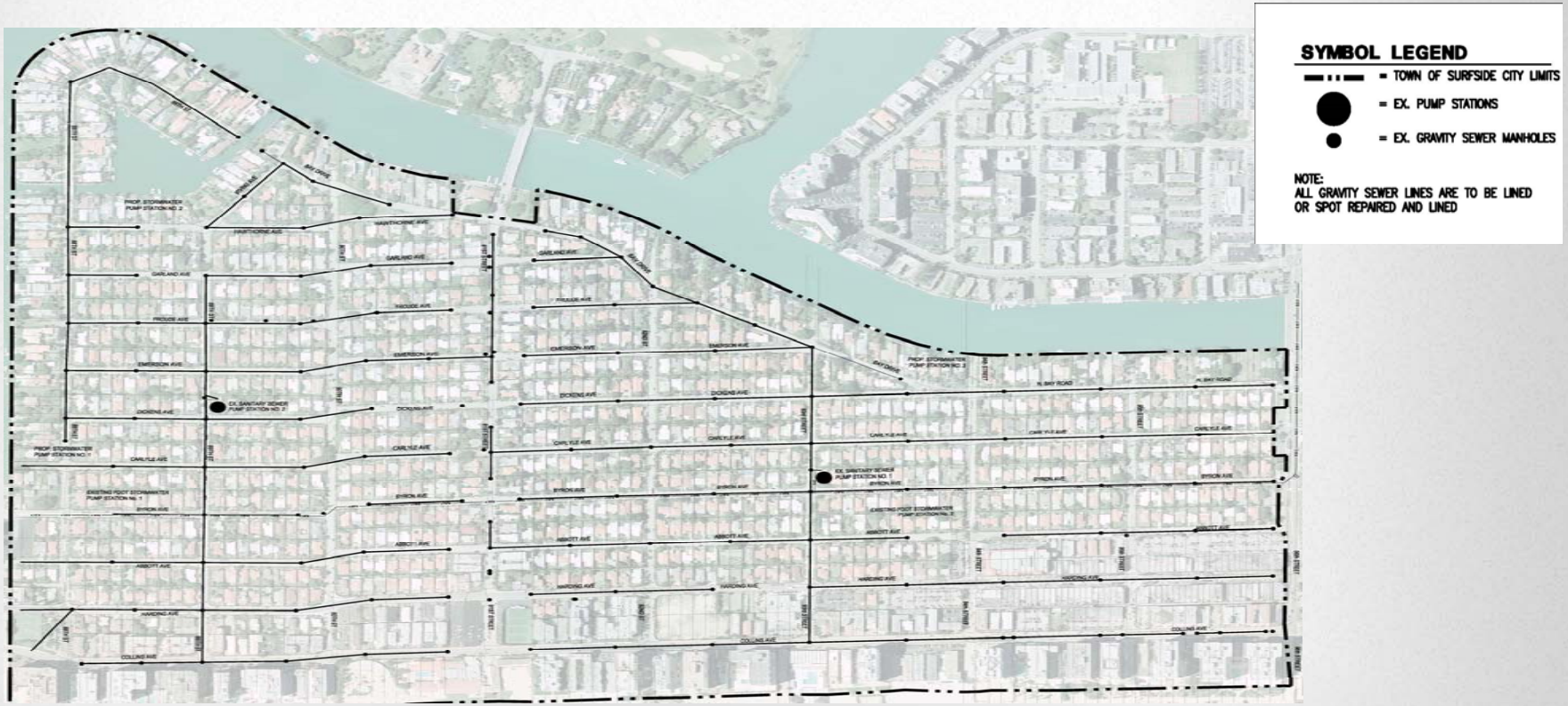
TOWN OF SURFSIDE UTILITY UPGRADE PROJECT

Project Completion

Calvin, Giordano & Associates, Inc.
EXCEPTIONAL SOLUTIONS

Project Overview

Sanitary Sewer System



Project Overview

Potable Water System

Project Overview

Storm Water System

Storm Water Improvements

Itemized Improvements

- **Construct three (3) new drainage pump stations including 6 new control structures**
  - Decrease pollutants entering Bay by 90%
  - Increase level of service
- **Install 5,500 LF of drainage piping & structures**
  - Increase level of service and interconnect backbone with wells
- **Replace 38,000 LF of curb & gutter (7.2 miles)**
  - Savings of $170,000 over standard pricing
  - Adjust elevations to reduce ponding
- **Mill & Resurface 167,000 SY of asphalt**
  - Adjust elevations to reduce ponding
  - Increase aesthetic appearance
- **Install 7 new flap gates**
  - Reduce impacts of high tide on drainage system
- **Install 4 manatee grates**
  - Reduce potential for wildlife entrapment
- **Total Drainage related Tax Savings Purchases**
  - $297,400

Storm Water Improvements

Drainage Images

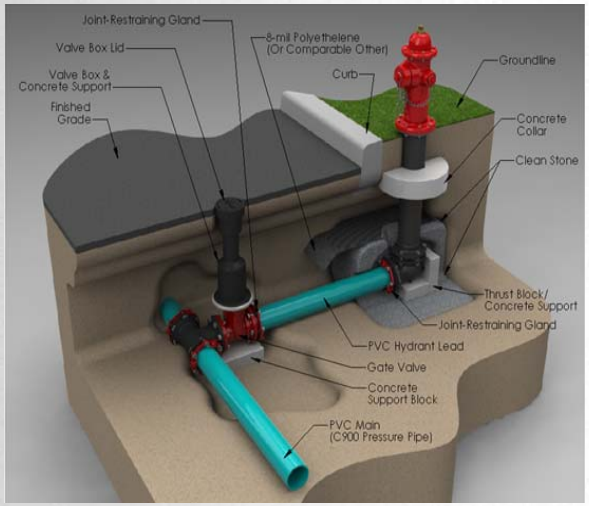
Potable Water System Improvements

Itemized Improvements

- **Install 37,050 LF of new water main (7 miles)**
  - Increased flow
  - Replaced tuberculated/calcified lines
  - Removed existing lead joints
- **Install 47 Fire Hydrants**
  - Increase fire department access points
  - Increase Towns ability to maintain/flush the water system
- **Installed 1,278 new water services**
  - Replaced tuberculated/calcified services
  - Increased existing undersized services
  - Allowed for installation of irrigation meters
- **Installed 1,603 meters with wireless transmitters**
  - Calibrated meters for accurate readings
  - Relocated to front of yard per code
  - Wireless meter readings-reduced labor costs
  - Early warning leak detection for residents
- **Total water system related Tax Savings Purchases**
  - $920,000

Potable Water System Improvements

Potable Water System Images



Gravity Sanitary Sewer Improvements

Itemized Improvements

- **Clean and Inspect 52,000 LF of existing Sewer Main**
- Work performed to ensure Town in compliance with Consent Decree
  - Identify areas of Inflow/Infiltration (I/I)
  - Identify areas of utility conflicts
  - Allow determination of rehab (line vs. replace)
- **Install CIP Liner in 46,600 LF of existing Sewer Main**
  - Reduced cost vs. replacement-Reduction of $3.2 Million in project costs
  - Installed from man holes, greatly reducing impact to residents
- **Replace 5,400 LF of existing Sewer Main**
  - Only performed in areas too damaged to line
- **CIP line or replace 1,453 sewer laterals (services)**
  - Addressed leaking services
  - Removed blockages in existing services
- **Install 1,453 locking lid cleanouts**
  - Tamper resistant/lower maintenance
  - Reduce I/I via watertight seal
- **Replace sanitary sewer bridge crossing to Biscaya**
  - Existing joints were severely misaligned
- **Total value held from contractor due to missed milestones**
  - $25,000

Gravity Sanitary Sewer Improvements

Gravity Sanitary System Images

Pumped Sanitary Sewer Improvements

Itemized Improvements

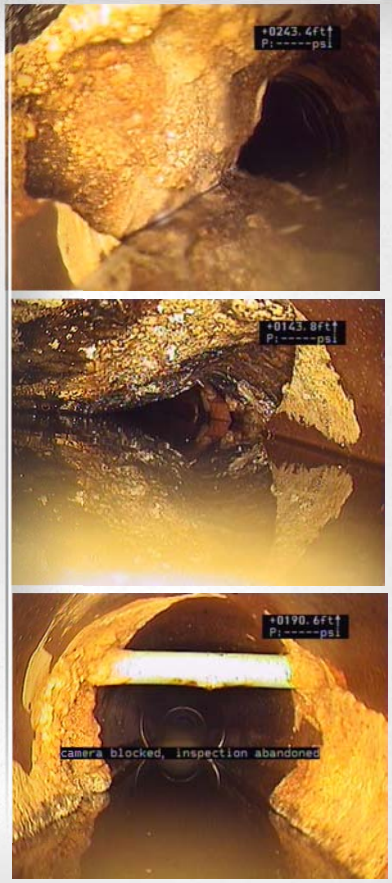
- **Complete rehabilitation of existing pump stations**
  - Constructed above 100 year flood plain
  - Work performed to ensure Town in compliance with Consent Decree
  - Installation of 4 new pumps (2 per station)
  - Installation of 2 new backup generators
    - In case of power loss
  - Installation of new SCADA and Mission 800 intelligent communications systems
    - Reporting of pump run times
    - Auto dialer in event of high water alarms
    - Reduce Sanitary Sewer Overflows (SSO)
- **Installation of 2 new force mains**
  - FM run from both Surfside pump stations to newly installed FM on Collins Ave.
  - FM lines are valved to allow use of Byron Ave FM in case of emergency

What did the Project Accomplish?

Sanitary Sewer System

Reduced Inflow/Infiltration=Cost Savings

- Lower Town Sewer Charges from Miami Beach and MD County
- Reduced the load placed on the sewer treatment facility
- Reduced electrical costs by reducing sewage volume
- Reduced the amount of treated sewage being disposed of in the deep injection wells and ocean outfalls.
- Reduced sewage leaking into the groundwater/Biscayne Bay
- Comply with Consent Decree /Consent Agreement requirements
- 30 to 50 year service expectancy



What did the Project Accomplish?

Sanitary Sewer System

Pump Station Reconstruction

- Lower Town electric charges from Town pump stations by installing more efficient pumps
- Reduce maintenance costs by installing new pumps and generators
- Adding green park space to the Town by installing Town Dog Park
- Increased level of service and improved reliability
- Comply with Consent Decree /Consent Agreement requirements
- Emergency preparedness with stand-by generator
- 30 year life expectancy

What did the Project Help Avoid?

Water & Sewer Breaks

- Property Damage
- Loss of Service
- Environmental Impacts
- Road Closures
- Expensive Repairs

What did the Project Help Avoid?

Potential Fines and Fees

- We are working in compliance with the consent agreement
- To avoid fines and fees which can be levied by the consent decree

What did the Project Help Avoid?

Wireless Water Meters

- Alert Town of potential leaks within an hour thus reducing water bills.
- Remove the need for a meter reader-reducing costs.
- Meters located in front of yard to comply with MD County Codes

What did the Project Help Avoid?

Sanitary Sewer Overflows

- Environmental Impacts
- Recreational Area Closures
- Fines and Fees
- Health Risks

Current Status

- **Potable Water System (new mains, services, meters, valves)**
  - Completed and as-builts received
- **Roadway Milling and Resurfacing & Permanent Striping**
  - Completed (except portion held up by FDOT)
  - 88th St traffic median installed
- **Pumped Sanitary Sewer System**
  - Houses demolished – new wet and dry wells installed
  - Pumps & generator complete
  - Dog Park installed (93rd St only)
  - Pending final inspection for controls and data collector
  - Pending final as-builts
  - Pending final punch list
- **Gravity Sanitary Sewer System**
  - All point repairs completed
  - All main liners installed
  - All service laterals replaced or lined (pending grouting)
  - All new cleanouts installed
- **Gravity Drainage**
  - Completed and as-builts received
- **Pumped Drainage**
  - Pumps installed and tested
  - Pending final inspection of controls and data collectors
  - Pending final punch list

Current Status

- **Drainage Systems**
  - FDOT System was not functioning from April – June 26th
  - FDOT System was down for June 7 heavy rainfall
  - All Coastal Cities flooded –Surfside streets were passable hours before other municipalities.

- **Recent Rain Activity/Flooding**
  - April Average Monthly Rainfall-3.14”
  - April 2013 Monthly Rainfall-5.14”
  - Increase of 2” over average
  - Of the 5.14”that fell in the month, 2.33” fell in only 12 hours
  - High intensity rainfall coupled with high spring tides

Grant Money Awarded

- **FDEP Grants**
  - S0374 - $873,500
  - LP6787 - $125,000
  - LP8979 - $100,000
- **Building Better Communities Bond (BBC)**
  - $859,000
- **State Revolving Fund (SRF)**
  - $9,312,881
- **Grand Total = $11,270,381**

Warranties & Guarantees

Contractors Responsibility/ Obligations

- 100% Performance Bond
- 100% Payment Bond
- 1 Year Warranty Bond
- 1 year after final completion, Contractor must perform warranty video of the gravity sewer system and make any required warranty corrections