

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In Re: Application for Original Certificate of Authorization and Initial Rates and Charges for Water and Wastewater Service in Duval, Baker and Nassau Counties, Florida by FIRST COAST REGIONAL UTILITIES, INC.

DOCKET NO. 20190168-WS

NOTICE OF FILING

First Coast Regional Utilities, Inc., by and through its undersigned attorneys, hereby gives notice of filing its Rebuttal Testimony of Paul Gandy, PE, in the above-referenced docket.

Respectfully submitted on this
31st day of July, 2020, by:

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By: 

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For the Firm

CERTIFICATE OF SERVICE

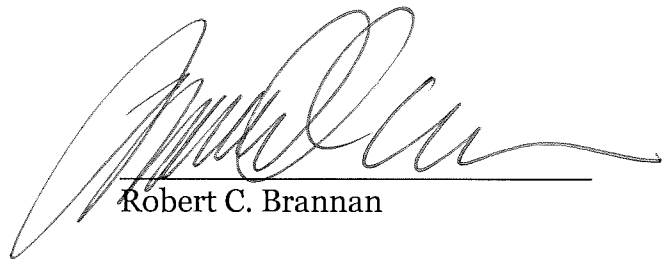
I HEREBY CERTIFY that a true and correct copy of the foregoing has been furnished via email on this 31st day of July, 2020, to:

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Robert C. Brannan

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Application for original Certificate of
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Docket No.: 20190168-WS

REBUTTAL TESTIMONY

OF

PAUL GANDY, P.E.

ON BEHALF OF

FIRST COAST REGIONAL UTILITIES, INC.

1 **Q. Please state your name, profession and address.**

2 A. My name is Bernard Paul Gandy, PE. My address is 6001 Broken Sound Parkway NW, Suite
3 610, Boca Raton, Florida 33487. I am a professional engineer, licensed in the state of Florida,
4 and am President and Chief Executive Officer of Globaltech, Inc., a design-build company

5 **Q. State briefly your educational background and work experience.**

6 A. I graduated from the University of Florida with a Bachelor of Science in Mechanical
7 Engineering. I am a certified Professional Engineer, plumbing contractor, mechanical
8 contractor, general contractor and an underground utility and excavation contractor. I am
9 also a Designated Design-Build Professional by the Design-Build Institute of America
10 (“DBIA”).

11 **Q. What is your area of expertise?**

12 Globaltech is an integrated design-build company serving Florida with water and wastewater
13 utilities. I founded Globaltech in 1995, after successfully serving with a large international
14 consulting firm providing engineering and construction services for public and private
15 utilities nationally, and in Florida and the Caribbean. For over 25 years, we have provided
16 consulting engineering, construction management, design-build, and commissioning services
17 for small and large utilities alike. I can state with pride that I have pioneered the use of
18 continuing contract and progressive design build efforts in the south Florida utility market.
19 My years of expertise include planning, design, and construction of all facets of water and
20 wastewater treatment, as well as collection and distribution, hydraulics, fluids handling, and
21 pumping. In 2019, Globaltech was awarded the Design-Build Water/Wastewater Project of
22 the year by the DBIA, Florida Chapter, for a 3-year design-build contract with the Palm Beach
23 County Water Utilities Department.

24 **Q. How did you become involved with First Coast Regional Utilities, Inc.?**

25 A. I have known and worked with First Coast leading engineer, Bevin A. Beaudet, PE, for over

1 25 years. Mr. Beaudet asked me and my firm to serve on his team and to assist with the
2 Feasibility Study for First Coast, as regards meeting the water, wastewater and reuse utility
3 needs of the 301 Capital Partners, whose properties are located generally on the west side of
4 US 301 and the on south of Interstate 10 in the far western extremities of Duval County and
5 portions of Baker and Nassau Counties.

6 **Q. Tell us about some of your projects, particularly as they would relate to the needs of**
7 **First Coast.**

8 A. My project history includes designing, constructing, and commissioning water, wastewater,
9 and reuse (“Irrigation Quality”) treatment facilities for government, district, and private
10 utilities. Our projects are designed in strict compliance with local, state, and federal
11 environmental regulations. Treatment processes and materials selection, as well as
12 construction standards, are first rate and are selected based upon ability to meet treatment
13 objectives, a long view of the life cycle cost analysis, high level of reliability, and long-term
14 asset value. We count among our continuing clients the Palm Beach County Water Utilities
15 Department, Seacoast Utility Authority, Fort Pierce Utility Authority, City of Boynton
16 Beach, Coral Springs Improvement District, City of Lake Worth, City of Riviera Beach, and
17 Florida Power & Light, to name a few. For each of these clients, we have consistently met
18 their exacting standards and completed projects with elements similar to what is required for
19 the First Coast Utility project.

20 **Q. JEA Witness Robert Zammataro has testified in this matter to the effect that privately**
21 **owned water and wastewater utilities tend to be substandard. In that regard, please tell**
22 **us about the instructions that the principals of First Coast and Mr. Beaudet gave to you**
23 **as regards this project.**

24 A. We planned the First Coast system to the highest standards. Those standards are in every
25 way equal to and, in many cases, better than typical municipal or county governmentally-

1 owned utilities in the state of Florida. At no time have the principals of First Coast or Mr.
2 Beaudet asked us to reduce the quality of the facilities proposed in order to reduce the cost.
3 In fact, their instructions to us have been exactly the opposite. They want us to design and
4 build a first-class system in every way and manner. This is smart on the part of the principals
5 of First Coast, in that, in the long run, the system will last much longer, the renewal and
6 replacements costs will be lower, and the cost of operation and maintenance will be lower
7 than those of a typical developer-owned system. Additionally, asset value will be ensured
8 over the long term.

9 **Q. Did you work with Mr. Beaudet on the timeline for the proposed First Coast utility**
10 **facilities?**

11 A. Yes. We estimated that the facilities can be ready to provide services in approximately thirty
12 months from the granting of a Certificate to First Coast.

13 **Q. Do you believe that the thirty-month estimate is reasonable?**

14 A. I do.

15 **Q. What is the basis for your confidence in that estimate?**

16 A. Over twenty-five years of designing, permitting, constructing and commissioning private
17 sector water and wastewater facilities in the State of Florida that are not subject to the
18 extensive financing and bidding procedures, and other time consuming processes mandated
19 by law for municipal and county infrastructure projects. The processes and procedures that
20 must be followed by governmental entities generally extend the timeline for similar projects
21 by a factor or two or more compared to a private project. Additionally, while the cost to bring
22 the municipal facilities themselves online may be comparable, navigating the process
23 generates significant costs.

24 **Q. Are you sponsoring any Exhibits?**

25 A. Yes, I am. I have attached my resumé, which is labeled BPG-1, and 17 graphic examples of

1 our projects which are described thereon and which are symbolic of the kind and quality of
2 design and construction that we will utilize in the case of First Coast as BPG-2. These
3 exhibits are offered under the old adage that “a picture is worth a thousand words”.

4 **Q. Does that conclude your rebuttal testimony?**

5 A. Yes, it does.

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Paul Gandy, P.E., DBIA

President / CEO

YEARS OF EXPERIENCE 35

AREAS OF EXPERTISE

- Design-Build Project Delivery
- Program/Project Management
- Process Mechanical (water and wastewater treatment)
- Large Capacity Pumping Stations
- Value Engineering
- Operation and Maintenance
- Construction
- Maintenance of Plant Operations

EDUCATION

B.S., Mechanical Engineering
University of Florida

LICENSURE / CERTIFICATIONS

Florida Professional Engineer
No. 37928

Florida Certified General Contractor
No. CGC 1507230

Florida Certified Mechanical
Contractor No. CMC 1249255

Florida Certified Plumbing Contractor
No. CFC 1427843

Florida Certified Underground Utility
and Excavation Contractor
No. CUC 1224907

Designated Design-Build Professional
(DBIA)

Paul Gandy has worked in the consulting engineering business for 30+ years. He has experience in the planning, design, and construction of all facets of water and wastewater treatment as well as collection and distribution, hydraulics, fluids handling, and pumping. He has been involved with projects ranging in size from under 0.1 million gallons per day (MGD) to over 100 MGD. Water treatment projects have included: raw water supply including wellheads, pumping & piping; lime softening facilities; filtration, sludge dewatering and handling; membrane softening, brackish/seawater reverse osmosis; in-plant pumping and chemical facilities; concentrate disposal systems; and ground storage, high service pumping, and standby power systems at these facilities. In addition to his many engineering and construction services projects,

Wastewater treatment plant projects include design for wastewater pretreatment for screening and grit removal, primary treatment, secondary treatment with aeration systems and clarification, sludge digestion, sludge dewatering and handling, odor control, effluent disinfection, effluent pumping, deep injection well disposal, reuse storage, and ocean outfall. Wastewater collection and pumping projects include the design of gravity sewers, lift station, and force mains.

Paul has been at the helm of Globaltech for over 25 years and has overseen the delivery of in excess of 250 design-build projects totaling over \$100M. Mr. Gandy has also been certified as a credentialed Design-Build Professional by the Design-Build Institute of America (DBIA).

FEATURED EXPERIENCE



PBCWUD Optimization & Improvements D/B
Continuing Services Contract / West Palm Beach, FL



Paul served as the Principal in Charge for this program, which is comprised of four 3-year term master continuing design build projects. The first master contract was approved in 2008 with subsequent contracts being issued in 2012, 2015 and 2019. For the 2015 design-build contract Globaltech was awarded the DBIA Florida Region Project of the year in the Water/Wastewater category.

The 2019 continuing contract is currently ongoing. Projects included a vast array of treatment and process related improvements for all unit processes involved at all of the County's major treatment facilities as well as various lift stations, wellfields, and remote pumping and storage facilities. For each of the contracts there were many tasks related to upgrade or replacement of electrical switchgear and emergency power diesel standby generator facilities. Project elements included gensets, fuel storage and delivery systems, structural and architectural support elements, switchgear, and building and environmental permitting. A total of 96 projects were delivered at a value of \$41,366,633.

Paul has specific involvement in the following additional projects, full project descriptions are included in Tab D, Company Overview/Qualifications of Firm.

City of Riviera Beach WTP Softener 3 Rehabilitation / *Riviera Beach, FL*

City of Riviera Beach Water Plant Improvements / *Riviera Beach, FL*

City of Riviera Beach Avenue C Repump Modifications / *Riviera Beach, FL*

FPUA Chemical Storage Improvements / *Fort Pierce, FL*

PBCWUD WTP 3 Chemical Improvements Phase 1 / *West Palm Beach, FL*

PBCWUD WTP 3 Chemical Improvements Phase 2 / *West Palm Beach, FL*

OTHER DESIGN/BUILD EXPERIENCE

LW Master Lift Station FY2020 Miscellaneous Improvements / *Lake Worth, FL*

SUA Hood Road WTP Process Evaluation / *Palm Beach Gardens, FL*

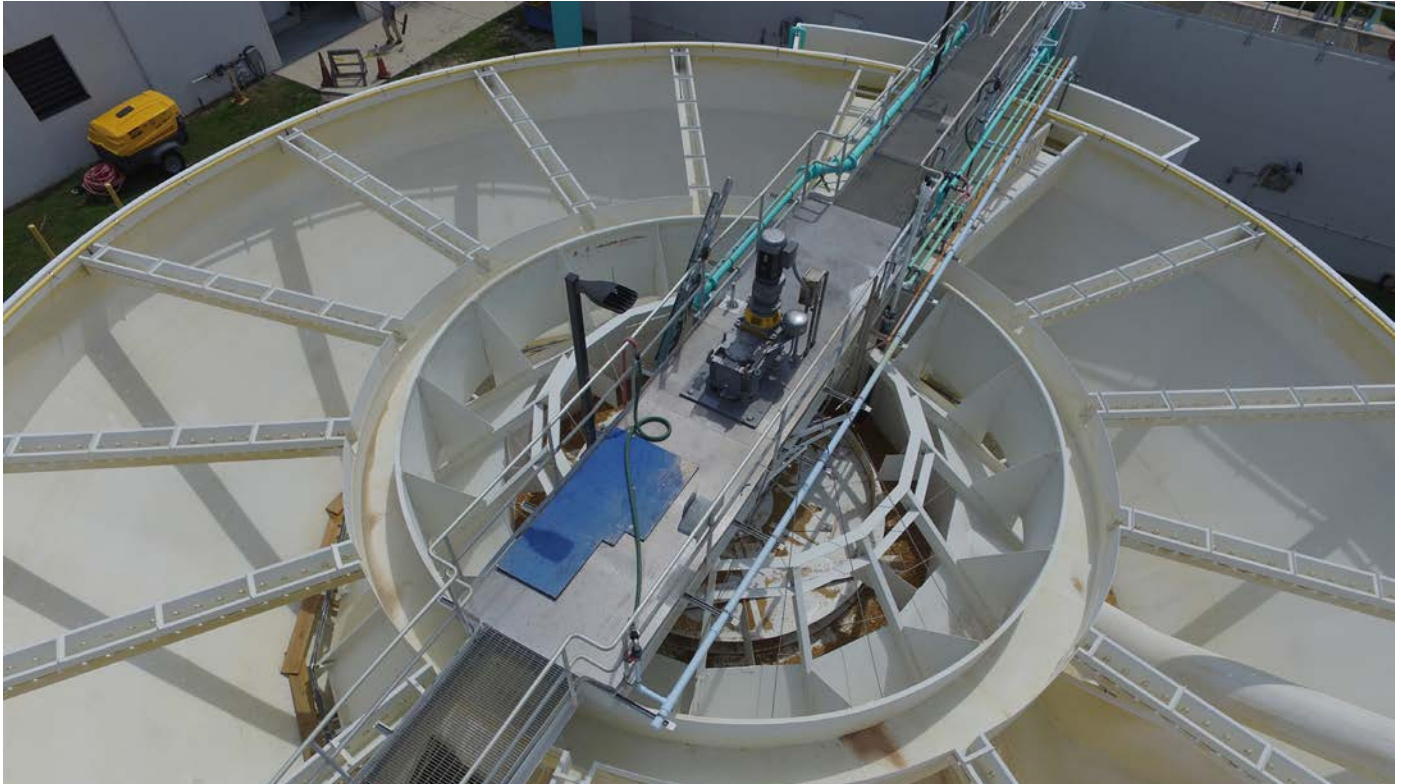
FPUA Construction Improvements to Electric HSP 2 / *Fort Pierce, FL*

SUA WWTP Headworks Improvements / *Palm Beach Gardens, FL*

SUA Lift Stations 19 and 68 Control Panel Replacements / *Palm Beach Gardens, FL*

SUA Lift Station 36 Replacement / *Palm Beach Gardens, FL*

SUA LPRO Interstage Boost & Energy Recovery Improvements / *Palm Beach Gardens, FL*



FPUA Design-Build Continuing Services Contract

Fort Pierce Utilities Authority / Fort Pierce, FL

Globaltech is now performing under its fourth consecutive multi-year continuing design-build contract with FPUA. Service Authorizations are issued for various regulatory compliance, fast track, emergency, and planned projects for improvements at FPUA facilities. To date, projects have totaled over \$14 million with no reported delays or budget overruns. All projects are designed, permitted and constructed by Globaltech as the single point of responsibility assisted by our subcontractors. Some of the more notable projects include:

- Installation of new sulfuric acid, sodium hydroxide and flouride storage and feed systems
- Rehabilitation and retrofit of Softeners 1 and 2 (Accelerators)
- Addition of chemical feed facilities, including a new standalone bulk hypochlorite storage and feed facility to replace the aging chlorine gas system Rehabilitation of filter media, piping, valves, pumps and controls in Filters 1 through 10
- 3.0 MGD expansion to the existing Floridan RO facility, including new 3.0 MGD RO skid, addition of chemical feed systems, degasifier transfer pumping, and high service pumping
- Installation of new ammonia storage, feed, and analytical equipment
- Repairs and rehabilitation to existing clarifiers and aeration basins at the WWTP
- Capacity expansion to existing RO skids 1 and 2
- Hurricane hardening in the aftermath of multiple hurricanes (new 2,000 KW standby generator, seawall replacement on Hutchinson Island, elevating pumping facilities at critical locations, hardening of critical buildings
- New combination diesel/electric 250 HP high service pump
- Two new 400 HP electric high service pumps with VFDs
- Construction of new surficial Wells 2, 4, 15, 16, 17, 18, and 19; Construction of new Floridan Wells 6 and 7
- Replacement of pumps and controls for three filter transfer pumps
- Painting and repairs to existing lime silo and installation of new bag house facility
- Various buried water main and valve replacement projects for piping

Client Contact

Keith Stephens
 Water Resources Superintendent
 Fort Pierce Utility Authority
 715 S 25th Street
 Fort Pierce, FL 34947
 (772) 466-1600 Ext. 4515
 kstephens@fpua.com

Project Timeframe

Globaltech is currently performing under its 4th consecutive multi-year continuing design-build contract.

Project Costs

Ranging from \$75,000 to \$3 million

Our Role

Design-Builder

ARUBA DEPARTMENT OF PUBLIC WORKS WASTEWATER TREATMENT PLANTS

As a subconsultant to Florida Aquastore, Globaltech provided process design, mechanical design, and services during construction for three separate wastewater treatment plants in Aruba.



SBR Treatment Units

Project Highlights

- **Wastewater Treatment**
- **Sludge Handling**
- **Effluent Disinfection/Filtration**
- **Odor Control**
- **Reuse**

Project Description

The \$18,000,000 design-build project included a 4.5 mgd expansion to an existing oxidation ditch WWTP (Bubali), a new 2.7 mgd SBR WWTP (Zeewijk), and a new 1.2 mgd SBR WWTP (Parkietenbos) that treats only high strength septage. Globaltech provided the design (specifications and drawings) for all three (3) WWTPs which included; headworks facilities, aeration treatment systems, clarification facilities, solids handling and dewatering systems, odor control systems, reuse systems, storage tanks and pump stations for each WWTP.

The headworks facilities included: influent screens, grit removal (centrifugal, detritor and rolling-aeration style system), grit conveyors, fat removal facilities, influent structure and septage unloading facilities. The aeration

treatment systems included two (2) sets of sequencing batch reactors, blowers and the addition of new mixer brushes and baffles to an existing oxidation ditch. Both primary and secondary clarifiers were installed. The solids handling systems included sludge storage tanks, mixers, gravity sludge thickening, sludge grinding, two (2) belt filter presses, a polymer system, and screw conveyors. All of the sludge dewatering facilities are located at the Parkietenbos WWTP while only sludge storage facilities are located at the other WWTPs. Biofilter odor control systems were installed at each plant. The reuse system at each plant included cloth disc filters, UV disinfection, reuse pumping and storage facilities.



Belt Filter Press

Client

John Welchel
Florida Aquastore
4722 NW Boca Raton Boulevard
Suite C102
Boca Raton, FL 33431
Phone: (561) 994-2400

Owner

Giovanni Trump
Department of Public Works
Oranjestad, Aruba
Phone: (297) 582-4700



PBCWUD Optimization & Improvements Design-Build Contracts

Palm Beach County Water Utilities Department / West Palm Beach, FL

Globaltech is currently completing work on our third consecutive continuing Design-Build services contract (2015-2018) with Palm Beach County Water Utilities Department (PBCWUD). Under this contract and the two previous ones, Globaltech has completed more than 90 design-build projects for various water and wastewater facility improvements.

Globaltech executed projects that needed to be expedited due to funding time limits, regulatory compliance, or near-emergency repairs. Others were executed to bring long-planned projects to fruition. The projects were designed, permitted, and constructed by Globaltech and our subcontractors.

For the 2015-2018 contract, tasks included process upgrades and replacements, process expansions for regulatory compliance, operational improvements, system-wide safety improvements, and pump system and controls upgrades. All improvements were executed in functioning facilities with critical on-line requirements. Permitting responsibilities included building department, FDEP (PB-CHD), and planning and zoning.

For all work, Globaltech served as the prime design-build contractor with responsibility for all aspects of contract performance. As a vertically integrated design-build company, Globaltech self-performed over 75% of all project work.

The total awarded dollar volume under the 2015-2018 contract is approximately \$15 million. Some of the more notable projects awarded under this contract have included:

- SRWRF Safety Improvements
- ECRWRF/FPL Reuse Facility Improvements
- WTP 11 Degasifier/Clearwell Modifications
- Pahokee Elevated Storage Tank Rechloramination
- WTP 11 Odor Control Improvements
- WTP 11 Floridan Wellfield Expansion
- WTP 11 Phase II Improvements
- WTP 3 Chemical Improvements
- WRWWTF Power Improvements Phase I
- System-wide Safety Improvements
- Belle Glade Water Storage Tank Improvements
- WTP 9 Permeate Flush

Client Contact

Vincent Riccobono, P.E.
 Construction Services Manager
 Palm Beach County Water Utilities
 8100 Forest Hill Boulevard
 West Palm Beach, FL 33413
 (561) 493-6000
 vmriccobono@pbcwater.com

Project Timeframe

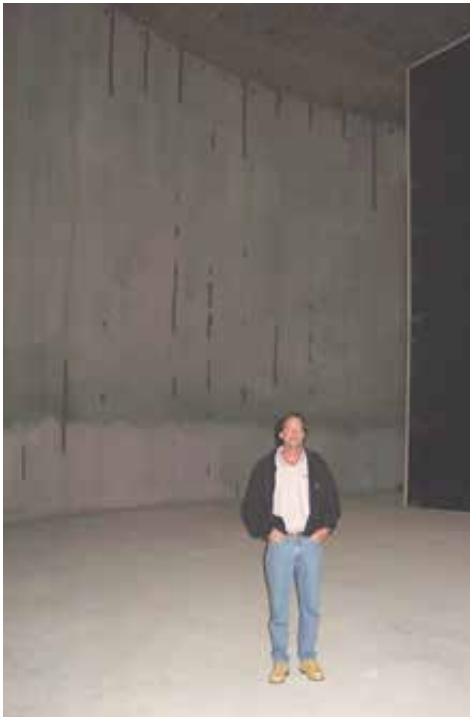
2015 - 2018

Project Costs

Ranging from \$200,000 to \$2 million

Our Role

Design-Builder



Cooper City Two Million Gallon Ground Storage Tank

City of Cooper City / Cooper City, FL

Because certain geographic areas were being annexed into the City of Cooper City's existing service area, the City anticipated that a new 2.0 MG ground storage tank (GST) and 4.0 MGD repump station would be needed to meet future fire flow and potable water storage requirements.

The City hired Globaltech as a design-build contractor to construct the initial component of the overall project—a prestressed concrete GST along Pine Island Road. The tank was constructed before the repump station in order to take advantage of favorable pricing from the tank manufacturer (CROM Corporation).

Globaltech permitted the project through the Broward County Health Department, Cooper City Building Department, and the South Broward Water District.

Project Achievements / Benefits

- The new 2.0 MG GST was an above-grade pre-engineered prestressed concrete tank with integral concrete base slab and domed concrete roof. It had a nominal diameter of 100 feet, side water depth of 34 feet 1 inch, total overall height of 45 feet 7 inches, and a wall thickness of approximately 6 inches.
- Tank accessories included a side wall manway hatch, dome fiberglass access hatch, tank outlet, interior piped tank overflow line, fiberglass ventilator at dome crest with dormer style screened vents at tank periphery, local level indication via a mechanical fiberglass liquid level indicator on tank exterior for visual level indication, remote level indication via ultrasonic level transmitter, and polypropylene baffle curtain.

Client Contact

Mike Bailey, Director of Utilities
City of Cooper City
11791 SW 49th Street
Cooper City, FL 33330
(954) 434-5519

Project Timeframe

5 months
Completed August 2006

Project Cost

\$785,000

Our Role

Design-Builder



FPUA Reverse Osmosis Plant – Phase 2 Expansion

Fort Pierce Utilities Authority / Fort Pierce, FL

In the mid-2000s, the Fort Pierce Utilities Authority (FPUA) identified the need to expand the treatment capacity of its reverse osmosis (RO) water treatment plant in order to meet a projected increase in demand. Under a design-build continuing services contract with FPUA, Globaltech permitted, designed, built, and commissioned the RO plant expansion. We also assisted the Authority in obtaining a grant from the South Florida Water Management District (SFWMD) for the project.

The existing plant consisted of two 2.0 mgd RO trains. These two trains were expanded by the addition of new membrane vessels and elements, boosting the capacity of each train to 2.25 MGD. A third larger 3.25 MGD RO train was added within the existing footprint of the membrane building.

The project also included installation of a fourth cartridge filter, third membrane feed pump, second degasifier and blower, and a third transfer pump. With blending of the raw water, the total capacity of the RO facility was increased to 10.27 MGD.

Project Achievements / Benefits

- The project nearly doubled the treatment capacity of the RO water treatment plant, from 5.33 MGD to 10.27 MGD.
- By agreeing to an 11-month completion schedule, Globaltech helped FPUA obtain a \$500,000 SFWMD alternative water supply grant. The project was fast-tracked, and Globaltech succeeded in meeting the deadline requirements of the grant program. The design began in September 2005 and construction was completed in September 2006.

Client Contact

Bo Hutchinson, P.E.
Director of Water/Wastewater Systems
Fort Pierce Utilities Authority
715 South 25th Street
Fort Pierce, FL 34947
Phone: (772) 466-1600
bhutchinson@fpua.com

Project Timeframe

11 months
Completed in September 2006

Project Cost

\$2.6 million

Our Role

Design-Builder



Corkscrew WTP 4.0 MG Storage Tank and Clearwell Addition

Lee County Department of Public Works, Utilities Division / Fort Myers, FL

Lee County needed to increase detention time of chloramine-treated finished water at its Corkscrew Water Treatment Plant in order to meet CT disinfection requirements. The County's Utilities Division chose Globaltech to design and implement the necessary water storage improvements. As part of the project, Globaltech provided value engineering options to reduce cost and improve operational flexibility.

During the construction phase, we installed a new, 4.0 MG, CROM prestressed concrete storage tank along with a new 36" DIP finished water pipe connecting the transfer pumps to the new tank. We provided baffles in the new 4.0 MG tank and in an existing 2.0 MG tank. We also installed new clearwell and transfer pumps and modified the existing transfer pump system. Finally, we provided new instrumentation to interface with one of three existing Allen-Bradley Control Logix PLC's in Citect format.

Project Achievements / Benefits

Globaltech's value engineering recommendations saved the County money and gave them more operational flexibility. For example:

- A parallel 18" finished water (FW) pipe was installed in lieu of replacing the existing 24" FW with a 36" FW main.
- Polypropylene baffle curtains were installed instead of concrete baffle walls in the new 4.0 MG ground storage tank and existing 2.0 MG ground storage tank. Polypropylene curtains are NSF approved and are more economical, easier, and faster to install.
- Perforated storage tank inlets were installed to increase baffling factor and to lower the number of baffles in both the new and existing storage tanks. Perforated inlet pipe provides dispersion of water in the storage tank and increases contact time. It also allows the storage tanks to operate in series without the addition of a costly new inlet pipe.

Client Contact

Luis Molina, P.G., P.E.
 Dept. of Public Works, Utilities Division
 Lee County Bd. of County Commissioners
 1500 Monroe Street
 Fort Myers, FL 33901
 Phone: (239) 533-8598

Project Timeframe

18 months
 Completed July 2009

Project Cost

\$2.9 million

Our Role

Design Builder



FPL WCEC Booster Pump Station and 30-Inch Interconnect

Florida Power & Light / Loxahatchee, FL

Florida Power & Light needed to increase the amount of potable water supplied by Palm Beach County Water Utilities to its West County Energy Center to meet elevated demands and overcome pressure deficiencies. In order to achieve this, FP&L retained Globaltech to design and build a potable water booster pump station at the entrance to the Center that would increase the water supply capacity from 2 MGD to a peak supply of 10 MGD.

This fast track project involved a new parallel 12-inch potable water main, parallel RPZ backflow preventers, and 150 HP HSC pump with field mounted VFD. Power, controls, and remote telemetry were included.

Globaltech also installed overhead 30-inch ductile iron interconnecting piping within the plant as the last phase of a 22-mile reuse main.

Project Achievements / Benefits

- Available flow and pressure to the new facilities was nearly doubled.
- The project was fast-tracked due to approaching start-up of new facilities. Global met the accelerated schedule, completing the project in 7 months.
- For commissioning of the 22-mile reuse main, Globaltech constructed a 36-inch flushing blow-off discharge outlet and flume at the Energy Center's holding lagoon and assisted with the flushing operation over several days.

Client Contact

Robert Leonard
Construction Manager
Florida Power & Light
700 Universe Blvd.
Juno Beach, FL 33408
(561) 685-8558
robert.leonard@fpl.com

Project Timeframe

7 months
Completed 2010

Project Cost

\$317,645

Our Role

Design-Builder



FPUA Sodium Hypochlorite Conversion and 4-Log Virus Treatment

Fort Pierce Utilities Authority / Fort Pierce, FL

In order to improve community and operator safety, FPUA wanted to convert its water treatment disinfection system at the Henry A. Gahn Water Treatment Facility from chlorine gas to liquid sodium hypochlorite. At the same time, FPUA wanted additional modifications made at the facility's reverse osmosis (RO) and lime softening (LS) plants so its treated water would meet the Four-Log Virus Treatment requirement of the EPA's Ground Water Rule—namely, to reliably achieve 99.99 percent inactivation or removal of viruses.

Globaltech was retained to permit, design, construct, and commission these disinfection improvements.

A new building was constructed for the sodium hypochlorite storage and feed system. Four 8,750-gallon nominal high-density polyethylene (HDPE) bulk storage tanks and four pump skids (8 pumps total) are housed inside the building. The four bulk tanks are capable of providing a 15-day supply of sodium hypochlorite to the LS and RO plants as allowed by FDEP.

Project Achievements / Benefits

- For the Four-Log Virus Treatment, baffle curtains were installed in the RO clearwell to increase chlorine contact time. Chlorine (sodium hypochlorite) injection points were added to provide a free chlorine residual prior to ammonia addition.
- Globaltech improved the existing direct feed ammonia gas system, included relocating the 1,000 gallon ammonia hydroxide storage tank and installing two new ammoniators with flow-pacing capabilities.
- A single ammonia injection point was installed downstream of where the water from the LS and RO plants combine.
- An ammonia residual analyzer (HACH APA 6000) and HF Scientific free chlorine analyzers were installed for Four-Log Virus treatment monitoring and flow-pacing of the chemical feeds.

Client Contact

Keith Stephens
 Water Resources Superintendent
 Fort Pierce Utility Authority
 715 S. 25th Street
 Fort Pierce, FL 34947
 Phone: (772) 466-1600 ext. 4515
 Email: kstephens@fpua.com

Project Timeframe

22 months
 Completed September 2014

Project Cost

\$1.8 million

Our Role

Design Builder



CSID WWTP Influent Screen Replacement

Coral Springs Improvement District / Coral Springs, FL

The Coral Springs Improvement District (CSID) was experiencing persistent pump clogging issues at its wastewater treatment plant (WWTP), requiring pump de-ragging maintenance at least every shift. The ragging material was passing through the existing 3/8" mechanical bar screen and coalescing into large clumps, resulting in pump ragging and other interferences in the wastewater treatment process.

CSID hired Globaltech, under a continuing design-build services contract, to conduct an engineering analysis, evaluate options, and install a replacement influent screen with finer screening capability and better reliability.

The existing influent screen was replaced with a new 6mm perforated plate automated 316 SS influent screen. A new stainless steel hopper was installed to direct the screenings to the existing washer/compactor. A new control panel was also installed.

The project required permits from the Broward County Health Department and the Florida Department of Environmental Protection (FDEP).

Project Achievements / Benefits

- Globaltech and CSID visited six other Florida WWTP facilities to inspect screen installations and gather comments from Owners. This data, combined with results of hydraulic and flow calculations, helped Globaltech recommend the right replacement influent screen to alleviate CSID's clogging issues.
- To install the new influent screen, the existing isolation gates were closed and the influent screen channel bypassed for one week. During that time, Globaltech coordinated construction work carefully to complete the screen removal, concrete work, screen installation, metal work, coating repairs, electrical, and I&C work to get the new influent screen operational within one week.

Client Contact

David McIntosh
Director of Utilities
Coral Springs Improvement District
10300 NW 11th Manor
Coral Springs, FL 33071
(954) 796-6614
davidm@csidfl.org

Project Timeframe

10 months
Completed August 2015

Project Cost

\$314,883

Our Role

Design-Builder



PBCWUD WTP 11 Production Wells 9 & 10

All Webb's Enterprises, Inc. / Belle Glade, FL

Working as a subcontractor to a Florida-based well-drilling company, Globaltech assisted in the creation of two new production wells at Palm Beach County Water Utilities Department (PBCWUD) Water Treatment Plant 11 in Belle Glade, Florida.

Globaltech's role was to:

- Construct underground HDPE pipelines from the existing raw water main
- Construct 316 SS wellheads, supports, and appurtenances
- Provide and install the power and control panels, including SCADA and telemetry, for the two new Floridan Aquifer wells (PW-09 and PW-10)

Project Achievements / Benefits

- The addition of wells PW-09 and PW-10 provided needed additional capacity to the existing wellfield supplying this water plant.
- Globaltech provided startup and commissioning services for pumps, controls, and SCADA systems.

Client Contact

David Webb, Jr.
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Project Timeframe

12 months
Completed May 2015

Project Cost

\$540,800

Our Role

Construction Subcontractor



CSID Production Wells 4 and 7 Replacement

Coral Springs Improvement District / Coral Springs, FL

The quality of raw water pumped by two older wells in the Coral Springs Improvement District's wellfield had diminished to unacceptable levels. Well 4, originally drilled in 1978, and Well 7, which dated back to 1988, had developed holes in the well casings, producing sediment. The District retained Globaltech as a design-build contractor to replace the wells.

Globaltech began by provided engineering design and permitting services to build the new wells and wellheads. Subsequent construction entailed:

- Drilling pilot holes and conducting geophysical tests
- Drilling new production wells containing 24" steel casing and 16" inner stainless steel casing
- Preparing the sites and constructing concrete slabs for the wellheads
- Installing new 8" Certa-lok column piping and submersible pumps in each well
- Building the above-ground wellheads, discharge piping, valves, and flowmeters
- Furnishing and installing new electrical service and control panel with variable frequency drive (VFD).

The project concluded with demolishing, plugging and abandoning existing wells 4 and 7.

Project Achievements / Benefits

- CSID is now pumping much higher quality raw water
- VFDs give the District more control over well flows in response to changing drawdown conditions
- Globaltech provided startup services to CSID operations staff, ensuring the new wells were operating properly and training staff on the new equipment

Client Contact

Joe Stephens
 Chief Operator
 Coral Springs Improvement District
 10300 NW 11th Manor
 Coral Springs, FL 33071
 (954) 796-6665
 joes@fladistricts.com

Project Timeframe

2014 - 2016

Project Cost

\$1.03 million

Our Role

Design Builder



FPUA High Service Pumps No. 3 and 4 Replacement

Fort Pierce Utilities Authority / Fort Pierce, FL

Two of the electric high service pumps (HSPs) that send finished drinking water out for distribution from the Fort Pierce Utilities District (FPUA) Henry Gahn Water Treatment Facility were aging, deteriorated, and in need of improvement. Under a continuing design-build services contract, FPUA retained Globaltech to provide design and construction/installation services for the sequential replacement of HSP No. 3 and HSP No. 4.

In both cases, Globaltech installed new pumps, frames, 400 hp electric motors, and coupling assemblies to match the flow and pressure capacity of the existing HSPs.

The existing pump bases were brought up to current Hydraulic Institute Standards.

A new variable frequency drive (VFD) and electrical service to HSP No. 4 was provided, while HSP No. 3's existing VFD was reused.

Additional project elements included:

- New suction and discharge elbows and piping
- Suction and discharge flanged manual butterfly valves
- Replacement of the existing pump discharge hydraulic control valve with a hydraulically dampened tilting disc swing check valve
- Installation of a new HDMI panel in the pump room for local control and monitoring of all four high service pumps
- Installation of related minor piping, accessories, and I&C elements

Project Achievements / Benefits

- Greatly improved reliability and parts uniformity with new equipment
- Improved operating efficiency and control with the installation of the new VFD
- Improved operational functionality with local HDMI display and control

Client Contact

Keith Stephens
 Water Resources Superintendent
 Fort Pierce Utilities Authority
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 Fort Pierce, FL 34947
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 kstephens@fpua.com

Project Timeframe

19 months
 Completed October 2016

Project Cost

\$793,308

Our Role

Design-Builder



PBCWUD WRWTF Power Improvements

Palm Beach County Water Utilities Department / Belle Glade, FL

The existing 300-kilowatt emergency back-up generator and main switchboard inside Generator Building No. 1 at the Western Regional Wastewater Treatment Facility (WRWTF) had both surpassed their reliable life spans and needed to be replaced. Under a continuing design-build contract, Palm Beach County Water Utilities Department (PBCWUD) hired Globaltech to design, permit, and install a new generator system.

The project included removing and recycling the old generator and main switchboard from Generator Building No. 1, then sealing and insulating the building, installing air conditioning to provide a temperature-controlled environment, installing a new main switchboard, and upgrading other electrical controls.

The new generator system included a new 500 kW diesel-engine generator with an integrated noise-attenuating aluminum enclosure mounted on top of a 4,500-gallon belly fuel tank.

Project Achievements / Benefits

- The small existing generator (circa 1982) could not power all loads connected to the main switchboard (MSB-1). The new generator is capable of supplying emergency power to all the connected loads plus expected future loads.
- The new stand-alone generator sits on a reinforced concrete slab built on auger-cast piles due to poor soil conditions.
- During the project, Globaltech minimized facility downtime by performing some of the work at night.
- Globaltech coordinated with Florida Power & Light to replace the 40-year-old transformers.

Client Contact

Steven McGrew, P.E.
 Plant Design Manager
 PBC Water Utilities Department
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Project Timeframe

12 months
 Completed September 2016

Project Cost

\$811,498

Our Role

Design-Builder



Boynton Beach Raw Water Pipeline

City of Boynton Beach, Utilities Department / Boynton Beach, FL

Two water treatment plants serve the residents of Boynton Beach—one on the east side of town, the other on the west. The East plant had excess capacity to treat raw water, but did not have access to the highly productive western wells. By connecting the wells feeding each plant, the City could provide raw water to either plant, utilizing treatment capacity and increasing the reliability of the raw water supply.

In order to achieve this goal, the City constructed 6 miles of raw water pipeline alongside busy Woolbright Road, tunneling beneath TriRail commuter rail tracks and Interstate 95. The general contractor used open cut, directional drill, and jack and bore methods to install 36-inch ductile iron and 42-inch high density polyethylene (HDPE) piping.

Globaltech served as the City's construction manager, utilizing our pipeline engineering and construction expertise to oversee the contractor, provide general project administration services, design the connection to the existing raw water main, develop a flushing and disinfection plan, and close out all permits.

Project Achievements / Benefits

- Identified an error in the construction drawings early and avoided an unnecessary change order
- Provided thorough quality inspections of HDPE piping as long as 2300-LF, and insisted that damaged sections be repaired to meet industry standards and specifications when necessary
- Provided 24-hour/day inspection coverage during pullbacks of HDPE piping to ensure pipe was not damaged
- Designed connections to the existing piping, after the contract was awarded, that minimized plant shutdowns and increased operational flexibility
- Coordinated with Palm Beach County Traffic Division and developed an effective repair plan after frac-outs and road settling occurred

Client Contact

Chris Roschek, Manager of Engineering
City of Boynton Beach
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Project Timeframe

18 months
Completed April 2017

Project Cost

Fee for construction management:
\$311,250
Construction award: \$6.5 million

Our Role

Construction Manager



SUA High Service Pumps 2, 3 and 7 Replacements

Seacoast Utility Authority / Palm Beach Gardens, FL

Seacoast Utility Authority (SUA) needed to replace three aging horizontal split case centrifugal pumps and make other improvements to their existing Hood Road Water Treatment Plant high service pumping facility. Under a continuing design-build services contract, Globaltech provided SUA with alternatives evaluation, design, procurement, permitting, construction, startup, and commissioning services for this project.

New pumps included 150 hp motors and horizontal split case centrifugal pumps, each capable of pumping 3,300 GPM at a TDH of 145 feet.

The pumps and suction volutes were carefully selected at 1,750 RPM operating speed to replace the aging and much more expensive 1,180 RPM pumps. Stringent design parameters were chosen to assure that limited cavitation would occur with the low available suction pressures in order to meet similar operating parameters.

Project Achievements / Benefits

- Our selection of higher-speed, smaller casing pumps saved SUA approximately \$215,000 in projected original equipment costs.
- Globaltech constructed new replacement piping, valves, and flexible connections as well as instrumentation on the suction and discharge piping of each pump.
- Modifications were made to each concrete pump base to meet the new pump frame foot print and to comply with the current Hydraulic Institute Standards
- Using Operations & Maintenance data from the pump vendor, Globaltech compiled an O&M manual specifically for SUA. We also prepared and delivered record drawings for SUA based on the completed installation.

Client Contact

Brandon Selle, P.E.
 Chief Operations Officer
 Seacoast Utility Authority
 4200 Hood Road
 Palm Beach Gardens, FL 33410
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 bselle@sua.com

Project Timeframe

19 months
 Completed May 2017

Project Cost

Total value of project: \$439,466
 Savings returned to Owner: \$215,000

Our Role

Design-Builder



ECRWRF FPL Reuse Improvements Phases 1 & 2

Palm Beach County Water Utilities Department / West Palm Beach, FL

Under a continuing design-build services contract with Palm Beach County Water Utilities Department (PBCWUD), Globaltech was asked to design, permit, and construct improvements to the East County Regional Water Reclamation Facility (ECRWRF) in two phases.

At a total demand of 29 MGD, the facility is the primary source of cooling water to FPL's West County Energy Center.

Of primary importance among the many assigned tasks was construction of immediate, facility-wide safety improvements identified in a previous consultant's report. These improvements were fast-tracked for design and permitting, and prioritized in the construction projects.

The project involved multiple stakeholders, including PBCWUD, ECRWRF Operations, FPL, and Globaltech. Due to the critical nature of the facility, a specialized shutdown and notification procedure was developed to alert and solicit buy-in electronically from all stakeholders prior to any interruption of service.

Project Achievements / Benefits

- Installation of Owner-supplied 600HP vertical turbine high service can pump and header expansion
- Installation of 420 LF of buried 48-inch CLDI bypass piping and valves, testing, and commissioning of same
- Replacement of baffle curtain in 2.0 MG storage tank
- Flash mix slide gate replacement and installation of new flash mixer drives, shafts, and paddles
- New progressing cavity hypochlorite feed pumps
- New 600HP VFD and switchgear modifications
- Two new grinder pump stations
- Repairs and modifications to existing hypochlorite tank farm and piping system
- Installation of additional instrumentation at the West County Energy Center to provide feedback to plant staff
- Safety improvements including handrail and grating modifications and replacements, fall protection improvements, walkway egress, and labeling and signage

Client Contact

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Project Timeframe

26 months
 Completed December 2018

Project Cost

\$3.5 million

Our Role

Design-Builder



PGA WWTP Biosolids Equipment Upgrades

Seacoast Utility Authority (SUA) / Palm Beach Gardens, FL

In an effort to replace the aging and maintenance intensive belt filter presses which are no longer adequately supported by the manufacturer, the SUA elected to upgrade the biosolids processing equipment and transition to a centrifuge solids dewatering machine.

The objective of the project was to reduce incoming aerobically digested waste activated sludge (WAS) to 20% solids content by weight based upon a feed rate to the centrifuge of 120gpm with a 1.5% solids content of 15,000 mg/L (1.5%).

Under a Continuing Design-Build Services Contract with the SUA, Globaltech provided Engineering and Design/Build for the installation of centrifuge, and associated support facilities.

Globaltech's scope of services included engineering design and

permitting, centrifuge pilot testing for competitive quotes from three manufacturers, construction services, installation and commissioning.

Project Achievements / Benefits

- Installation of centrifuge which exceeded D-B criteria. performance requirements
- New polymer feed systems.
- Installation of 5-ton bridge crane to support dewatering operations.
- New truck loading operation with motorized bin gate.
- Over \$230,000 savings to Owner through competitive equipment selection and sales tax savings by Owner Direct Purchase.

Client Contact

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Project Timeframe

24 months
Completed August 2019

Project Cost

Original: \$1,615,536.00

After Owner Direct Purchase (ODP): \$1,309,336.00

After ODP and Gross Maximum Price adjustment-Final Contract Value: \$1,085,709.00

Our Role

Design-Builder