

## COMMUNITY USERS

Residents  
Tourists  
Businesses

## CITY OF DAYTONA BEACH

Derrick L. Henry, Mayor  
Jim Chisholm, City Manager

## CITY COMMISSION

Zone 1 Commissioner, Ruth Trager  
Zone 2 Commissioner, Aaron Delgado  
Zone 3 Commissioner, Quanita May  
Zone 4 Commissioner, Robert A. Gilliland  
Zone 5 Commissioner, Dannette Henry  
Zone 6 Commissioner, Paula R. Reed

TOTAL COST  
**\$3,744,885**

GRANTS AWARDED  
SJRWMD: \$1,351,972

**worldfamousDB**

#worldfamousDB  
@DBcitynews

FOLLOW US:



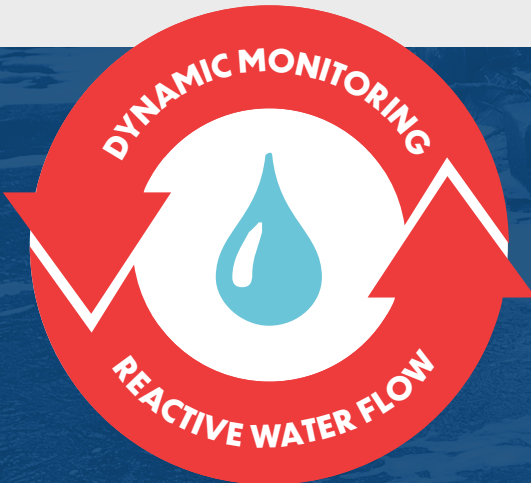
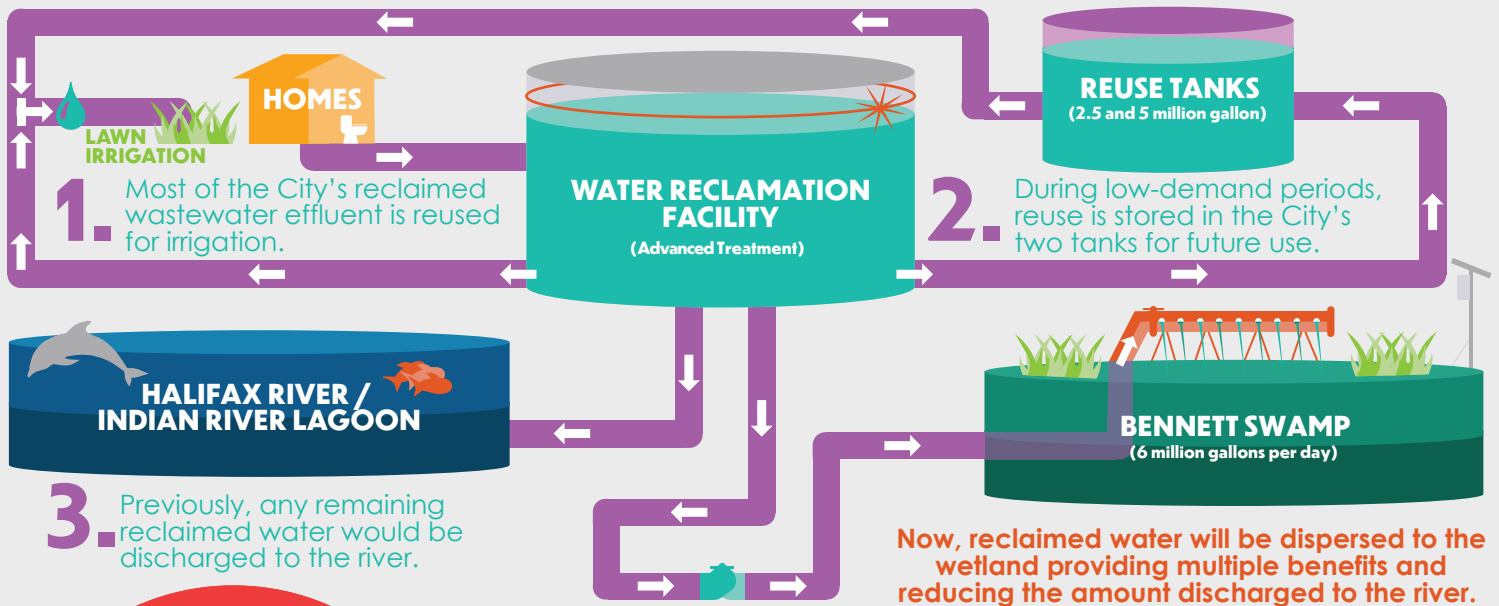


# PROJECT OFFERS FAR-REACHING ENVIRONMENTAL BENEFITS

## Bennett Swamp Rehydration & Conservation Project

3654 LPGA Blvd | Zone 4 | Sustainability & Environment

This project was conceived by the City of Daytona Beach in discussion with the St. Johns River Water Management District during the update of the Central Springs and East Coast Regional Water Supply Plan. It is now a component of the City's long-term water reuse approach.



## Advanced Hydration System

The City constructed an advanced hydration system that is permitted to redirect and disperse 6 million gallons per day of reclaimed water in several locations of Bennett Swamp. The actual dispersal rate will be determined by the availability of water and the monitoring results.

A network of 19,000 l.f. pipes, dispersal units, valves and meters will:

- Regulate flows throughout the system to beneficial levels
- Allow for seasonal resting in zones
- Direct water to areas of the swamp that benefit the most

The city is intentionally implementing a sustainable infrastructure system that connects our resources, protects our environment and benefits our future.





# Enhancing our Natural Systems

**Wetland Restoration** • Creates a healthy ecosystem for numerous species  
 • Enhances 1,425 acres of Bennett Swamp wetlands

**Water Supply** • Recharges the Sole Source Aquifer  
 • 6 million gallons of recharge = drinking water for 85,000 people  
 • Provides 0.11 foot of rebound (8.46% of recovery needed) to the minimum flows and levels of Indian Lake.

**Water Quality** • Reduces nutrient loads to the Halifax River / Indian River Lagoon

INDIAN RIVER LAGOON  
**NITROGEN REMOVAL**

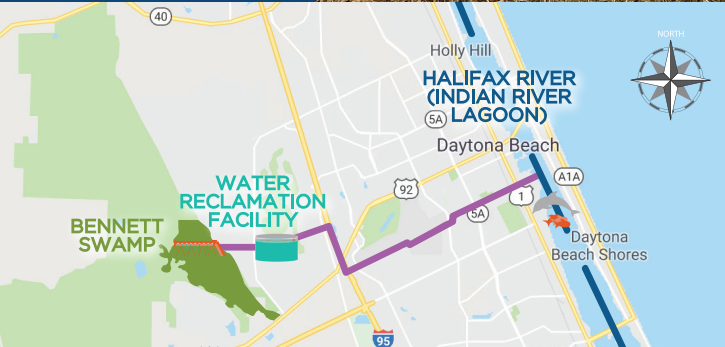
**45,000 lbs.**  
 EPA impaired waters mandate

**54,000 lbs.**  
 removed with 6 MG of reuse in Bennett Swamp

**108,000 lbs.**  
 potential with 12 MG of reuse in Bennett Swamp



**Dispersal Unit**



**Meter Assembly**

## FAST FACTS



**SATELLITE TELEMETRY**  
 Installed to transmit real-time reuse flow data to the plant



**SOLAR ENERGY**  
 Used to power the telemetry and pumps in the swamp



**FIRE HYDRANTS**  
 Installed throughout swamp to aid in the control of forest fires

**1,425**

**ACRE FLOWAGE EASEMENT**  
 Only 2.1 acres temporarily impacted during construction. Project expandable to 12 million gallons per day with no additional construction needed in swamp.



**Satellite Telemetry**

TOTAL COST  
**\$5,336,544**  
 GRANTS AWARDED  
 FDEP: \$2,567,827  
 SJRWMD: \$1,761,060

## PARTNERSHIPS / COLLABORATIVE

**Florida Department of Environmental Protection (FDEP)**  
 - Funding Partner (50%)

**St. Johns River Water Management District (SJRWMD)**  
 - Joint Land Owner  
 - Funding Partner (33%)  
 - Flowage Easement

**Florida Forest Service (Division of Forestry)**  
 - Land Manager: Tiger Bay State Forest

**City of Daytona Beach**  
 - Conceive, Design, Construct, Operate and Monitor Project

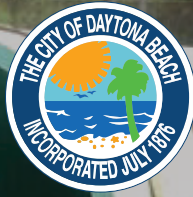
**State of Florida Trustees of the Internal Improvement Trust Fund**  
 - Joint Land Owner  
 - Flowage Easement



#worldfamousDB  
 @DBcitynews

FOLLOW US:





# UPGRADED FORCE MAIN ALLOWS BEACHSIDE GROWTH & ENVIRONMENTAL PROTECTION

## Halifax River Crossing Sanitary Sewer Force Main

2010 S Peninsula Dr | Zone 1 | Sustainability & Environment

The City designed and constructed 2,406 linear feet of 30-inch force main under the Halifax River by horizontal directional drill replacing the single 24-inch force main that had exceeded its life span.



The city is intentionally implementing a sustainable infrastructure system that connects our resources, protects our environment and benefits our future.





# Increasing Longevity

## Growth & Redundancy

- The upgraded 30-inch force main provides additional capacity for projected growth on the beachside within the City of Daytona Beach, compared to the existing 24-inch pipe.

## Environmental Protection

- Replacing the aging 24-inch force main protects the Halifax River from potential environmental contamination associated with leaking pipes or potential breakage.



## FAST FACTS



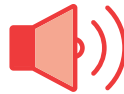
### PROACTIVE MEASURES

Taking proactive measures to replace the aging force main protected the Halifax River from potential contamination.



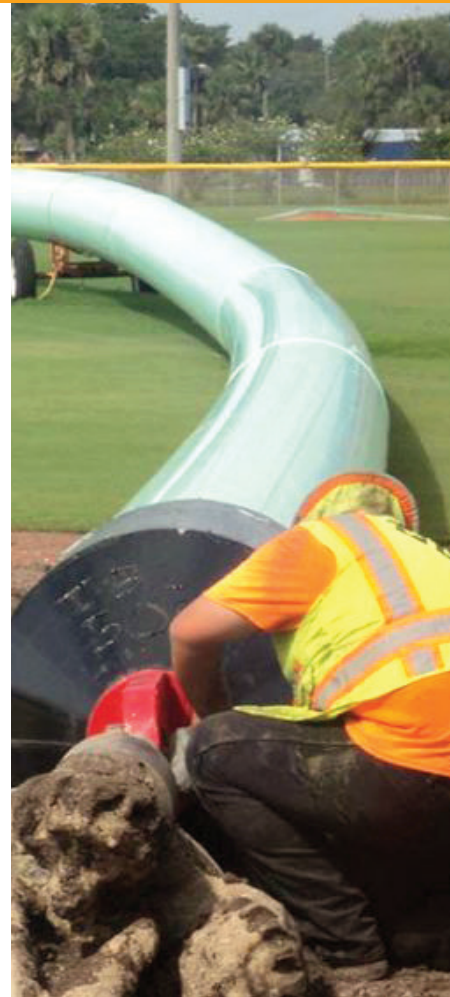
### BEACHSIDE SERVICE AREA

All of the sanitary sewer flow from the city's beachside service area flows through the Halifax River Crossing force main.



### NOISE ABATEMENT

A 16-foot-high by 660-foot-long sound barrier was built around the drill site to reduce construction noise during the span of the drilling.



## PARTNERSHIPS / COLLABORATIVE

### Florida Department of Environmental Protection (FDEP)

Noah Valenstein, Secretary  
Adam Blalock, Deputy Secretary for Ecosystems Restoration

### Division of Water Restoration Assistance

Trina Vielhauer, Director  
Joe Kahn, Program Management Director  
Jennifer Vickers, Budget Coordinator  
Adrienne Kidder, Administrative Assistant  
Traci Klepper, Outreach Coordinator

### COMMUNITY USERS

Residents  
Tourists  
Businesses

### CITY OF DAYTONA BEACH

Derrick L. Henry, Mayor  
Jim Chisholm, City Manager

### CITY COMMISSION

Zone 1 Commissioner, Ruth Trager  
Zone 2 Commissioner, Aaron Delgado  
Zone 3 Commissioner, Kelly White  
Zone 4 Commissioner, Robert A. Gilliland  
Zone 5 Commissioner, Dannette Henry  
Zone 6 Commissioner, Paula R. Reed

TOTAL COST  
**\$4,460,216**

GRANTS AWARDED  
FDEP: \$1,750,000



#worldfamousDB  
@DBcitynews

FOLLOW US: