

CITY OF KEY WEST



RFQ NO. 22-006 | DECEMBER 7, 2022

STATEMENT OF QUALIFICATIONS FOR
**GENERAL ENGINEERING
SERVICES**



BLACK & VEATCH



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Cover Letter



December 7, 2022

Ms. Cheri Smith, MMC, CPM, City Clerk
City of Key West
1300 White Street
Key West, FL 33040

RE: RFQ #22-006 - General Engineering Services

Dear Ms. Cheri Smith:

During the last ten years, Black & Veatch Team members, including our **Project Manager, Pablo Gala-Serra, Project Director, Arturo Burbano, and Client Service Advocate, Isabel Botero** have been working together with the Utilities Department professionals to thoroughly understand the issues impacting the City of Key West (City) now and into the future.

Under our current general engineering services contract with the City of Key West, **Black & Veatch assisted the City with several projects such as the Dennis Stormwater Pump Station, 20 Years Wastewater Needs Assessment, WWTP Blowers addition and Electrical Switchgear, RAS WAS Pumps Replacement, and the Dewatering Evaluation and Design.**

The City's infrastructure projects in the areas of stormwater, civil/structural, mechanical and coastal systems will benefit from Black & Veatch's proven national experience in these fields.

To this end, Black & Veatch is committed to continue supporting the Utilities Department by providing a **highly qualified team** that will bring its **national expertise** and **diverse experience** to implement **local solutions**. Black & Veatch is also well suited to assist the Engineering Department. **Our Team is Ready, Responsive and Reliable** and its goal for this General Engineering Services (GES) contract is to partner with the Utilities and Engineering Departments in support of its vision.

The Black & Veatch Team includes the local collaboration of small business partners, all of which have successfully completed projects in South Florida, including the City of Key West. Our Team is comprised of **HBC Engineering** (roadways, civil and infrastructure projects), **Avirom & Associates** (surveying) and **HP Consultants** (geotechnical and testing).

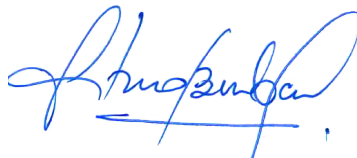
We welcome the opportunity to discuss the details of our qualifications and invite you to contact Pablo at (786) 812-4470 or at GalaserraP@bv.com. Thank you for your time and consideration. We look forward to partnering with the City of Key West Utilities Department on this important GES contract.

Very truly yours,

Black & Veatch Corporation



Pablo Gala-Serra, PE
Project Manager



Arturo Burbano, PhD, PE
Project Director



Rafael E. Frias, III, PE
Vice President | East Region
Area Director (Authorized Officer
empowered with the right to bind the
company)

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Information Page



SECTION 2

Information Page

Although Black & Veatch is a large company with worldwide resources and unmatched engineering expertise, we take a local approach to serving clients.

Black & Veatch will serve as prime for this contract with a team that is locally based within the region. Our local team has the ability to rapidly respond to any need that may arise, and to efficiently execute the work within the established schedule and budget. Our team is comprised of firms and individuals who have worked with local governments and agencies for many years and possess an in-depth understanding of local conditions and procedures. The ability to leverage this knowledge quickly and efficiently from local offices will result in high quality projects that meet your goals.

As prime, Black & Veatch will lead this contract out of our Coral Gables office with support from resources and subcontractors that work and live in the community. We are committed to providing responsive service by offering a local project manager and core project team members that will be fully accessible to your staff.

Black & Veatch has more than 100 professional engineers registered in the State of Florida. These engineers are backed by more than 200 additional engineers, scientists, technicians and support staff. We will provide specific technical expertise from other offices of our firm, as needed, to bring the best and latest technology to satisfy the contract's requirements.

PRIME FIRM:

Black & Veatch Corporation

Local Office:

2121 Ponce de Leon Boulevard

Suite 305

Coral Gables, Florida 33134

CONTACT:



Project Manager

Pablo Gala Serra, PE

2121 Ponce de Leon Boulevard

Suite 305

Coral Gables, Florida 33134

p | 786-347-1375 f | 754-229-3045

e | galaserrap@bv.com

Authority to Make Representations

Rafael E. Frias, III, PE

3111 N. University Drive

Suite 700

Coral Springs, FL 33065

p | 954-465-6872 f | 754-229-3045

e | FriasRE@bv.com

FLORIDA OFFICE LOCATIONS

CORAL GABLES

2121 Ponce De Leon Blvd., Suite 305

Coral Gables, FL 33134

CORAL SPRINGS

3111 North University Drive, Suite 700

Coral Springs, FL 33065

JACKSONVILLE

12740 Gran Bay Parkway W, Suite 2140

Jacksonville, FL 32258

ORLANDO

201 South Orange Avenue, Suite 500

Orlando, FL 32801

TAMPA

3405 W. Dr. M.L. King Boulevard, Suite 125

Tampa, FL 33607

FORT MYERS

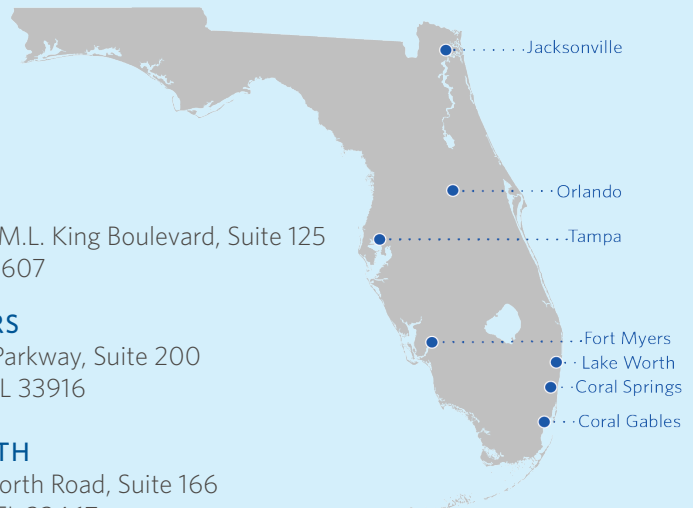
4415 Metro Parkway, Suite 200

Fort Myers, FL 33916

LAKE WORTH

8461 Lake Worth Road, Suite 166

Lake Worth, FL 33467



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Organization Chart



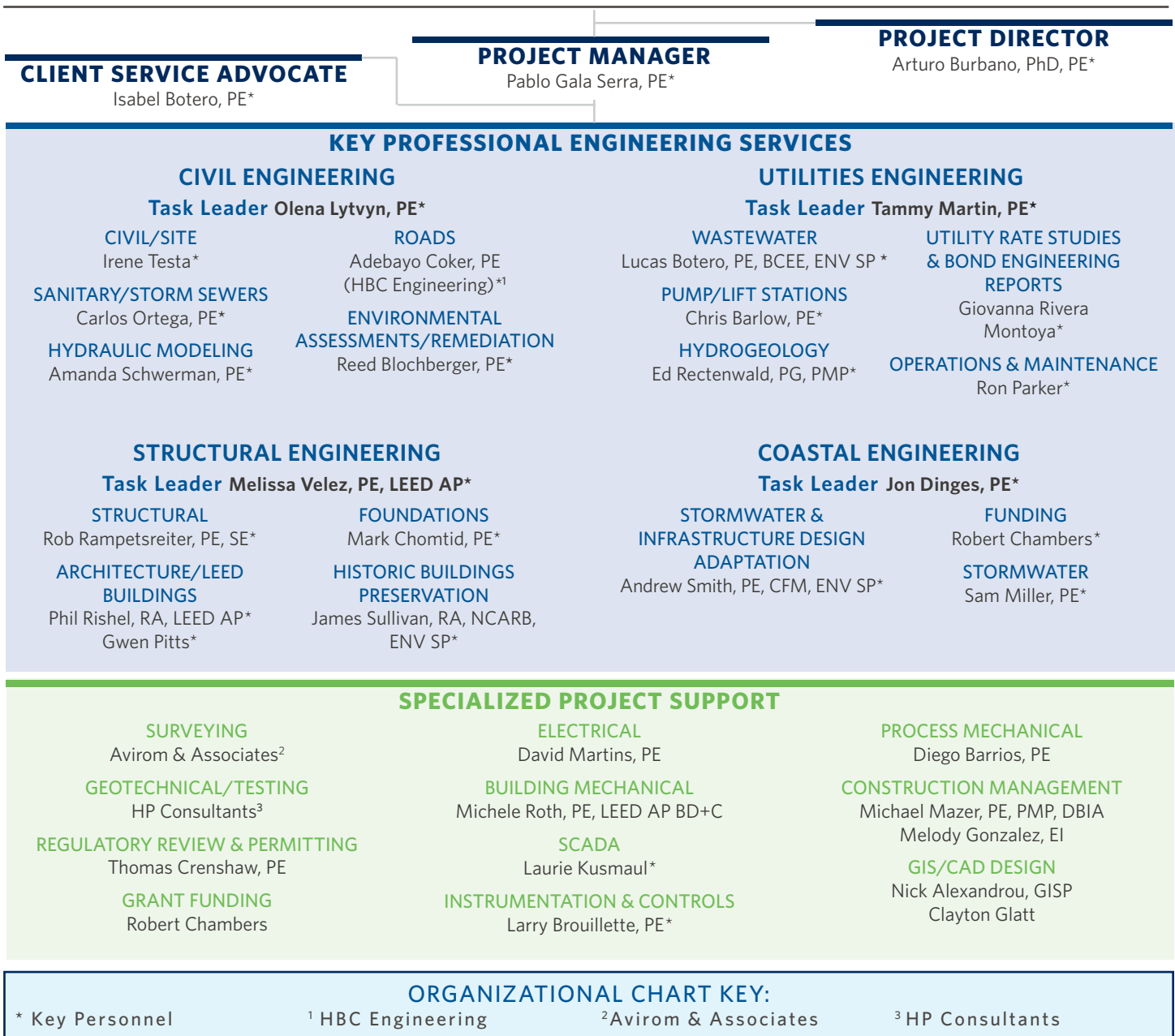
SECTION 3

Organization Chart

ORGANIZATION CHART

The chart below illustrates how we will promote accountability and ownership by providing the City with selected Task Leaders with extensive expertise in the areas they specialize in and who will be working closely with our Project Manager and Project Director. The chart identifies our subconsultants, key personnel, and areas of responsibility. Location of each proposed staff member is shown in the chart below.

CITY OF KEY WEST



PROJECT TEAM'S LOCATION

Our local team has the ability to rapidly respond to any need that may arise, and to efficiently execute the work within the established schedule and budget. Our team is comprised of firms and individuals who have worked with local governments and agencies for many years and possess an in-depth understanding of local conditions and procedures. The ability to leverage this knowledge quickly and efficiently from local offices will result in high quality projects that meet your goals.

We are committed to providing responsive service by offering a local project manager and core project team

members that will be fully accessible to your staff. We will lead this contract out of the local Black & Veatch office and assign resources and subcontractors that work and live in the community.

Black & Veatch has more than 100 professional engineers registered in the State of Florida. These engineers are backed by more than 200 additional engineers, scientists, technicians and support staff, as well as Black & Veatch's 100 years of experience providing services in a wide range of disciplines.

PROPOSED STAFF NAME ROLE	LOCATION
Arturo Burbano, PE Project Director	Coral Gables, FL
Pablo Gala Serra, PE Project Manager	Coral Gables, FL
Isabel Botero, PE Client Service Advocate	Coral Springs, FL
Olena Lytvyn, PE Civil Engineering Task Leader	Coral Gables, FL
Tammy Martin, PE Utilities Engineering Task Leader	Coral Springs, FL
Melissa Velez, PE, LEED AP Structural Engineering Task Leader	Coral Springs, FL
Jon Dinges, PE Coastal Engineering Task Leader	Tampa, FL
Irene Testa Civil/Site	Coral Springs, FL
Carlos Ortega, PE Sanitary/Storm Sewers	Coral Gables, FL
Amanda Schwerman, PE Hydraulic Modeling	Tampa, FL
Reed Blochberger, PE Environmental Assessments/Remediation	Orlando, FL
Lucas Botero, PE Wastewater	Coral Springs, FL
Chris Barlow, PE Pump/Lift Stations	Coral Springs, FL
Ed Rectenwald, PE Recharge/Injection/Hydrogeology	Fort Myers, FL
Giovanna Rivera Montoya Utility Rate Studies & Bond Engineering Reports	Coral Gables, FL
Ron Parker Operations & Maintenance	Tampa, FL
Rob Rampetsreiter, PE, SE Structural	Overland Park, KS
Phil Rishel, RA Architecture/LEED Buildings	Overland Park, KS
Gwen Pitts Architecture/LEED Buildings	Overland Park, KS
Mark Chomtid, PE Foundations	Tampa, FL
James Sullivan, RA, NCARD, ENV SP Historic Buildings Preservation	Overland Park, KS
Andrew Smith, PE, CFM, ENV SP	Overland Park, KS
Robert Chambers Funding	Coral Springs, FL
Sam Miller, PE Stormwater	Orlando, FL
Thomas Crenshaw, PE Regulatory Review and Permitting	Coral Springs, FL
David Martins, PE Electrical	Tampa, FL
Michele Roth, PE, LEED AP BD+C Building Mechanical	Overland Park, KS
Laurie Kusmaul SCADA	Coral Springs, FL
Diego Barrios, PE Process Mechanical	Coral Springs, FL
Michael Mazer, PE, PMP Construction Management	Coral Springs, FL
Melody Gonzalez, EI Construction Management	Coral Gables, FL
Nick Alexandrou, GISP GIS/CAD Design	Tampa, FL
Clayton Glatt GIS/CAD Design	Lake Worth, FL
HBC Engineering Transportation	Fort Lauderdale, FL
Avirom Surveying	Miami, FL
HP Consultants Geotechnical/Testing	Miami, FL

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Company Information



SECTION 4

Company Information

The City will receive cost-effective and efficient designs for all projects from a local well-rounded, full-service firm.

COMPANY BACKGROUND & HISTORY

Black & Veatch Corporation (Black & Veatch) is a leading global engineering, construction, and consulting company specializing in infrastructure development in the fields of water, energy, and telecommunications. Our mission of Building a World of Difference® through innovation in sustainable infrastructure makes us one of the largest and most diversified engineering firms in the world. Founded in 1915, our employee-owned company has over 10,800 professionals working in more than 120 offices worldwide with projects in 70 countries on six continents.

Our company has successfully completed more than \$30 billion in capital improvements in the United States during the past 10 years. Our strength lies in the fact that we offer world-class project delivery on all phases of a project's lifecycle – planning, design, permitting assistance, bidding services, construction phase services, construction observation services, and post construction services, such as commissioning and operations support.

Our team's proven civil, utilities, structural, and coastal engineering expertise, coupled with a strong, committed local engineering team, ensures our clients receive reliable and resilient projects.

Our experience in Florida includes serving more than 300 different agencies under continuing services contracts in which we have completed more than 1,000 individual task orders. Our relevant experience includes master planning; wastewater system engineering reports; public participation programs; infiltration/inflow analyses; sewer system evaluation surveys; environmental assessments; assistance in preparing federal and state grant applications; design of facilities, including planning permitting assistance, bid and proposal services, and services during construction, for collection, treatment, reuse, and disposal; siting studies; and utility rate, financial, management, and operations studies. Our team offers unique depth and breadth of experience, successfully delivering water, wastewater, reuse, and power projects throughout Florida.

The City of Key West will benefit from our experience, lessons learned, and tailored solutions that will provide improved wastewater treatment, reliable stormwater management, environmental protection, life-cycle cost savings, and operational flexibility while protecting its assets.

BROAD OVERVIEW

FOUNDED IN
1915



100+ 
YEARS CREATING
WATER
INFRASTRUCTURE 

10.8K+  GLOBAL
WORKFORCE

8TH **LARGEST**
EMPLOYEE-OWNED
COMPANY
IN THE U.S.

ENR RANKINGS

#	CATEGORY
8	Top 20 in Water
16	Top 500 Design Firms
2	Top 50 in Power
8	Top 50 in Water Supply
11	Top 50 in Sewer and Waste
5	Top 25 in Transmission & Distribution
10	Top 25 in Sanitary & Storm Sewers
9	Top 25 in Wastewater Treatment

SUBCONSULTANTS

Black & Veatch has assembled a team that includes highly qualified firms with extensive experience in each of the specific areas. These subconsultants complement our own skills and increases the overall expertise and capabilities of our team. Each subconsultant participating on an assignment will be required to have input on scoping, schedule, and cost on the front end of a project.

Black & Veatch requires subcontractor deliverables to engage the same quality management procedures as our own staff. Deliverables will always be reviewed and transmitted by Black & Veatch to our client unless other arrangements are made in advance of the assignment.



HBC Engineering Company *Transportation, Structural, and CE&I*

5200 NW 33rd Avenue, Suite # 211
Fort Lauderdale, FL 33309
(954) 519-2199

HBC Engineering Company (HBC) is a CBE, DBE, MBE, and SBE engineering consulting firm established and incorporated in 2006 by

Adebayo T. Coker, PE, a former Florida Department of Transportation District Six Internal Design Project Manager and District Project Development Engineer. HBC has grown in the past few years to include offices in Miami-Dade, Broward, and Palm Beach Counties and employ 43 individuals, including management and technical and support staff.

HBC is a Florida corporation specializing in planning, design, and construction inspection services for civil and transportation-related engineering projects. HBC was founded with a commitment to reliability, communication, expertise, innovation, and above all, excellence. HBC's goal is to use its resources in the most efficient manner to provide the City with high-quality and timely services.



HP Consultants Inc. *Geotechnical/Testing*

10220 SW 107th Street
Miami, FL 33176
(305) 596-2857

HP Consultants Inc. (HPCI) is a SBE engineering consulting firm with offices in Miami and Lauderhill, Florida. The Lauderhill office in Broward has its centralized geotechnical testing laboratory. Since 2002, HPCI has been providing civil, geotechnical, geo-environmental, traffic/ITS, and value engineering services to private and public sector clients.

HPCI provides the full range of geotechnical services- subsurface exploration, design/analysis and recommendations, field inspections and problem solving. Its expertise covers the entire spectrum of geotechnical structures: shallow, deep and specialty foundations for office, public, and industrial buildings, skyscrapers, and bridges; rigid, flexible, anchored, reinforced earth and other specialty walls for inland and water-front structures; slopes, embankments, and micro-tunnels; pipelines and drainage structures; roads and highways; and electrical/signal systems and ITS infrastructure.



Avirom & Associates, Inc. *Surveying*

10220 SW 107th Street
Miami, FL 33176
(305) 596-2857

Avirom & Associates, Inc. was founded in 1981, as **a company dedicated solely to the land surveying profession, with the philosophy to provide the highest quality product in a timely and professional manner.**

They are one of the few firms in the State of Florida that has six Registered Land Surveyors. Their 35-year history represents their firm's strength and stability in the South Florida area. Avirom maintains a dedicated service office in the City of Key West. Avirom has considerable experience in creating legal descriptions, having submitted in excess of 200 submerged land leases throughout the State of Florida for the FDEP and the USACE. The firm is knowledgeable and experienced with the formats and requirements of these agencies for submittals.

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Methodology and Approach



Methodology and Approach

The City of Key West will receive projects on schedule, on budget, and of high technical quality by leveraging our proven project control tools and ISO 9001-compliant Quality Management System.

PROJECT MANAGEMENT APPROACH

Our project management approach describes the process Black & Veatch has successfully implemented on previous general engineering services contracts, as well as the process planned for this contract.

A key objective of our approach to this contract is to ensure that we have a firm understanding of your needs for each task authorization assignment for which we are selected. We will gain this understanding by working with the City's Project Manager and City staff involved with each task authorization.

By focusing on the City's specific needs and asking the right questions, we will work with your staff to zero-in on the most cost-effective scope of work that truly meet the project objectives.

Once we have this in-depth understanding, we will utilize our local resources with the appropriate background to best address your needs. However, we will not hesitate to bring the full resources of Black & Veatch to bear on a problem, whenever appropriate. By selecting Black & Veatch, the City will have easy access to some of the most renowned experts in the world supporting local talent in a fast and economical manner.



Black Veatch's project management approach involves enhanced single point-of-contact communications, firm understanding of each assignment, use of local resources, continuous progress reporting, schedule and budget control, and detailed quality control.

EFFICIENT DELIVERY OF SERVICES

Black & Veatch has a proven approach to assigning personnel and executing tasks in order to provide the most efficient service on our design and construction projects. This approach includes unique methods for improving project delivery and cost savings over typical expectations, some of which are described below.

Deliver Services Locally:

Our project manager is local, as well as most of our project team. Our local delivery supports cost and schedule efficiency.

Match Talent-to-Task: We will assign professionals to projects based on their experience/expertise with the type of facility involved.

Efficiency Through Experience:

Our project manager and team have a long history of executing contracts similar to this contract and working on different projects with the City. We are familiar with your standards, procedures, and staff, which supports efficient project execution.

The City Will Have Access to Industry-Proven Project Control Tools

The City will receive successful, quality projects as a result of Black & Veatch's complete library of state-of-the-art project control tools. Our project controls approach includes the following:



SCHEDULE CONTROL | We will work with the City during the scope development phase of each assignment to establish a schedule that will meet the City's established goals. Schedules may be developed in **Primavera** or **Microsoft Project**. We will provide the City's project managers with updated project schedules at each project milestone and other times as determined to be beneficial.



BUDGET CONTROL | Our project manager has access to an array of tools to facilitate tracking and management of project costs. For example, **EcoSys** is a newly-developed earned-value management-based system that enables the establishment of control accounts so that expenditures can be tracked and managed by both task and work group (such as engineering disciplines).



QUALITY CONTROL | Black & Veatch employs a strict QA/QC program in alignment with the key principles of **ISO 9000**. QA/QC reviews will be conducted at key milestones, which support schedule and budget success through early identification of developing issues and avoiding rework.



DOCUMENT CONTROL | Black & Veatch utilizes the **ProjectWise** document management system, which provides a secure environment for storage and retrieval of project drawings, specifications, reports, and data. This system provides the City with increased cyber-security, avoids document loss, and supports efficient production.



CONSTRUCTION COST CONTROL | Black & Veatch is a leading contractor in the industry. The resulting expertise and available estimating tools (i.e. **Timberline**) and resources enable us to develop accurate construction cost estimates to support the City's budget process.



CONSTRUCTABILITY | Our experience as a contractor also provides the expertise and resources to develop sound designs that can be constructed efficiently from the perspective of both cost and schedule. By thoroughly addressing construction sequencing and maintenance of operations during design, the City will benefit from avoidance of costly change orders and delays during construction.



RESOURCES | Our project teams will be staffed properly to meet the demands of the projects. Our project and engineering managers utilize the Tempus database which provides staff allocations to make sure that the proper resources are assigned to each project under this contract.

Black & Veatch's method to managing work order contracts focuses on streamlined communications and expedited organization.

Black & Veatch recognizes the value of a solid upfront effort in the development of new work orders. Through coordination with the your Project Manager, along with Staff, we will define a scope of work that will best meet your needs. **Black & Veatch's Project Manager will meet with your Project Manager and City Staff as necessary to clearly identify the goals of each project, to develop a detailed project schedule, and to define the specific deliverables.**

We understand there are times that unplanned projects arise or schedules become tightened and a Notice to Proceed (NTP) for a work order is needed immediately.

Black & Veatch provides our clients with a wealth of experience in managing continuing-services contracts. We understand your needs and are committed to preparing work order scopes and fees quickly, assigning our best team of professionals based on the needs of each work order, and delivering the projects on time, on schedule and on budget, while meeting the your quality expectations.

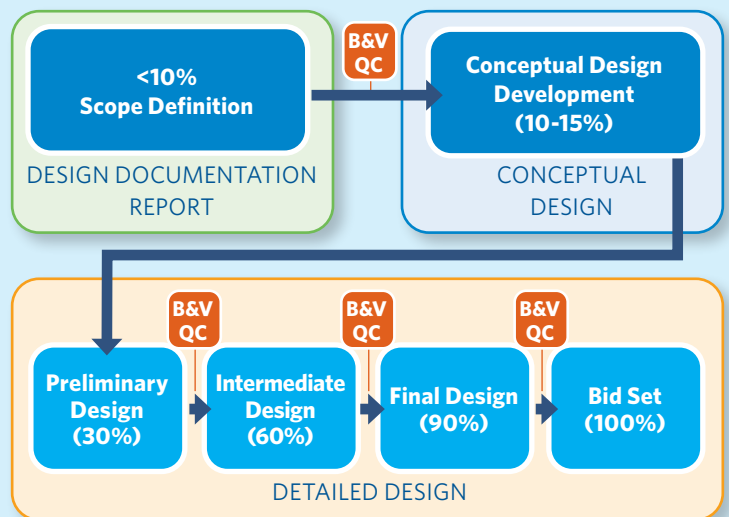
We have applied creative methods to accelerate projects to meet tight deadlines. Close coordination with permitting agencies has allowed certain phases of a project to start early. Also, in some projects, certain design tasks may be executed in parallel. **Workshops early in the project help define project goals to reduce uncertainty and aid the design to move faster.**

The Project Workflow Model Streamlines Communications

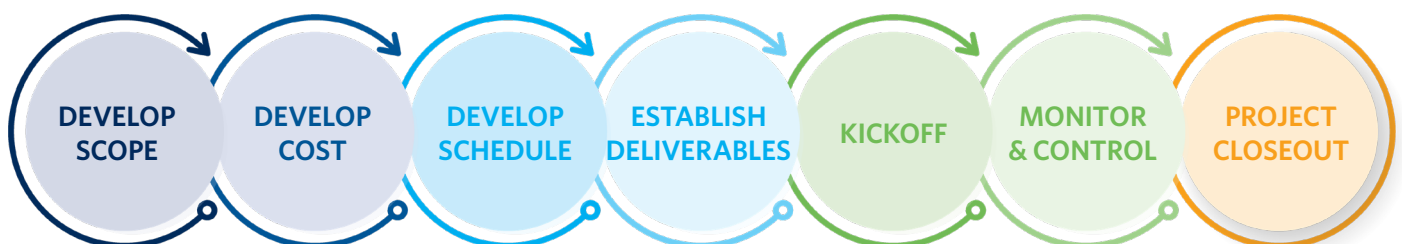
One of the most important components of the design process is producing contract documents that are accurate, easy to interpret, and constructible. Black & Veatch starts with the development of a sound Project Execution Plan (PEP) to provide a guideline for the efficient execution of each project.

Black & Veatch has developed an effective tool called the **Project Workflow Model (PWM)**, illustrated below, to enhance coordination among design disciplines and optimize efficiency of the design team production of contract drawings, technical specifications, and other deliverables. **Our clients benefit from the PWM by receiving a complete, accurate, and well-coordinated set of documents produced without time delays, avoiding re-design efforts.**

PROJECT WORKFLOW MODEL (HIGH-LEVEL)



Our systematic project execution approach allows us to quickly confirm the needs of projects to be expedited, facilitating a delivery that will meet or exceed the established schedule and budget.



QUALITY ASSURANCE/QUALITY CONTROL MANAGEMENT PLAN

Quality Assurance

Our Quality Assurance program encompasses Engineering/Design, Procurement (if applicable), Construction/Construction Management and Commissioning. Maintenance and improvement of the QMS are accomplished by quality audits, continuous improvement and QMS management review.

Quality Audits

Black & Veatch's internal quality auditors perform planned, systematic audits to give our management team and your project managers twofold assurance: that projects are being executed in accordance with quality plans, and the resultant products and services will meet specified requirements. Audit requirements come from industry standards, client contractual requirements, QMS compliance and project specific requirements. Audit follow-up actions, including corrective and preventive action, are tracked through to closure, and are reviewed and verified through subsequent audits.

Continuous Improvement

Black & Veatch reviews quality metrics, including audit reports, corrective action and preventative action records, customer feedback, verification records, and non-conformance records, along with other pertinent performance feedback information.

These reviews include the search for adverse process trends across functions and multiple projects. **The purpose is to determine if revisions to the QMS are required and, to promote continuous improvement.** These reviews also promote the critical nature of timely, transparent, and deliberate communication of the QMS documents.

Black & Veatch understands that most projects fail because of lack of communication – not because QA documents were not maintained. Black & Veatch will use these reviews to communicate with appropriate technical staff to reach consensus quickly and efficiently.

QMS Management Review

Black & Veatch reviews overall performance of the QMS annually, issuing written performance reports that includes recommendations for improving the system. The report is reviewed by Black & Veatch's leadership team and the results of the review are a set of action items that are assigned to our project managers with target completion dates. Our project managers plan, initiate, complete, and report the action item's completion. Completed actions are verified through subsequent audits. **In this way, the City is assured that we are following best management practices as they pertain to quality and continuous improvement.**



Quality Control

ISO 9001-Compliant Quality Assurance/ Quality Control Program

For all the projects under this contract, our goal will be to provide you with high-quality, on-time deliverables that can be counted on.

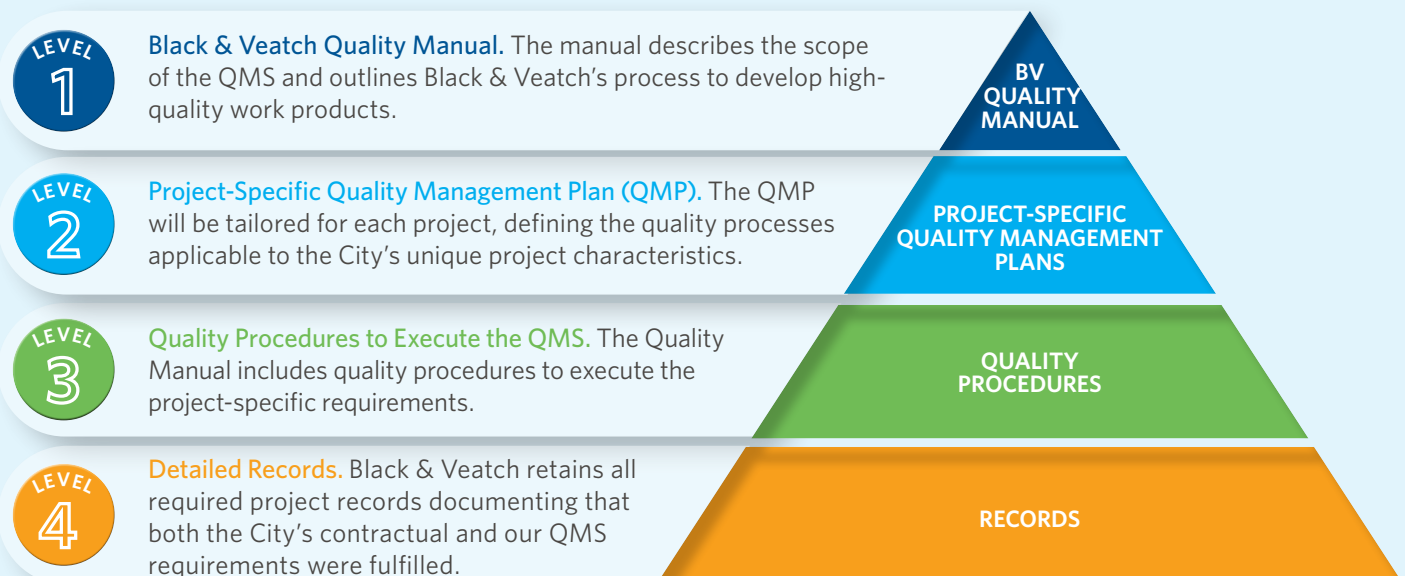
Black & Veatch's Quality Management System (QMS) is a company-wide documented system of planned processes and activities that ensures the effective operation, planning and control of our processes. We recognize that quality is a continuous improvement process updated through a constant feedback process to incorporate successful techniques and lessons learned from our project execution practices.

Our QMS is based on ISO 9001:2015 Quality Management System-Requirements and addresses all elements of the international standard as well as any project-specific codes, standards, contracts, drawings, and objectives. All Black & Veatch professionals are familiar with Black & Veatch's QMS. Our subconsultants will also be provided with our quality assurance and quality control requirements to ensure their submittals are in accordance to the expectations and meet your requirements of the scopes of work.

Black & Veatch is committed to providing quality-focused design engineering, construction and startup services.

- Assigning experienced team members that will remain throughout the duration of the projects for consistency
- Effectively communicating with the team and with your staff to ensure our commitment to quality meets your expectations
- Following your Standards and Ordinances
- Following Black & Veatch's established design and quality assurance and quality control procedures
- Providing independent quality review and verification of project deliverables
- Performing regular project quality audits to ensure compliance with all quality procedures
- Controlling project schedules and costs

Our Clients Receive High-Quality Projects from Black & Veatch's QMS Governance



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Personnel



Personnel

Our clients benefit from a team with a depth of local project execution resources by receiving projects on schedule and of consistent, high technical quality.

PROJECT TEAM

The City of Key West requires a highly skilled team with a deep bench of resources to deliver the projects under this contract. **Our team will deliver all projects on schedule, within budget, and satisfy the performance expectations for this contract.** Our diversity of expertise is ideal to provide the broad range of services needed to support the complex requirements under this contract and deliver cost-saving energy efficiency solutions.

Our team utilizes local staff while drawing upon our global technical specialists to provide varied perspectives and achieve optimal results for the City of Key West. We commit our deep bench of staffing throughout the project duration to maintain continuous, uninterrupted project progress from start to finish.

This team was carefully selected to best support the City for this important contract. We have identified key personnel that will be our Project Champions with a high level of involvement and who will be responsible for driving this contract to successful completion. Each member of our team was chosen to provide the best value and optimum service to the City.

Exceptional Professional Resources

Our team has been built to function efficiently as an extension of your staff. We understand that the needs under this contract will vary in size. As we have demonstrated consistently in the past, Black & Veatch will be there when you need us for both large and small projects alike – providing excellent and responsive engineering support on assignments of a few thousand dollars just as we would a large design project.

Our team includes a number of professionals whose expertise makes them uniquely qualified to provide value to this contract. They are supported by a diversely capable team with an exceptional level of experience in all of the service areas and engineering disciplines necessary to provide the scope of services under this contract.

Due to page limitations, brief resumes of the principals assigned to this project, staff personnel, and subcontractors are provided on the following pages.

Black & Veatch is proud to offer our clients a highly-qualified team that understands the various issues associated with municipal facility planning, design, and construction.

Our clients expect the highest level of service from the engineering firm selected to perform their as-needed professional services contract.

With a reputation for providing innovative solutions and turning obstacles into opportunities, we offer a highly-skilled team of professionals to work with utility staff on their important projects.

This section of our proposal will demonstrate the quality of our professionals who are committed to supporting our clients and their capacity to accomplish any task under this GES contract.

RESUMES OF PERSONNEL

PABLO GALA SERRA, PE

PROJECT MANAGER

Pablo is an accomplished project manager with extensive experience in traditional design and design-build for municipalities and EPCs. Over his career, he has designed new and retrofitted facilities for some marquee projects such as the large RO for Escondida Water Supply in Chile. Pablo also has extensive experience executing projects for the City of Key West. He has been involved in both traditional design and design-build-operate projects, and in that role has designed both new and retrofitted facilities. Pablo has served as project manager for multiple task orders for wastewater projects at the Richard A. Heyman Environmental Protection Facility (RAHEPF) for the City of Key West including blower and electrical switchgear replacement, RAS/WAS pumps replacement, and dewatering system rehabilitation.

PROJECT EXPERIENCE

City of Key West | RAS/WAS Pump Replacement

Project Manager. Managed engineering services for the replacement of four RAS and two WAS pumps as well as its associated piping, valves and supporting system. This scope of work also included the replacement in-kind of the existing AFDs.

City of Key West | 20 Years Needs Assessment

Project Manager. Managed a support service task to review all the existing wastewater system information and fill the necessary forms requested for the 20 years assessment requested by the Florida House Bill 53 titled "Public Works".

City of Key West | Aeration System and Electrical Switchgear ESDC

Project Manager. Managed the Engineering Services during Construction for the installation of a new switchgear and blowers at the Richard A. Heyman Environmental Protection Facility.

City of Key West | Dewatering Design and Bid Services

Project Manager. Managed the Engineering Services and Bid support services for the replacement in kind of the current dewatering press filters and the associated ancillary system.

Miami-Dade WASD | Various Water and Wastewater Projects

Engineering Manager. Responsible for executing water and wastewater projects. Working in bid and execution phases. Interdisciplinary coordination managing subcontractors and Client's interface.

- SDWWTP Electrical Distribution Building 3
- CDWWTP High Level Disinfection Program
- Preston WTP HSPS Electrical Upgrades
- NDWWTP High Level Disinfection
- NDWWTP Injection Well Pump Station
- Hialeah/Preston Sodium Hypochlorite Chemical Feed System



OFFICE LOCATION

Coral Gables, FL

EDUCATION

- MCE, Civil Engineering, Hydraulics and Marine
- BC, Civil Engineering

YEARS EXPERIENCE

13

PROFESSIONAL REGISTRATION

- PE, FL, 90447

Pablo has participated in the current City of Key West General Engineering Services Contract awarded to Black & Veatch in 2017. Through his experience in the execution of multiple projects, Pablo has become very familiar with the City's goals. He is ready to continue to support the City in the implementation of infrastructure improvements.





ARTURO
Burbano, PhD, PE, PMP
PROJECT DIRECTOR

Arturo has extensive experience as project and program manager delivering a variety of infrastructure projects, including design and construction of treatment facilities ranging from 20 gpm to 750-MGD in capacity. His main areas of technical expertise include process selection, bench- and pilot-scale studies, conceptual and detailed engineering design, QA/QC and discipline coordination, bidding, procurement, permitting, and engineering services during construction of water and wastewater treatment plants.

Miami-Dade WASH | CD2 Pump Station No. 2 Upgrade Modifications

Project Manager. Detail design of the upgrades to the 160-MGD Pump Station No.2. Led all detailed design phases of the project, including production of 30%, 60% and three 100% design deliverables (not-for-construction, permit-ready, and bidready), engineering services during construction (ESDC) and bid support.

Village of Key Biscayne | Resilient Infrastructure Program Strategy & Integrated Implementation Plan & Supporting Management Execution

Lead Program Manager. Managed the development of multi-dimensional, infrastructure improvements initiative to manage future environmental impacts and adapt to climate change over a 30-year planning horizon.

Miami-Dade WASH | CD2 17 Chlorination Facilities

Project Manager. Detail design of the \$22M chlorination facilities for the 143-MGD Central District Wastewater Treatment Plant (CDWWTP).

OFFICE LOCATION

Coral Gables, FL

YEARS EXPERIENCE

30

EDUCATION

- Ph.D., Environmental Engineering
- MS, Industrial Engineering
- BS/MS, Chemical Engineering

PROFESSIONAL REGISTRATION

- PE - FL, 2016, 81183
- PMP - 1795409



ISABEL
Botero, PE
CLIENT SERVICES ADVOCATE

Isabel has more than 20 years of experience as a civil/environmental engineer working on water and wastewater treatment facilities, as well as civil engineering projects. Isabel brings an in-depth knowledge of regional facilities and systems. She has demonstrated the ability to deliver on-call task orders for the City of Key West. Isabel has been working on projects under general engineering services contracts for the City of Key West since 2012, providing guidance and knowledge to the execution team.

City of Key West | Dennis St. Stormwater Improvements Pump Station

Project Manager. Preliminary design of an 11 cfs storm water pump station and 750 linear feet of discharge pipeline. Project elements include diesel generator, new electrical extension to the site, triple chamber box for stormwater treatment and connection to an existing outfall.

Broward County | Water and Wastewater GES

Project Manager. Design and construction phase services for multiple improvements projects at the North Regional WWTP including replacement of pump pads for the effluent pumps and improvements to the aeration basins, shorting contactors panels replacement at the outfall pump station and clarifiers rehabilitation.

South Florida Water Management District | Golden Gate Weir Replacement

Project Manager. Led the design of a new water control structure with two automated roller gates, overflow weir structure and new control building to replace an existing weir structure with smaller manual gates.

OFFICE LOCATION

Coral Springs, FL

YEARS EXPERIENCE

21

EDUCATION

- MS, Environmental Engineering
- BS, Civil Engineering

PROFESSIONAL REGISTRATION

- PE, 2007, FL, 67176
- PE, 2013, 25626
- PE, 2005, MO, 2005001044



OLENA
Lytvyn, PE
CIVIL ENGINEERING LEAD

Olena has experience in civil engineering designs, including composing preliminary engineering reports, route analysis, pipeline design of various sizes, developing cost estimates and inspections.

PROJECT EXPERIENCE

- Miami-Dade WASD | SL-2 1 | Engineering Manager
- Florida Keys Aqueduct Authority | Islamorada 30-inch Water Main Replacement | Engineering Manager
- Miami-Dade WASD | Design Services for WWTPs Related to Ocean Outfall Legislation | Engineering Manager

OFFICE LOCATION

Coral Gables, FL

YEARS EXPERIENCE

11

EDUCATION

- BS, Civil & Env. Engineering

PROF REGISTRATION

PE - 2017, FL, 82696



MELISSA
Velez, PE, LEED AP
STRUCTURAL
ENGINEERING LEAD

Melissa has experience in the water and wastewater field in Florida including design, feasibility studies, hydraulic modeling, cost estimating, and construction oversights. She currently leads the structural tank inspection certification project for Miami-Dade.

PROJECT EXPERIENCE

- City of Key West | Aeration System and Electrical Switchgear | Engineering Manager
- Miami-Dade WASD | CDWWTP Effluent Pump Station Evaluation | Engineering Manager
- South Florida Water Management District | Golden Gate Weir Replacement | Structural Engineer

OFFICE LOCATION

Coral Springs, FL

YEARS EXPERIENCE

15

EDUCATION

- MS, Env. Engineering
- BS, Civil Engineering

PROF REGISTRATION

■ PE - 2011, FL, 72508



TAMMY
Martin, PE
UTILITIES ENGINEERING
LEAD

Tammy is an engineering manager and environmental engineer with experience and knowledge of water and wastewater engineering and pump station mechanical process design.

PROJECT EXPERIENCE

- South Florida Water Management District | Golden Gate Weir Replacement | Engineering Manager
- City of Key West | Dennis Street Stormwater Improvements Project | Engineering Manager
- Broward County Water and Wastewater Services | Wetwell Refurbishment - Design and Construction Services | Engineering Manager

OFFICE LOCATION

Coral Springs, FL

YEARS EXPERIENCE

19

EDUCATION

- BS, Civil Engineering

PROF REGISTRATION

■ PE - 2011, FL, 72508



JON
Dinges, PE
COASTAL ENGINEERING
LEAD

Jon is experienced in civil and environmental engineering with a water resources focus. His extensive water resources experience includes more than 15 years of water management district experience where he served in multiple roles.

PROJECT EXPERIENCE

- City of Winter Haven | Integrated One Water Master Plan | Project Manager
- City of Key West | Dennis Street Stormwater Improvements | Stormwater Lead
- City of Cape Coral | Utilities Extension Program | Project Manager

OFFICE LOCATION

Tampa, FL

YEARS EXPERIENCE

27

EDUCATION

- BS, Env. Engineering

PROF REGISTRATION

■ PE - 1999, FL, 54747



IRENE
Testa
CIVIL/SITE

Irene is a civil/environmental engineer with experience in the water and wastewater engineering field with a focus on civil/site design, stormwater drainage, and utilities coordination work.

PROJECT EXPERIENCE

- City of Key West | Dennis Street Stormwater Improvements Pump Station | Project Engineer
- Broward County Water and Wastewater Services | GES | Project Engineer
- Miami-Dade WASD | Golden Gate Weir Replacement | Project Engineer

OFFICE LOCATION

Coral Springs, FL

YEARS EXPERIENCE

4

EDUCATION

- BS, Civil Engineering

PROF REGISTRATION

N/A



AMANDA
Schwerman, PE
HYDRAULIC MODELING

Amanda's experience is focused on water and wastewater-related planning projects. Her expertise lies in water and wastewater hydraulic modeling. She uses all of the standard software to analyze capacity, energy optimization, water quality, and I&I concerns.

PROJECT EXPERIENCE

- Miami-Dade WASD | Design Services for WWTPs Related to Ocean Outfall Legislation | Hydraulic Modeling
- City of Winter Haven | Integrated One Water Master Plan | Hydraulic Modeling
- Broward County | Regional Wastewater Master Plan | Planning Manager

OFFICE LOCATION

Tampa, FL

YEARS EXPERIENCE

12

EDUCATION

- MS, Env. Engineering
- BS, Engineering

PROF REGISTRATION

- PE - 2010, FL, 70751



CARLOS
Ortega, PE
SANITARY/STORM SEWERS

Carlos has completed similar projects within the South Florida area for the past 16 years. He has extensive experience with all stages of projects delivery of site development and stormwater infrastructure projects.

PROJECT EXPERIENCE

- Broward County Water and Wastewater Services | North Regional WWTP | Engineering Manager
- Palm Beach County Dep. of Airports | PBIA Stormwater Master Plan Update | Project Manager
- City of Delray Beach | Tropic Isle Roadway and Drainage Evaluation | Project Engineer

OFFICE LOCATION

Coral Gables, FL

YEARS EXPERIENCE

16

EDUCATION

- BS, Civil & Env. Engineering

PROF REGISTRATION

- PE - 2017, FL, 83211



ADEBAYO
Coker, PE
ROADS

Adebayo has provided responsible and diversified transportation engineering experience in the planning, design, and construction management of major FDOT and Miami-Dade County transportation projects.

PROJECT EXPERIENCE

- Broward County | SW 30th Ave. Widening from Griffin Rd. to SW 45th St. | Transportation Lead
- Broward County | SR 858/Hallandale Beach Blvd. from SR 7 to Lakeshore Dr. | Transportation Lead

OFFICE LOCATION

Fort Lauderdale, FL

YEARS EXPERIENCE

28

EDUCATION

- BS, Civil Engineering

PROF REGISTRATION

- PE - 1994, FL, 55322
- FDOT Cert. Professional



REED
Blochberger, PE
ENV. ASST./REMEDIATION

Reed is a water resources engineer with experience in hydrology, hydraulics, hydrologic instrumentation, and drainage infrastructure design. He brings local expertise in drainage infrastructure evaluation and experience with Green Infrastructure in Florida.

PROJECT EXPERIENCE

- Broward County Water and Wastewater Services | GES | Project Engineer
- Miami-Dade WASD | Golden Gate Weir Replacement | Project Engineer
- Miami-Dade WASD | SDWWTP Electrical Distribution Building | Project Engineer

OFFICE LOCATION

Orlando, FL

YEARS EXPERIENCE

10

EDUCATION

- BS, Civil Engineering

PROF REGISTRATION

- PE - 2021, FL, 90955



CHRIS
Barlow, PE
PUMP/LIFT STATIONS

Chris is an experienced engineer with a focus on the analysis and designs of municipal utility projects, primarily in south Florida. This experience includes the successful completion of numerous pump station design, rehabilitation, and installation projects.

PROJECT EXPERIENCE

- City of Hollywood | Professional Services Agreement | Project Manager
- Seacoast Utility Authority | Continuing SCADA Services Agreement | Project Manager
- City of Hollywood | Higher Services Pump Station Upgrades | Project Manager

OFFICE LOCATION

Coral Springs, FL

YEARS EXPERIENCE

24

EDUCATION

- BS, Env. Engineering

PROF REGISTRATION

- PE - FL, 2003, 59256



LUCAS
Botero, PE, BCEE, ENV SP
WASTEWATER

Lucas has extensive knowledge of wastewater treatment process engineering with an emphasis on plant capacity evaluations, activated sludge design including biological and chemical nutrient removal, treatment plant modeling, industrial waste treatment and headworks design.

PROJECT EXPERIENCE

- City of Key West | WWTP Blower Improvements | Process Specialist
- Miami-Dade WASD | Design Services for WWTPs Related to Ocean Outfall Legislation | Project Manager
- Broward County Water and Wastewater Services | GES | Process Specialist

OFFICE LOCATION

Coral Springs, FL

YEARS EXPERIENCE

26

EDUCATION

- MS/BS, Civil Engineering

PROF REGISTRATION

- PE - 2007, FL, 67242



ED
Rectenwald, PG, PMP
HYDROGEOLOGY

Ed has experience in various hydrologic, geologic, and environmental investigations including project management, design, permitting, construction, and testing of Class 1 injection wells, Class V ASR wells, Aquifer Recharge wells, and rehabilitation of deteriorated wells.

PROJECT EXPERIENCE

- Miami-Dade WASD | Design Services for WWTPs Related to Ocean Outfall Legislation | Senior Tech. Lead
- City of Cape Coral | Comprehensive Water Resources Program | Technical Lead
- Miami-Dade WASD | Performance Testing and Cycle Testing of ARS System at West Wellfield | Technical Lead

OFFICE LOCATION

Fort Myers, FL

YEARS EXPERIENCE

26

EDUCATION

- MSc/BSc, Geology

PROF REGISTRATION

- PG - FL, #PG2469



RON
Parker, PE
OPERATIONS &
MAINTENANCE

Ron has experience in the management of treatment plant operations, facilities operation and maintenance (O&M), treatment plant startup and commissioning, disinfection and neutralization of assorted structures, operator training, equipment maintenance, and O&M manual preparation.

PROJECT EXPERIENCE

- City of Hollywood | Professional Services Agreement | Project Manager
- Seacoast Utility Authority | Continuing SCADA Services Agreement | Project Manager
- City of Hollywood | Higher Services Pump Station Upgrades | Project Manager

OFFICE LOCATION

Tampa, FL

YEARS EXPERIENCE

40

EDUCATION

- BS, Education

PROF REGISTRATION

- Class IV Water Supply Operator



MARK
Chomtid, PhD, PE
FOUNDATIONS

Dr. Mark Chomtid has more than 20 years of engineering experience mainly focused on geotechnical engineering. He has extensive experience in design, construction and inspection of earthen embankments including levees, reservoirs and phosphatic clay settling area.

PROJECT EXPERIENCE

- South Florida Water Management District | C-43 West Storage Reservoir Civil Works Project | Geotechnical Engineer
- Palm Beach Aggregates | C-51 Reservoir | Geotechnical Engineer
- South Florida Water Management District | Reservoir Piezometer Data Analysis | Geotechnical Engineer

OFFICE LOCATION

Tampa, FL

YEARS EXPERIENCE

24

EDUCATION

- PhD/MS, Geotech. Engineering

PROF REGISTRATION

- PE - 1998, FL, 66256



ROB
Rampetsreiter, PE, SE
STRUCTURAL

Rob has worked on the structural design of industrial, commercial, educational, retail and specialty metal fabrications for wall panel skin systems. He works directly with the client from schematic design to project close.

PROJECT EXPERIENCE

- City of Branson | Water and Wastewater Treatment Plant Upgrades | Structural Engineer
- Sacramento Regional County Sanitation District | New Wastewater Treatment Plant | Structural Engineer
- Eastern Municipal Water District | New Booster Pumping Station | Structural Engineer

OFFICE LOCATION

Kansas City, MO

YEARS EXPERIENCE

34

EDUCATION

- MS, Structural Engineering
- BS, Civil Engineering

PROF REGISTRATION

- PE - 2004, FL, 62194



PHIL
Rishel, RA, LEED AP
ARCHITECTURE/LEED
BUILDINGS

Phil's experience includes all phases of architectural design; schematic development, conceptual graphics and renderings, 3D computer modeling, the production of drawings and documents, specification writing, finish selection, and construction phase services

PROJECT EXPERIENCE

- City of Venice | Water Booster Pump Station | Project Architect
- Helix Water District | Johnstown Pump Station | Project Architect
- San Elijo Joint Powers Authority | WRF Sludge Dewatering Facilities Upgrade | Project Architect

OFFICE LOCATION

Kansas City, MO

YEARS EXPERIENCE

16

EDUCATION

- MS, Architecture

PROF REGISTRATION

- RA - 2006, FL



GWEN Pitts

ARCHITECTURE/LEED
BUILDINGS

Gwen has experience in all phases of architectural design; schematic development, 3D computer modeling, specification writing, production of drawings and , and construction phase services.

PROJECT EXPERIENCE

- Board of Water Works of Pueblo | Whitlock Water Treatment Plant | Lead Architectural Designer
- Miami-Dade WASD | Preston WTP High Service Pump Room Electrical Upgrades | Lead Architectural Designer
- City of Fargo | Red River Pump Station Improvements | Architectural Designer

OFFICE LOCATION

Kansas City, MO

YEARS EXPERIENCE

2

EDUCATION

- MS, Architecture

PROF REGISTRATION

- N/A



ANDREW Smith, PE, CFM, ENV SP

STORMWATER &
INFRASTRUCTURE DESIGN

Andrew is Black & Veatch's National Stormwater Practice lead. His experience has centered around stormwater management, with many projects including hydrologic and open channel hydraulics modeling, GIS analysis, and dam and spillway design, stream restoration.

PROJECT EXPERIENCE

- Dallas Water Utilities | Stormwater Program Evaluation and Improvement | Project Manager
- City of Memphis | Stormwater Program Management | Project Manager
- City of Goodyear | Stormwater Program Evaluation | Lead Technical Reviewer

OFFICE LOCATION

Kansas City, MO

YEARS EXPERIENCE

22

EDUCATION

- MS/BS, Civil Engineering

PROF REGISTRATION

- PE - 2004, FL, 61932



JAMES

Sullivan, RA, NCARB, ENV SP

HISTORIC BUILDINGS
PRESERVATION

James is trained to perform preservation analysis by the National Park Service at the National Center for Preservation Technology and Training. Training covered historical and building pathology, diagnostics methodology, and treatment strategies for preserving historical landmarks.

PROJECT EXPERIENCE

- Saratoga Monuments | Monument Preservation | Architectural Historical Preservationist
- National Park Service | Fort Pickens Historical Preservation Asst. | Architectural Historical Preservationist
- National Park Service | Fort Barrancas Historical Preservation Asst. | Historical Preservation Assessment

OFFICE LOCATION

Overland Park, KS

YEARS EXPERIENCE

37

EDUCATION

- BS, Construction
- BS, Architecture

PROF REGISTRATION

- Registered Architecture
- NCARB



SAM Miller, PE

STORMWATER

Sam has worked on several different types of projects ranging from solar but primarily civil/site roles and water resource project. He has developed experience in grading, stormwater modeling, yard piping, site design, environmental permitting, and construction phase services.

PROJECT EXPERIENCE

- City of Cape Coral | Utilities Extension Program | Stormwater Designer
- Tampa Bay Water | Eldridge-Wilde Wellfield Improvements | Stormwater Modeler
- Hillsborough County | NWWRF Solids Building | Stormwater Modeler

OFFICE LOCATION

Orlando, FL

YEARS EXPERIENCE

7

EDUCATION

- MS/BS, Env. Engineering

PROF REGISTRATION

- PE - 2022, FL, 089926



ROBERT
Chambers, MBA
FUNDING

Robert's utility knowledge covers a range of utility management and operating issues, including cost of service and rate analysis, financial planning, capital financing, acquisitions and valuations, energy management, customer affordability, and strategic planning.

PROJECT EXPERIENCE

- Puerto Rico Aqueduct and Sewer Authority | General Consulting Services | Project Manager
- Hartford County | Comprehensive Revenue Analysis and Rate Study | Project Manager
- City of Wilmington | Water, Wastewater, Stormwater Utility Annual Financial Planning and Rate Study | Project Manager

OFFICE LOCATION

Coral Springs, FL

YEARS EXPERIENCE

19

EDUCATION

- MBA/BS, Finance

PROF REGISTRATION

- N/A



LARRY
Brouillette, PE
INSTRUMENTATION &
CONTROLS

Larry is a senior I&C engineer responsible for the process design and development of various wastewater, reclamation, and potable water, facilities including feasibility studies, alternative technologies review, design, construction services, final commissioning and training.

PROJECT EXPERIENCE

- City of Hollywood | Energy Efficiency Master Plan | I&C Engineer
- Miami-Dade WASD | South District WWTP, Electric Building 3 | I&C Engineer
- Florida Keys Aqueduct Authority | Cudjoe Key Advanced Wastewater Treatment Plant | I&C Engineer

OFFICE LOCATION

Orlando, FL

YEARS EXPERIENCE

39

EDUCATION

- BS, Electrical Engineering

PROF REGISTRATION

- PE - 2002, FL, 57973
- PE - 2003, VA, 0402037398



LAURIE
Kusmaul
SCADA

Laurie is a solutions-oriented Industrial IT Professional with proven success designing, implementing, and integrating cost-effective, high-performance technical solutions in various markets, especially the water & wastewater pumping industry.

PROJECT EXPERIENCE

- City of Hollywood | Automation & SCADA Improvements | PLC & SCADA HMI Programmer
- Martin County | SCADA Services and Support | SCADA Programmer
- City of Orlando | Lift Station and SCADA Programming | SCADA Programmer

OFFICE LOCATION

Coral Springs, FL

YEARS EXPERIENCE

18

EDUCATION

- MBA, Management Info. Systems

PROF REGISTRATION

- Trihedral VTSCADA Advanced Programmer - 2012



MELODY
Gonzalez, EI
CONSTRUCTION
MANAGEMENT

Melody has provided construction management services as lead project engineer on several project including performing site inspections, response to RFIs and construction submittals process documentation

PROJECT EXPERIENCE

- City of Key West | Dennis Street Stormwater Well Abandonment Permitting Services | Project Engineer
- City of Key West | Aeration Upgrades and Electrical Switchgear Replacement | Project Engineer
- South Florida Water Management District | C43 Reservoir Engineering Services During Construction |

OFFICE LOCATION

Coral Gables, FL

YEARS EXPERIENCE

4

EDUCATION

- BS, Civil Engineering

PROF REGISTRATION

- EI - 2019, FL, 11100022422

Professional	VALUE TO THIS PROJECT
KEITH CHEE-A-TOW <i>(AA) Surveying</i> 43 YRS EXP Professional Land Surveyor - FL	Over 50 years of land surveying experience and oversees Avirom & Associates' Monroe County operations and has worked directly with Monroe County since 2016. He offers this assignment a broad portfolio of knowledge and relevant experience throughout the Florida Keys including boundary, topographic, hydrographic and GPS surveys, jurisdictional wetlands, aerial mapping and expert witness testimony.
ARVIND KUMBHOJKAR, PHD, PE <i>(HP) Geotech/Testing</i> 26 YRS EXP PE - FL, 41067	Over 25 years of experience in Geotechnical, Transportation, Value and Forensic Engineering, ITS, CEI, and Construction, and Program Management. He leads HP Consultants Inc. since 2002. He is an internationally known expert in geotechnical and foundation engineering. His work on foundation design and field instrumentation is widely referred in geotechnical texts and handbooks, respectively.
THOMAS CRENSHAW, PE <i>Regulatory Review & Permitting</i> 5 YRS EXP PE - FL, 092833	Dedicated Civil/Environmental Engineer with passion for designing and assessing the environmental impact of engineering plans. Experience in reviewing water and wastewater projects, writing water quality monitoring technical reports, and improving environmental issues with environmental regulations.
DAVID MARTINS, PE <i>Electrical</i> 10 YRS EXP	Solid electrical engineering knowledge base with over 10 years of experience in electrical systems design and the construction industry. In addition, he is adept at managing multiple projects and is proficient in many types of software, including AutoCAD, Revit, ETAP, SKM, Visual, AGI32, among others.
MICHELE ROTH, PE, LEED AP BD+C <i>Building Mechanical</i> 41 YRS EXP PE - FL, 82002	Experienced in the design and task leadership of various mechanical systems, including heating, ventilating, and air conditioning (HVAC), odor control, plumbing, and dehumidification systems for many water and wastewater treatment, distribution, and collection facilities as well as dam, tunnel and substation facilities. Has been involved in studies, designs, building energy models, and reports for existing treatment plants and associated facilities including LEED studies.
DIEGO BARRIOS, PE <i>Process Mechanical</i> 14 YRS EXP PE - TX, 137476	Mechanical field/office engineering experienced in generating mechanical specifications for procurement and coordinating with the suppliers including contractor coordination, engineering resolution, QA/QC compliance, contract management and client liaison.
MICHAEL MAZER, PE, PMP, DBIA <i>Construction Management</i> 10 YRS EXP PE - FL, 86447	Experienced in traditional, CMAR and, design-build projects. Responsibilities have included design criteria package development, construction schedule development, and other planning support for projects using collaborative delivery on various water and wastewater projects across southern Florida.
NICK ALEXANDROU, GISP <i>GIS/CAD Design</i> 12 YRS EXP GISP Cert. - 160706	Areas of expertise include CMMS Implementation, Cityworks platform optimizations, ArcGIS enterprise deployments and administration, system integrations with financial billing, permitting, and sewer CCTV. Has implemented organization-wide asset management programs and strategies and performed large-scale data analysis for phased capital expenditure replacement plans for aging infrastructure.
CLAYTON GLATT <i>GIS/CAD Design</i> 22 YRS EXP	BIM/CAD project lead for Black & Veatch water conveyance projects throughout Florida. 20 years of experience leveraging both CAD and GIS platforms across multiple engineering disciplines, offering solutions for projects requiring any combination of detailed design and plan production, geospatial analysis, mapping, as-builts, and asset data organization.

7

Qualifications



Qualifications

FIRM QUALIFICATIONS

The City of Key West is in need of general engineering consultants of various services. Black & Veatch is committed to supporting the City by providing a highly-qualified team that will bring its national expertise and diverse experience to implement local solutions. Our goal for this General Engineering Services (GES) contract is to

partner with the Engineering and Utilities Departments in support of the City's Mission: To preserve and protect our island.

Black & Veatch is submitting qualifications for the following disciplines: Civil and Structural Engineering, City Utilities, and Coastal Facilities.



CIVIL AND STRUCTURAL ENGINEERING QUALIFICATIONS

Civil Engineering Qualifications

Black & Veatch offers comprehensive civil engineering services, including studies, planning, preliminary and detailed design, permitting assistance, utilities relocation, bidding assistance, construction management and construction phase services involving resident engineers and field inspectors.

Based on our discussions with City staff, we understand that the following Civil Engineering Services are representative of the Utilities Department's civil infrastructure needs: Civil/Site Engineering, Sanitary/Storm Sewers, Transportation/Roads, Environmental Assessment/Remediation, and associated construction services. We have assembled a team that specializes in these services and will provide full support to the City in the completion of any civil engineering task assignment.

Civil Site

Black & Veatch provides civil/site services related to site development, geotechnical, foundations, buildings, structures, and materials handling systems.

Our professionals coordinate the development of the site layout and design and prepare construction drawings for site work, roads, railroads, waterways, drainage, and underground utilities. We regularly provide our clients with preparation of subsurface exploration programs, coordination of drilling and laboratory contracting, preparation of boring logs, and preparation of the foundation design recommendations. Also, our engineers define and coordinate the topographic survey tasks required for the design development of our civil designs.

Sanitary/Storm Sewers

Black & Veatch has been a leader in the study, evaluation, analysis, design, and implementation of sewer system collection and conveyance facilities. Our sewer system utility planning and design project experience include development of sewer system master plans; and implementation programs as large as \$2.2 billion in improvements. State-of-the-art tools such as geographical information systems (GIS) and computer modeling are used to ensure the accuracy and efficiency of each project.

Black & Veatch has helped hundreds of communities with sanitary and storm sewer systems. We have encountered and successfully solved every conceivable type of problem related to the design and construction of sewers, including pre-stressed concrete cylinder pipes.



Richard Heyman Environmental Protection Facility at the City of Key West.

Construction conditions have ranged from highly-developed urban and residential areas to open country, and have required various construction procedures including open-cut, trenching with shoring, tunneling and above-ground piling. A wide range of soil and groundwater conditions has required the use of procedures such as dewatering the trench prior to construction or installing the pipe; piling to prevent settlement; air pressurizing (for tunnels); and weighting to protect against flotation. Highly corrosive soils encountered on some projects have required special corrosion measures such as coating or wrapping the pipe, or the use of cathodic protection systems.

Hydraulic Modeling

Infrastructure modeling and planning is a core competency at Black & Veatch, and has been for decades. We are industry leaders when it comes to the best practices of analyzing distribution systems throughout the country and are involved with authoring many of the manuals and guidelines used in the water industry. We understand distribution system hydraulics and provide world class services and solutions to clients.

Black & Veatch has completed hundreds of water system models and master plans throughout the country, Florida, and South Florida, including Broward and Miami-Dade County.

Hydraulic modeling in Florida and other coastal communities in the Southeast has its nuances. Elevations are typically flat requiring numerous pump stations and force mains manifolded together and pumping against each other. There is increased inflow and infiltration (I/I), seasonal groundwater infiltration (GWI) contributions, and large/lengthy storm events which can make flow characterization more complex.

The Black & Veatch team for this project has a long history of hydraulic modeling in Florida and a comprehensive understanding of these nuances.

Roads

The safe and efficient movement of people, goods and vehicles is the focus of our traffic and transportation engineering practice. Because our team understands that traffic relates to, is impacted by, and itself affects other facets of development, our team provides a holistic approach to solving and providing insight into traffic engineering challenges that can be typical of our region.

Our team will incorporate ideas such as multi-modal solutions, intelligent transportation systems, and complete streets into traffic and transportation designs, studies and analyses that effectively optimize transportation solutions. Whether designing to maximize on-site parking, performing analyses to determine traffic patterns or preparing signal plans, our team focuses on providing solutions that address the needs of each task work order.

ACCESS TO OUR FLORIDA-BASED HYDRAULIC MODELING EXPERTISE

AMANDA SCHWERMAN, PE

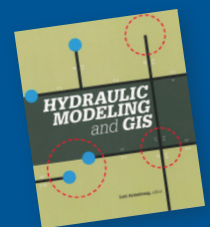
Amanda Schwerman is a Florida-based hydraulic modeler. She provides our clients with surge modeling and condition assessment experience to develop comprehensive capital improvement recommendations that balance capacity and risk/condition needs. She is the technical lead for the implementation of the master plan and update to the hydraulic model for Broward County's regional transmission system.

Amanda is extremely knowledgeable of the nuances of Florida water distribution systems, wastewater collection systems, and reclaimed water distribution systems. She uses all of the standard software such as InfoWater, WaterGEMS, and InfoSWMM to analyze capacity, energy optimization, water quality and I/I concerns for utilities.



WE WROTE THE BOOK

Black & Veatch professionals were the primary authors of the Esri publication Hydraulic Modeling and GIS.



Our approach ultimately yields professional, reliable and cost-effective results that allow our clients to meet all of the goals and regulatory requirements essential to the successful completion of their projects.

Our team can provide a wide range of transportation engineering solutions including but not limited to:

- Roadway Design and Drainage
- Traffic Engineering Studies
- Traffic Signal Timing
- Signing and Pavement Marking
- Lighting
- Signalization
- Channelization
- Subarea/Corridor Planning
- Land Planning/Engineering
- Transportation statistics
- Utility Coordination
- Public Involvement

In addition, our subconsultant, HBC need info from HBC has capabilities in the areas of developing temporary traffic control plans (MOT), highway design, interchange design, and utility coordination. HBC also brings experience with paving, grading and drainage. As part of the Black & Veatch team, they will provide local civil engineering and roadway design support to the City.

Environmental Engineering

Black & Veatch provides comprehensive environmental engineering services to our clients, including full support in addressing regulatory permitting and licensing requirements. Our environmental services capabilities support all phases of project development including the identification of environmental regulatory requirements, establishment and implementation of a comprehensive licensing strategy, conducting environmental field studies, characterization, modeling and analysis of impacts and preparation of permit applications for review by regulatory agencies and the public. Black & Veatch professionals are also experienced with environmental impact studies, multi-volume environmental assessment reports, site certification applications, and expert testimony.

Our experience includes design, program management, construction oversight, and maintenance considerations. Our team of local and national experts is highly motivated



to create innovative solutions to revitalize communities, reduce flooding, improve water quality, restore natural resources, and integrate nature based solutions to elevate climate resiliency.

Our services enable the City to:

- Create integrated, watershed-based plans that provide alternatives to expensive replacement and rehabilitation of aging infrastructure
- Meet regulatory requirements by leveraging cost-effective and multi-benefit sustainable solutions
- Maximize stormwater capture and infiltration potential while providing a water quality benefit
- Provide neighborhood amenities and green space while meeting multiple community-based objectives
- Maximize the amount of state, federal, and other alternative financing sources
- Prepare for long-term operation and maintenance

Our team has experience implementing green infrastructure into site development projects, transportation corridors, and infrastructure retrofits.

This experience includes mixing GSI solutions alongside traditional stormwater management to find the right balance for our clients between cost, water quality improvements, stormwater retention, and public acceptance. Typical GSI features in our approach include:

- Bioswales
- Subsurface Storage
- Permeable Pavement
- Rain Gardens
- Bioretention Facilities
- Stream Restoration

Our team's local experience, coupled with access to our national stormwater and green infrastructure expertise, will guarantee the City a positive outcome from project conception to final implementation.

Structural Engineering Qualifications

Specific to Structural Engineering Services, Black & Veatch Team will provide the Utilities Department with comprehensive services that may include planning, existing facilities rehabilitation evaluations, full-scale engineering, design, permitting, bidding and construction phase services for improved facilities that may require detailed Structural Engineering, Architecture/LEED Buildings, and Historic Building Preservation.

Structural

Black & Veatch has extensive experience with structural engineering and design encompassing structural repairs, rehabilitation, and replacement. **Our structural engineering group holds professional engineering registrations in 46 states, including Florida, and have a range of experience in concrete, steel, masonry and timber construction.** These professionals are well versed in various methods of project delivery and continually are involved the improvements and repairs on a variety of facilities. Our team is focused on delivering customized structural packages to meet the City's specific standards.

Black & Veatch has experience providing erection drawings, fabrication drawings, bills of material, point-to-point bolt lists,

ACCESS TO OUR LOCAL GREEN INFRASTRUCTURE EXPERTISE

Reed Blochberger, PE

Reed is experienced with Green Infrastructure, particularly for Florida. With 10 years of experience in drainage infrastructure design, H&H modeling, and watershed planning, Reed understands how Green Infrastructure plays into the larger picture of stormwater management. He brings local expertise in drainage infrastructure evaluation. His project experience includes H&H modeling, floodplain analysis, storm drain design, scour calculations, drainage master plans, site drainage, dam EAP updates, drought planning, and reservoir operations.



ECHO PARK PROJECT

Our award-winning Echo Park project demonstrates the commitment that Black & Veatch has to developing high-quality, sustainable designs that are an asset to the community and water resources.

The City will receive comprehensive, sustainable urban planning solutions for its stormwater and wet weather infrastructure needs. Our inter-disciplinary team has developed successful green stormwater infrastructure (GSI), stream restoration, and sustainable planning projects across the country.

and field assembly lists. Our team has worked with clients across Florida and the U.S. to address structural analysis and improvements, rehabilitations and repairs to maintain plant reliability, support and foundation design, site plans, permitting, and construction support.

Black & Veatch has provided structural services on projects for Florida clients such as the City of Deerfield Beach, Broward County, SFWMD, and Miami-Dade County. These services have included structural analysis, support and foundation design, site plans, permitting, and construction support.

Foundations

Black & Veatch employs engineers with a specialized focus in analysis and design of foundations for large vibrating equipment; vibration investigation and alleviations; review of special structures such as chimneys, stacks, and silos; and finite element modeling. We provide feasibility studies, system designs, contract administration, and consultation assistance during erection and system startups.

We also provide basic analysis and design calculations required to prepare documents, specifications, and drawings for geotechnical analysis of foundations, dams, and earth retaining structures in addition to foundation design for shallow and deep foundations. Our detailing capabilities provide projects with in-house steel and reinforcing detailing capability that can significantly shorten the overall project schedule.

Architectural

Black & Veatch provides architectural services to clients in a variety of technical roles. The professionals in our architectural group hold professional registrations in 29 states. They are well versed in all methods of project delivery, are a company leader in the execution of projects utilizing Black & Veatch's global workforce and regularly interface between various Black & Veatch divisions. **Our Architectural Department technicians are proficient in 3D modeling and BIM+ implementation, which improve project design efficiency.**

Black & Veatch provides full modeling and rendering services. Using computer software to create an electronic model of the design, Black & Veatch creates an exact model of a facility including rooms, spaces, stairs and furniture, as well as pipes, pumps, equipment, and ductwork. In addition, the model can be expanded to include the surrounding site showing roads, vehicles, landscaping and other existing buildings or facilities. Walkthroughs of the interior spaces

Our rendering views of a facility from any angle, inside or out, will illustrate the City exactly how a space or building will appear when construction is complete, helping solve design issues before construction.

take the viewer through the space on a predetermined path, while flyovers take the viewer over and around the exterior of a facility or site.

Black & Veatch offers a wide variety of architectural services including:

- Conceptual Design
- Laboratory Design & Layout
- Color, Finish & Furniture Selection
- Sustainable Design & LEED Certification Assistance
- 3D Modeling
- Intelligent Design
- Computer Renderings & Animations
- Artist Renderings
- Construction Documents (Plans & Specs)
- Construction Phase Services
- Permitting Assistance
- BIM+ Execution

LEED Buildings

Black & Veatch has 29 professionals on staff who are LEED™ accredited (Leadership in Energy and Environmental Design). LEED is the nationally accepted benchmark for the design, construction and operation of high-performance green buildings and facilities. Design and construction industry practices incorporating sustainable design and construction principles embodied in the LEED™ rating system have become an integral part of our clients design solutions.

These individuals are fully qualified, through both formal training and practical work experience, to integrate all aspects of sustainable design into the performance of City projects. Throughout our history, we have incorporated the concepts of environmentally friendly design and cost-effective reuse of waste materials into our projects for both the US government and private clients. These strategies were pursued as much for economic benefit as for minimizing environmental impact. For example, lowering construction costs through the reuse of waste material, or optimizing heating/cooling effectiveness through careful ventilation and window design affords both environmental and economic benefits.

In recent years, however, as the nation's understanding of the potential environmental impacts of both large and small construction projects has grown, Black & Veatch has worked even harder to integrate the latest technology and insightful thinking into our designs. These design strategies, grouped under the umbrella of Sustainable Design, or alternatively, Green Building, are not pursued as simply eco-friendly add-ons to an existing project. They are considered at the beginning of the design process and are seamlessly and almost invisibly integrated into the final product.

Historic Building Preservation

Black & Veatch understands the cultural significance and design limitations that must be considered when working at historical sites.

Black & Veatch has provided architectural, engineering and planning services for the preservation and maintenance of historic assets throughout the United States. Specialized knowledge is necessary for the design and construction of these special facilities.

Black & Veatch is able to offer our structural and historic building preservation knowledge to the City of Key West to ensure cost-effective structural evaluations, design, accurate cost estimates and viable construction schedules.

Black & Veatch has provided asset assessments for the National Park Service (NPS), including historical preservation, at well over 100 of the 390 parks in the NPS portfolio. We led a \$130M multi-phase tunnel replacement program under historic downtown Charleston, South Carolina that involved an extensive cultural resource impact study to ensure minimization of the impact to historic structures.



LEED SILVER CERTIFICATION *City of Durham, NC*

A project for the City of Durham included accomplishing a goal of LEED Silver certification for a new Administration Building at the Brown WTP.

We have been entrusted by our clients to provide services such as security upgrades and risk assessments at the Mount Rushmore National Memorial and the St. Louis Arch. We also designed a communication data network for the Yosemite National Park.

Black & Veatch provided engineering and architectural services for the renovation of the ten-story civil engineering building known as Mahan Hall at the U.S. Military Academy at West Point. The renovation included changes and modifications to the existing mechanical, electrical, and fire protection systems and general repair of some structural and architectural elements. Black & Veatch's services include the investigation, evaluation, design, and construction inspection.



"Black & Veatch was absolutely outstanding, especially working in such a tight, historically sensitive area, an area of early irreplaceable homes. Archeologists were utilized when needed and the onsite inspector allowed no detail to escape his watchful eye. In addition, neighbors were regularly informed, consulted, and advised."

- Excerpt from an unsolicited letter from a homeowner in downtown Charleston, SC





UTILITIES ENGINEERING QUALIFICATIONS

Utilities Engineering Qualifications

Black & Veatch will provide the Utilities Department with comprehensive services that may include master planning, pump/lift stations evaluations, sanitary and storm sewers design, wastewater treatment, stormwater management, hydraulic modeling, hydrogeology support, utility rate studies and bond engineering reporting, organizational optimization and change management, and sustainability and energy efficiency analyses for improved sewer and stormwater system operations and cost savings.

We understand that the Utilities Department focuses on wastewater, stormwater and solid waste services. Black & Veatch will provide practical solutions through our world-class technical capabilities specific to these services.

Wastewater

Black & Veatch has designed thousands of wastewater treatment facilities or plant expansions that range from 0.2 MGD up to 1,000 MGD. Our success is attributed to the expertise that our staff offers including services in design, permitting, and construction management. Our company is an industry leader in engineering consulting wastewater treatment facilities. Black & Veatch provides services such as master planning, process evaluations, permitting and regulatory assistance, preliminary and detailed design, bidding services, construction phase services and inspection, startup and commissioning, operational assistance and training, and a host of related services. We can deliver cutting edge treatment technology solutions while also executing more routine projects with the highest level of efficiency.

Black & Veatch's leadership in wastewater engineering is based on sound designs that enable our clients to satisfy regulatory requirements; meet specific needs and concerns; and result in cost-effective and energy-efficient operations and maintenance.

ACCESS TO OUR LOCAL WASTEWATER TREATMENT EXPERTISE

LUCAS BOTERO, PE, BCEE, ENV SP

Black & Veatch has a long legacy of research and innovation through pilot trials for our clients and for vendors, collaboration with the Water Research Foundation, universities and other entities, and more recently through our Innovation Platform.

Black & Veatch's Innovation Platform is our collaborative, applied research program focused on assessing the value proposition of technologies and solutions to develop the resource recovery factory of the future. Through targeted collaborations with utility partners and academics - Black & Veatch has committed investment to this endeavor.

Lucas Botero, our local wastewater treatment engineer, is part of Black & Veatch's Innovation Platform and leverages his process experience to provide treatment optimization solutions for our clients' wastewater treatment facilities.



LOCAL EXPERIENCE

Richard A. Heyman Environmental Protection Facility (RAHEPF) Improvements | City of Key West

Black & Veatch designed improvements for additional treatment capacity at the RAHEPF. The project includes three aeration blowers with associated mechanical piping, the replacement of the existing 500-hp deep injection well, and instrumentation and controls components to increase redundancy at the facility. The blowers include new variable speed drives to improve energy efficiency during operations. The design also included major electrical upgrades for added reliability and redundancy of the electrical loads at the advanced wastewater treatment plant.



Pump/Lift Station

Black & Veatch brings experience and expertise in virtually every type of pumping condition, pumping equipment, piping size and material, control scheme, and power source. Additionally, we have successfully conducted surge analyses for many of these systems, including models to simulate surge conditions; field tests to calibrate the model; and surge control devices including surge anticipator valves, air/vacuum valves, control valves, tanks, flywheels, control systems, and other similar equipment.

Our team possesses in-depth experience with the design of wastewater lift stations that manage grit and solids in the system and provide odor control technologies to minimize impact on the neighborhoods.

Black & Veatch has designed all types of pumping stations as stand-alone projects and as integral components of treatment facilities. Our experience includes pump stations with different types of pumping equipment, including horizontal centrifugal, vertical turbine, axial flow, and submersible pumps; constant speed or variable speed capability. Black & Veatch pump stations designs provide maximum flexibility to allow for pumping over a wide range of capabilities. In addition, our designs include pump stations that resemble and are compatible with local aesthetics, each tailored to the particular capacity and head conditions of the project.

Black & Veatch works with utilities to develop tools to help operators reduce energy use at new and existing pumping stations. For example, we develop dashboards that help operators understand real time conditions and see on the same display on/off peak rate schedules and alarms of energy spikes to minimize demand charges.

TABLE 1. Pump Station Design Experience

Effluent Pump Station Evaluation; Miami-Dade Water and Sewer Department, FL	Evaluation of eight existing pumps (rated at 500 HP each) and whether they should be rehabilitated or replaced
Key West Dennis Street Stormwater Improvements; City of Key West, FL	New stormwater pump station
Dr. Phillips Master Pump Station PS 3151; Orange County Utilities, FL	New station; six submersible pumps 1,000 gpm each; electrical building, VFD, generator, odor control
Southwest Pump Station PS 3597; Orange County Utilities, FL	Design only; five submersible pumps 1,125 gpm each; rehab/expanded wetwell; new electrical building, VFDs, generator, and odor control
OCU South Water Reclamation Facility; Orange County Utilities, FL	Plant expansion to 56 MGD; multiple pumping systems; new electrical, VFDs, SCADA; generators
Hamlin Groves Trail Orange County Utilities, FL	Design complete. Designed for six submersible pumps at 3,000 gpm each, new station; four submersible pumps at 3,000 gpm each; electrical building, VFD, generator, odor control



LOCAL EXPERIENCE

Effluent Pump Station Evaluation | Miami-Dade, FL

Black & Veatch evaluated the effluent pump station at the 160 MGD AADF Central District Waste Water Treatment Plant (CDWWTP) to determine its ability to accommodate the expected increase in peak flows and reduction of overall average flows resulting from Ocean Outfall Legislation requirements.



Black & Veatch has always provided innovative ideas for solving MDWASDs challenges, they really think outside the box, and deliver innovative solutions to problems that result in cost and schedule savings, while meeting the desires of the operations staff."

- **MARISELA ARANUIZ, PE**
ASSISTANT DIRECTOR MIAMI-DADE WASD

Stormwater

Excess stormwater can force utilities to deal with damaged waterways and watersheds, strained sanitary sewer infrastructure, and regulatory non-compliance. With dedicated wet weather discharge experts located locally and across the country, Black & Veatch helps our clients avert issues, mitigate risks, and respond to events in an appropriate, cost-effective manner.

We offer local expertise backed by our company's wide-range of stormwater management and control services and a global perspective on current trends and innovative approaches. We use the most recent and effective software and technology available, including modeling systems, GIS systems, condition assessment techniques, and rehabilitation technologies.

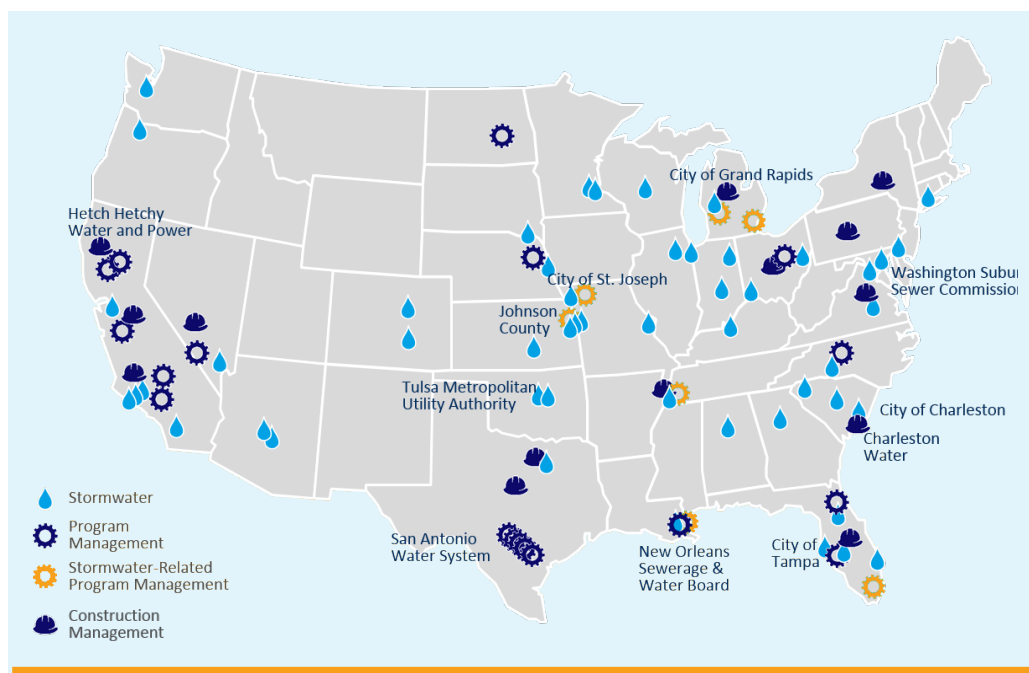
Our integrated stormwater solutions go farther than traditional stormwater management to efficiently handle what is typically considered a nuisance and to capitalize on the potential to create multiple benefits from improved long-term sustainability and augmented resilience of infrastructure systems.

Our background in stormwater management is extensive and diverse. The completion of hundreds of stormwater-related studies, as well as numerous comprehensive planning efforts for state and local governments nationwide, enables us to draw upon a wealth of experience.

Effective solutions typically involve green infrastructure designs, detention structures, conveyance and open channel systems, underground drainage systems, or combinations of these.

Our national team successfully blends engineering and science in water resources management – as well as decades of experience solving communities' most complex stormwater challenges – to provide a full spectrum of expertise across the entire project lifecycle.

We leverage our experience and lessons learned to tailor solutions that simultaneously provide multiple complementary benefits, including flood protection, water quality improvement, water reuse, ecological benefits and recreational/educational opportunities while optimizing life-cycle costs and providing operational flexibility. Our vision is to provide comprehensive water resource capabilities and a collaborative approach for the planning, design and construction management of solutions that support our clients' missions and objectives.



Black & Veatch has delivered stormwater program management, design, and construction management services to solve some of the most complex and technically challenging issues for municipal water clients across the United States.

The City will benefit from Black & Veatch's comprehensive stormwater solutions team that is nationally and globally recognized for its ability to deliver cost-effective, integrated solutions for projects and programs large and small.

Recharge/Injection/Hydrology

Thorough understanding of the local hydrogeologic conditions is critical to ensure proper design and installation of a new well and pipeline or rehabilitation of an existing well and pipeline. The evaluation of groundwater conditions may include groundwater flow modeling, geological exploration, aquifer testing, aquifer yield estimates, and well troubleshooting, among others.

Our clients have access to our vast amount of Florida-wide and local hydrogeological experience and also possesses expertise in water resources engineering and hydrogeologic services. Our professionals have planned and implemented projects, including groundwater supply development from surficial and Floridan aquifers, surface water treatment and supply systems, reservoirs, aquifer storage and recovery, and concentrate and effluent injection wells, including the deepest wells constructed in Florida. Our team has participated in numerous well siting, wellfield design, and resource planning projects and has significant experience in providing water resource evaluations and sustainability planning to manage groundwater resources.

Our hydrogeologists lead in innovation with the Smart Wellfield tool, which is a wellfield that is capable of integrating SCADA with a geographic information system (GIS), local hydrogeology, groundwater quality, energy consumption, and wellfield hydraulics information to perform analytics that will result in the optimization wellfield operations.

The optimized operations increase the useful life of the wells and ancillary infrastructure and provide cost savings from increased energy efficiency and treatment of a consistent groundwater quality.

Black & Veatch has the most combined aquifer recharge/ASR experience in the state and is comprised of nationally recognized aquifer recharge /ASR experts in permitting, design, construction, and subsurface geochemical processes that cause metals mobilization.

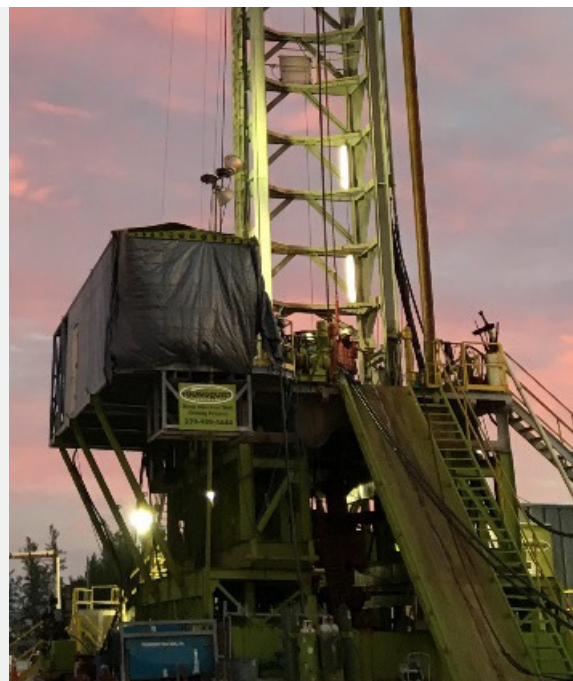
Our team has well design, regulatory, geochemistry, and operational approaches which have made aquifer recharge and ASR systems permitted in Florida. Our team members are on the cutting edge of regulatory changes that are making aquifer recharge/ASR and aquifer recharge standard tools for utilities to maximize use of their water resources.

Black & Veatch's expertise has been utilized to conduct negotiations and resolutions with the U.S. Environmental Protection Agency, along with state and local regulatory compliance issues. **This experience, coupled with our professionals' technical resources and unparalleled understanding of the local geology, makes it possible for them to support clients on a wide range of alternatives for their hydrogeology projects.**

MARKET LEADERSHIP IN HYDROGEOLOGY

Miami-Dade Water and Sewer Department, FL

Black & Veatch was contracted as a subconsultant for the Miami Dade County Water and Sewer Department (WASD) to provide specialized hydrogeologic consultant services for the planning, design, permitting, procurement and construction of injection wells at WASD wastewater treatment plants. **Ed Rectenwald, PG, our Hydrogeology Project Manager for this contract, is supporting Miami-Dade WASD with the design of 14 new Class I deep injections wells at multiple wastewater treatment facilities.** Ed has successfully managed and delivered wellfield construction and expansion projects and ASR system construction and has also effectively led Class I and Class V injection well facility construction teams on numerous projects.



Operations & Maintenance

Black & Veatch has a dedicated Operations Technology Group that is ready to support our clients' staff after projects are constructed or to assist current operation practices. Our team supports O&M staff to efficiently and effectively start up, commission and operate the constructed projects. Example activities, depending on the specific projects, include:

- Pre-commissioning, commissioning and start up procedures
- Execution of full start up and commissioning scope procedures, turnover packages and startup schedule development
- Outage planning, scheduling and coordination
- Performance Testing, including Compliance Testing and Stress Testing
- Hands-on operator training- on the job and classroom, including CEU credit approval
- Operations and maintenance startup procedures
- Preparation of facility specific operations and maintenance manuals
- Authoring Standard Operating Procedures (SOPs)
- Operations optimization
- Process control optimization and troubleshooting
- On-site technical support for the completion of facility startup and commissioning
- Troubleshooting of water and wastewater processes



COASTAL FACILITIES ENGINEERING QUALIFICATIONS

Black & Veatch designs sustainable projects for drainage, estuaries, and coastal environments and help coastal communities adapt to climate change. We work closely with developers and planning authorities to protect people and property, guard habitats, and safeguard the wider environment.

Black & Veatch brings the City the experience and knowledge of coastal resilience. **Our team examines risks and solutions through an 'Adaptive Capacity' framework. This means that any action must not only improve the resilience of a community but must also make financial sense to ultimately improve a community's ability to adapt.** Our team is a part of the Business Case for Miami Beach's Stormwater Resilience Program and the Business Case for Resilience in Southeast Florida. South Florida's unique challenges with regard to sea level rise, including storm surge, porous limestone, leaching septic tanks, ecosystem health, and an aging regional flood control system, create a complex web of interconnected systems that must be considered fully to effectively and responsibly implement any project.

Coastal Protection

Black & Veatch brings the resources and commitment to ensure success to coastal projects. With the right combination of expertise to handle the varied aspects of coastal projects, we are well equipped to ensure that your project is a success, from planning through completion. Services include permitting; biological monitoring; environmental remediation and mitigation; sediment transport analysis; dredging design and materials disposal; construction management/ services; erosion control/shore protection; regulatory analysis and agency negotiations.

COASTAL ENGINEERING EXPERTISE

Jon Dinges, PE

Jon Dinges, P.E. is the Regional Resilience Lead for Black & Veatch. In his role Jon provides thought leadership and innovative design for integration of resilience principles into each coastal project, including stormwater, flooding, water supply, water quality, and natural systems restoration. He has more than 28 years of experience in civil and environmental engineering with a water resources focus. His extensive water resources experience includes more than 15 years of water management district experience where he served in multiple roles, including management and executive responsibilities. Jon serves on the Board of Directors for the American Water Resources Association Florida Chapter.





SPECIALIZED PROJECT SUPPORT QUALIFICATIONS

Electrical, Instrumentation and Controls (I&C), and Communications Engineering

The City must meet increased demands while maintaining its existing facilities. Black & Veatch can assist the City by providing our electrical and I&C expertise in design, construction, and operations. This expertise will benefit the City by identifying ways to maintain plant operations through construction to eliminate plant disruptions.

Our extensive experience upgrading electrical and I&C systems at existing facilities will be brought to the City via our local and national teams. Our industry-leading expertise can incorporate technology advances into our designs and help projects maintain consistency with the City's and the industry's latest standards, including identifying opportunities for arc-flash resistant equipment upgrades. The City can count on Black & Veatch to provide engineering services such as light replacements, point repairs and arc flash protection analyses, SCADA integration, PLC programming, and design of VFDs.

Electrical and I&C design and improvements can also support the City's ability to optimize facility and system operations by enhancing energy efficiency and reducing O&M costs. Black & Veatch has significant experience working under continuing professional service contracts to address the variety of electrical and I&C system projects that the City may need. Our combined expertise in the water, power, and telecommunications industries enables us to deliver optimized electrical and I&C solutions to you.

Our responsive service and local expertise in electrical and controls projects is a key differentiator that the Black & Veatch team will bring to the City.



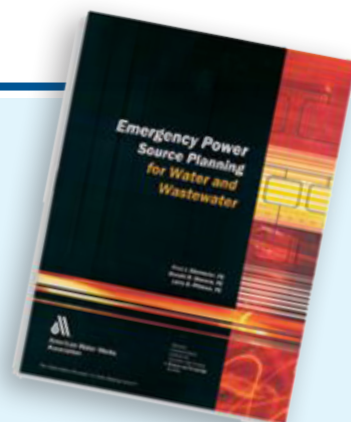
AUTOMATION AND SCADA IMPROVEMENTS *Southern Regional Wastewater Treatment Plant | Hollywood, FL*

The SCADA system was modified to improve automation. Black & Veatch provided the facility's operators with a step-by-step guide on the HMI and the ability to monitor the automatic or semi-automatic startup and shutdown sequences for multiple processes at the wastewater plant.

The programmable logic controllers (PLCs) for the lime stabilization and dewatering system were updated based on the control descriptions and programming standards developed to improve operations.

WE WROTE THE BOOK

Black & Veatch experts literally "wrote the book" on emergency power source planning for water and wastewater. Larry Pittman, Fred Ellermeier, and Don Stevens authored "AWWA-20559 Emergency Power Source Planning for Water and Wastewater." The book is a complete planning guide for water and wastewater utilities for assessing and planning standby power needs.



8

Representative Engineering Experience & Client References



Representative Engineering Experience & Client References

REPRESENTATIVE EXPERIENCE

Black & Veatch provides services in a wide range of disciplines, including civil, structural, water, wastewater, reclaimed water, architectural, geotechnical, environmental, electrical and mechanical engineering, as well as construction, operations, science, economics, planning and finance. Our experience in Florida includes serving more than 100 different agencies under continuing services contracts, in which we have completed more than 1,000 individual task orders that range from a few hours of effort to larger projects with hundreds of hours needed to complete. Our long and

successful history of serving Florida clients through continuing engineering services contracts has allowed us to develop close-working relationships with our clients to maximize the benefit they receive from our services.

The projects on the following pages provide details of representative engineering experience and the involvement by our proposed team members. Client and references are provided for each project.

Experience of team members who have worked together on similar projects is highlighted in the next section in the Key Team Members box under the project descriptions.

EXPERIENCE WITH FLORIDA GENERAL ENGINEERING CONTRACTS

Black & Veatch has provided general engineering contract services for the following agencies, cities, and counties.

AGENCIES

- Cypress Energy
- Emerald Coast Utilities
- Florida Keys Aqueduct Authority
- Florida Municipal Power Agency
- Florida Power & Light
- Fort Pierce Utilities Authority
- Gainesville Regional Utilities
- Gulf Power Company
- Heartland Water Alliance
- JEA (Jacksonville)
- Keys Energy
- Kissimmee Utility Authority
- Lee County Electric Cooperative
- Miami-Dade Water & Sewer
- Orlando Utilities Commission
- Peace River Authority
- Progress Energy
- Reedy Creek Energy Services
- Seminole Electric
- South Florida WMD
- Southwest Florida WMD
- St. Johns River WMD
- Suwannee River WMD
- Suntory Water Group
- Tampa Bay Water
- Tampa Electric Company

CITIES

- Cape Coral
- Clearwater
- Daytona Beach
- Deerfield Beach
- Fort Myers
- Hollywood
- Homestead
- Jacksonville Beach
- Key West
- Lakeland
- Lauderhill
- Marco Island
- New Smyrna Beach
- North Miami
- North Port
- Orlando
- Plat City
- St. Cloud
- St. Petersburg
- Sunrise
- Tallahassee
- Tampa
- Vero Beach
- Venice
- Winter Haven

COUNTIES

- Broward
- DeSoto
- Flagler
- Hardee
- Hernando
- Highlands
- Hillsborough
- Lee
- Manatee
- Orange
- Palm Beach
- Pasco
- Pinellas
- Polk
- Sarasota
- Seminole
- St. Augustine





Dennis Street Stormwater Improvements Pump Station

City of Key West, Key West, FL

Black & Veatch was asked by the City to provide preliminary design services for a new 18.5 cubic feet per second (cfs) stormwater pump station including a diversion structure and vortex separator upstream of the pump station and backup power for the pumping units. It is anticipated that the new pump station will be located near the intersection of Dennis Street and Venetia Street.

The initial design concept included the addition of a new drainage well for subsurface discharge downstream of the pump station. However, during design development Black & Veatch was asked to evaluate using an existing outfall by the Key West High School as the discharge location in lieu of the new drainage well. Since the existing outfall is part of a stormwater gravity system discharging to salt ponds located to the south of the Key West High School, hydrologic modeling was added to the project to ensure there would be no negative impacts to the existing system.

Additional hydrologic modeling was added when the City asked Black & Veatch to evaluate smaller design storms with a higher frequency as the basis for potentially reducing the required pump station capacity. Previous computer modeling efforts using ICPR conducted for the City indicated that a pump station capacity of 18.5 cubic feet per second (cfs) would be able to handle the peak flow of the 100-year 72-hour storm with acceptable levels of flooding so Black & Veatch is evaluating the 5-year, 24-hour storm, the 25-year, 24-hour storm and the 25-year, 72-hour storm.



General Engineering Services

City of Key West, Key West, FL

Black & Veatch has been providing continuing engineering services for the City of Key West since 2012. Projects executed include wastewater treatment, wastewater collection system and the stormwater system. Under the current agreement (2017-2022), Black & Veatch has executed design, bid phase services, and construction phase services for the following components of the wastewater treatment plant.

Blower and Switchgear Design, Bid Phase and Construction Phase Services. These upgrades to the aeration system and supporting electrical system included the addition of four new blowers to increase redundancy for the aeration basins. The electrical switchgear for the Richard Heyman Environmental Protection Facility (RAHEPF) was at the end of its useful life and it is also being replaced due a planned transformer upgrade by Keys Energy Services.

Deep Injection Well Pump Design, Bid Phase and Construction Phase Services. These improvements included the addition of a new 500-hp deep injection well at the (RAHEPF) to provide additional redundancy to the disposal system. Also, HVAC improvements to the existing electrical room were included to ensure proper operation of the new VFD included with the additional pump. Bid and construction observation services were also provided.

RAS/WAS Pumps Replacement. Replacement of four RAS and two WAS pumps, motors and VFDs including above grade piping, pipe support, valves and another appurtenance. This task will include the replacement in kind of the existing RAS and WAS pumps as well as the replacement in kind of the existing glass lined Ductile Iron pipe.



REFERENCE

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KEY TEAM MEMBERS

Tammy Martin, Isabel Botero, Jon Dinges, Melody Gonzalez, David Garcia, Larry Brouillette



REFERENCE

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KEY TEAM MEMBERS

Pablo Gala-Serra, Tammy Martin, Isabel Botero, Melissa Velez, Lucas Botero, Olena Lytvyn, David Garcia



Continuing Engineering Services for Wastewater Treatment & Disposal

Broward County Water and Wastewater Services, Broward County, FL

Black & Veatch has been providing Continuing Engineering Services for Broward County Water and Wastewater since 2013. The project's scope of services includes providing full range of professional engineering services necessary and related to pre-design, design, permitting, negotiations with municipality/environmental regulatory agencies, bid/award, preparing construction documents, and providing engineering services during construction.

NRWWTP Permit Renewal. Preparation of permitting application to renew the operations permit for the existing 95-MGD wastewater treatment plant. Update of Capacity Analysis Report per FDEP guidelines. Provide responses to FDEP RAI's related to the permit package.

Clarifiers Rehabilitation at the NRWWTP. The project included technical services for the replacement of basin internals for basins A3, B1, B2, C3 and C4. The team identified the repairs required at each clarifier, assisted the County with the procurement of the equipment, and performed construction inspections.

Transformer Replacement at the NRWWTP. An existing transformer was leaking and needed immediate replacement. Design, bid and construction phase services were provided.

In-House Electrical Support at the NRWWTP. Development of operations and maintenance manuals that compiled SOPs for electrical equipment at the wastewater plant.



Wetwell Refurbishment - Design and Services During Construction

Broward County Water and Wastewater Services, Broward County, FL

This project included the improvements to the existing wetwells for pump stations No. 452, 458 and 460. The improvements implemented facilitate access and improve safety when accessing the discharge piping. Black & Veatch performed the engineering design services, bid and pre-award services, and services during construction to complete this project. Part of the construction management services included facilitating a Resident Project Representative (RPR) to observe the contractor's work and perform site observations until final acceptance of construction work. Black & Veatch also kept record drawings updated to develop an updated set of construction record drawings. Improvements made to pump stations include:

- New wall openings for access to each of the three facilities
- Demolition concrete/sand fillets previously installed
- Addition of new openings on the floor to allow for drainage towards grade outside of the wetwell structures
- New concrete grout to slope floor for drainage towards new drain openings
- Removal of existing roof at Pump Station No. 452, addition of missing railing
- Concrete spalling and crack repair in existing sidewalks at each facility
- Patch, repair, and replacement of stucco as needed on internal walls of Pump Stations No. 458 and 460, new stucco on internal walls of Pump Station No. 452



REFERENCE

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KEY TEAM MEMBERS

Tammy Martin, Isabel Botero,
Lucas Botero,
Irene Testa



REFERENCE

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oasgar@broward.org



KEY TEAM MEMBERS

Isabel Botero, Tammy Martin



Design Services for WWTPs Related to Ocean Outfall Legislation Projects

Miami-Dade Water and Sewer Department (WASD), Miami, FL

WASD is the primary provider of water and wastewater services to Miami-Dade County serving a population of over 2.3 million. The State of Florida has enacted legislation requiring utilities that own and operate ocean outfall for secondary effluent disposal to meet reuse and nutrient reduction requirements as established by the State of Florida Ocean Outfall Legislation (OOL) by no later than 2025.

WASD retained, through a professional services solicitation, the services of an Owner's Representative who has been tasked with planning OOL compliance projects and developing the Compliance Plan. WASD recognizes the need for design services for the implementation of critical projects including, but not limited to, improvements for peak flow treatment, expansion of filtration and disinfection systems for secondary effluent treatment, upgrades and/or expansions for treatment plant processes.

Black & Veatch was selected as one of the three consultants to perform design development, engineering, preparation of construction documents, permitting and bid services, and design services during construction for facility improvements at the County's wastewater treatment plants for projects related to the OOL.

Black & Veatch will provide design, permitting and procurement services for the high-level disinfection facilities at the North District Wastewater Treatment Plant as part of the Ocean Outfall Legislation Program.



General Engineering Services

City of Hollywood, Hollywood, FL

Black & Veatch has been providing continuing engineering services for the City of Hollywood for water and wastewater infrastructure projects. The following tasks have been performed to support the City's asset management strategy.

Southern Regional WWTP - SCADA System Improvements. Provided the facility's operators with a step-by-step guide on the HMI and the ability to monitor the automatic or semi-automatic startup and shutdown sequences for multiple processes at the wastewater plant. Black & Veatch developed process control strategies and I/O lists, which served as the basis for the PLC and HMI programming.

Cityworks Implementation. Provided an initial assessment of data in the existing Accela database, GIS, and the systems integration requirements with Tyler Technologies MUNIS system. The Accela system was replaced by Cityworks. The Phase I implementation was done for the public utilities department.

AMI Procurement. The upgrading and replacing the aging AMI system was initiated by providing the City with an overview of current AMI technology options that includes a 5-year roadmap and providing a basic high-level cost analysis regarding. These workshops resulted in a general overall description of the existing system and established the City goals for the replacement of the AMI system that was incorporated into a solicitation for these improvements for the replacement of the AMI system.

Phase I Asset Management Services. Developed an Asset Management Roadmap detailing the tasks required to develop and implement an Asset Management Program.



REFERENCE

Jim Ferguson
(786) 552-8756
jferg@miamidade.gov



KEY TEAM MEMBERS

Arturo Burbano, Olena Lytvyn, Amanda Schwerman, Jon Dinges, Lucas Botero, Pablo Gal-Serra, Tammy Martin, Melissa Velez, Melody Gonzalez



REFERENCE

Jeff Jiang
(954) 921-3930
fjiang@hollywood.org



KEY TEAM MEMBERS

Isabel Botero, Melissa Velez, Nick Alexandrou, Tammy Martin, Larry Brouillette, Laurie Kusmaul



C-43 West Storage Reservoir Civil Works Project

South Florida Water Management District, West Palm Beach, FL

Black & Veatch was selected to provide Engineering During Construction services in the construction of the C43 West Basin Storage Reservoir Civil Works project. This project will include an earthfill dam with an internal soil bentonite wall, seepage management features, soil cement lining of the interior, five structures through the embankment, a perimeter canal with six water control structures and three bridges, and a small irrigation pump station.

Black & Veatch's responsibilities include the following services:

- Provide on-site representatives to observe and report design-critical components throughout construction and provide technical assistance when requested
- Attend construction meetings to discuss and resolve with the CMS, Construction Contractor and District personnel items that are of concern to the team
- Review and assist the District in responding to shop drawings submittals, Requests for Information (RFIs), Requests for Clarification (RFCs), Requests for Proposals (RFPs), Change Orders (COs), Field Orders (FOs), Value Engineering (VE) Proposals and Submittals
- Work with the Quality Management Team and review testing results, quality control and quality assurance manuals and programs, surveys, as-built drawings, close-out documentation, and other documents
- Provide record drawings that incorporate as-built information from the Contractor's redline drawings
- Provide certification of completion for FDEP and USACE construction permits



Golden Gate Weir Replacement

South Florida Water Management District, Collier County, FL

The project includes complete replacement of the existing GG4 structure which is a central fixed-crest weir with two manually operated, bottom opening sluice gates. It is a 26-year old structure in generally good condition but its operation is limited to manually operating the relatively modest-size side gates based on defined headwater stage or as part of pre-storm draw down effort. As a result, the existing structure has limited draw-down and storage capacity coupled with operational boundaries associated with retaining and storing fresh water during certain times of the year.

The new GG4 structure will include a 55-foot wide fixed crest weir next to two 10-foot x 8-foot slide gates. The gates will be fully automated and there will be an on-site control building with liquid propane generator. By increasing the gate size, and effectively the outflow, it will be possible to maintain the structure within the upper ranges of approved criteria with no corresponding loss of flood protection. The project included survey of the canal and surrounding properties as well as geotechnical field work, analysis, and foundation recommendations. The site/civil design included improvements to nearly 500 feet of canal and new gravel access roads on each side of the canal. The structural design included the gate structure and weir, crane staging area, pedestrian bridge, access platforms for in-canal instrumentation, and the foundation for a precast control building. The project also included electrical and instrumentation design work.



REFERENCE

Vijay Mishra
(561) 682-2810
vimishra@sfwmd.gov



KEY TEAM MEMBERS

Jon Dinges, Isabel Botero, Melody Gonzalez, Carlos Ortega, Mark Chomtid



REFERENCE

Vijay Mishra
(561) 682-2810
vimishra@sfwmd.gov



KEY TEAM MEMBERS

Tammy Martin, Isabel Botero, Robert Rampetsreiter, Michele Roth



Resilient Infrastructure Program Strategy & Integrated Implementation Plan & Supporting Management Execution

Village of Key Biscayne, Key Biscayne, FL

The Village of Key Biscayne is undertaking a multi-dimensional, infrastructure improvements initiative to manage future environmental impacts and adapt to climate change over a 30-year planning horizon. The program seeks to develop resilient and sustainable infrastructure for the Village and must encompass economic, social, health and safety, and environmental benefits and deliver a path forward to ensure the Village's critical assets are well-protected into the future. The program must also provide a roadmap for making smart infrastructure investments that will allow the Village to provide reliable and resilient services to its residents and provide a positive return on investment to the community.

The Village will receive an innovative strategy and planning approach that will provide value to the Village by capitalizing on Federal funding, integrating seamless project execution to protect the Village's Program investments with minimal disruption to the community.

The goals of the program include:

- Comprehensive assessment for vulnerability to climate change and infrastructure risk management
- USACE funding and inclusion in 50-year shore protection program
- Develop and manage multi-sector objectives for seamless program management and execution of projects that improve the quality of life for residents and return on investment



FEMA Community Rating System Application and Support

North Bay Village, North Bay Village, FL

North Bay Village is an incorporated municipality in Miami-Dade County consisting of two islands within Biscayne Bay. The Village seeks to enhance community resilience, protect critical infrastructure, and maintain property values. A critical strategy in the overall plan is to enter into and participate in the FEMA National Flood Insurance Program CRS, thus providing significant benefits to the community, its residents, businesses, and visitors.

The CRS is a voluntary incentive program that recognizes and encourages community floodplain management activities that exceed the minimum program requirements. As a result, flood insurance premium rates are discounted to reflect the reduced flood risk resulting from the community actions.

The application for entry in the CRS program has been completed and Black & Veatch is providing ongoing support. In addition, Black & Veatch is providing support for the ongoing stormwater master plan.

Black & Veatch successfully identified a strategic pathway for entry into the Community Rating System (CRS) program to help North Bay Village implement measures to improve flood resilience and realize savings in flood insurance premiums.



REFERENCE

Steve Williamson
(305) 365-5514
swilliamson@keybiscayne.fl.gov



KEY TEAM MEMBERS

Arturo Burbano, Carlos Ortega, Pablo Gala-Serra, Melody Gonzalez



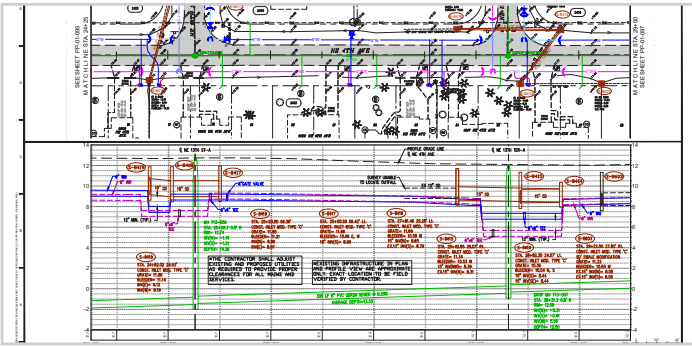
REFERENCE

Ralph Rosado, PhD, AICP
(305) 756-7171
RRosado@nbvillage.com



KEY TEAM MEMBERS

Jon Dinges, Sam Miller



Utilities Extension Program

City of Cape Coral, Cape Coral, FL

The City owns and operates an extensive utility system that provides potable water, sanitary sewer, and irrigation services to approximately 50 square mile. The City is proceeding with phased Utilities Extension Projects, to extend the three utility services throughout the entire city.

Black & Veatch is currently providing preliminary and final design and permitting services for Areas 9 and 10 of the North 1 Utilities Extension Program. The North 1 portion of the City's UEP program has been chosen to receive services based on a variety of factors including its geographical location, development density, and future growth needs.

The North 1 UEP area is approximately 4.3 square miles in size with approximately 7,700 pre-platted parcels. This includes but not limited to the installation of approximately 70 miles of gravity sewer mains, 15 miles of force mains, 20 lift stations, and two master pump stations, 65 miles of 6-inch and 8-inch distribution mains, two miles of 12-inch, two miles of 16-inch, and one mile of 24-inch transmission mains for transferring water supplied by the regional WTPs to the residents of this area, approximately 77 miles of irrigation

Design services include the extension of potable water, wastewater, and irrigation water to the areas along with the stormwater and roadway restoration. Permitting coordination includes permits with FDEP, Lee County DOH, FDOT, SFWMD, and the City. This project has involved the coordination on stormwater design criteria and evaluation of over 300 catch basins for pipe upsizing and catch-basin design.



SR 7/US 441 Transit Corridor Improvements Task 1 FM 429576-2

FDOT District 4, Broward County, FL

HBC was selected by FDOT to provide design services for a Transit Corridor Improvements along SR 7/US 441 with the purpose of enhancing the corridor's transit passenger, bicycle and pedestrian experience through mobility as well as safety improvements along SR 7. The Florida Department of Transportation (FDOT) District 4, in partnership with the Broward Metropolitan Planning Organization (MPO), developed the SR-7 Multimodal Improvements Corridor Project. The purpose and need of a safety study listed the corridor demands. It was identified that SR-7 has the highest transit ridership of any corridor in Broward County and has been the subject of extensive land use and economic development planning activities. The project includes improvements to enhance bicycle and pedestrian safety, improve transit reliability and travel time, encourage transit-oriented development, and support multimodal transit in the corridor.

HBC was responsible for the design and preparation of overall construction documents based on current design criteria, bulletins and field conditions. Elements included development of CAP, general roadway and drainage reviews, signing and pavement marking, utilities and permit coordination, pedestrian signal and lighting enhancements, sidewalk and bicycle lane and landscaping enhancements.



REFERENCE

Jody Sorrels
(239) 242-3227
jsorrels@capecoral.net



KEY TEAM MEMBERS

Jon Dinges, Reed
Blochberger, Olena
Lytvyn, Clayton Glatt



REFERENCE

Robert Lopes, PE
(954) 777-4425
robert.lopes@dot.state.fl.us



KEY TEAM MEMBERS

Adebayo Coker

9

Sworn Statements & Affidavits



Sworn Statements and Affidavits

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ANTI-KICKBACK AFFIDAVIT

STATE OF FLORIDA

SS:

COUNTY OF Broward
~~MONROE~~

I the undersigned hereby duly sworn, depose and say that no portion of the sum herein response will be paid to any employee of the City of Key West as a commission, kickback, reward or gift, directly or indirectly by me or any member of my firm or by an officer of the corporation.

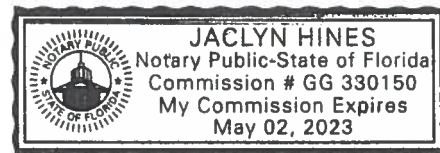
BY: [Signature]
Rafael E. Frias III, PE | Vice President

sworn and prescribed before me this 11th day of November 2022

[Signature]
NOTARY PUBLIC, State of Florida

Jaclyn Hines

My commission expires: May 2, 2023



NON-COLLUSION AFFIDAVIT

STATE OF FLORIDA)

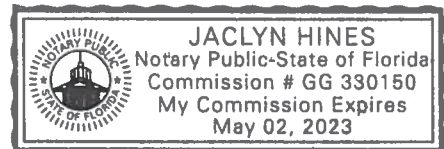
COUNTY OF Broward : SS
~~MONROE~~)

I, the undersigned hereby declares that the only persons or parties interested in this Proposal are those named herein, that this Proposal is, in all respects, fair and without fraud, that it is made without collusion with any official of the Owner, and that the Proposal is made without any connection or collusion with any person submitting another Proposal on this Contract.

By: _____

Rafael E. Friás III, PE | Vice President

Sworn and subscribed before me this

11th day of November, 2022.Jaclyn Hines
NOTARY PUBLIC, State of Florida at LargeMy Commission Expires: May 2, 2023

SWORN STATEMENT PURSUANT TO SECTION 287.133(3)(A)
FLORIDA STATUTES, ON PUBLIC ENTITY CRIMES

THIS FORM MUST BE SIGNED AND SWORN TO IN THE PRESENCE OF A NOTARY PUBLIC OR OTHER OFFICIAL AUTHORIZED TO ADMINISTER OATHS,

1. This sworn statement is submitted for Rafael E. Frias III, PE | Vice President
(print individual's name and title)

by Black & Veatch Corporation
(print name of entity submitting sworn statement)

whose business address is 3111 N. University Drive, Suite 700, Coral Springs, FL 33065

and (if applicable) its Federal Employer Identification Number (FEIN) is
43-1833073

(if the entity has no FEIN, include the Social Security Number of the individual signing this sworn statement): N/A

2. I understand that a "public entity crime" as defined in Paragraph 287.133(1)(g), Florida Statutes, means a violation of any state or federal law by a person with respect to and directly related to the transaction of business with any public entity or with an agency or political subdivision of any other state or of the United States, including, but not limited to, any bid or contract for goods or services to be provided to any public entity or an agency or political subdivision of any other state or of the United States and involving antitrust, fraud, theft, bribery, collusion, racketeering, conspiracy, or material misrepresentation.
3. I understand that "conviction" as defined in Paragraph 287.133(1)(g), Florida Statutes, means a finding of guilt or a conviction of a public entity crime, with or without an adjudication of guilt, in any federal or state trial court of record relating to charges brought by indictment or information after July 01, 1989, as a result of a jury verdict, nonjury trial, or entry of a plea of guilty or nolo contendere.
4. I understand that an "affiliate" as defined in Paragraph 287.133(1)(a), Florida Statutes, means:
- a. A predecessor or successor of a person convicted of a public entity crime: or
 - b. An entity under the control of any natural person who is active in the management of the entity and who has been convicted of a public entity crime.

The term "affiliate" includes those officers, directors, executives, partners, shareholders, employees, members and agent who are active in the management of an affiliate. The ownership by one person of shares constituting a controlling interest in another person, or a pooling of equipment of income among persons when not for fair market value under an arm's length agreement, shall be a prima facie case that one person controls another person. A person who knowingly enters into a joint venture with a person who has been convicted of a public entity crime in Florida during the preceding 36 months shall be considered an affiliate.

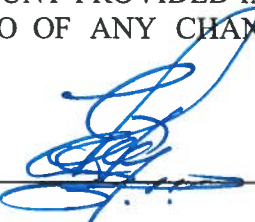
5. I understand that a "person" as defined in Paragraph 287.133(1)(e), Florida Statute means any natural person or entity organized under the laws of any state or of the United States with the legal power to enter into a binding contract and which bids or applies to bid on contracts for the provision of goods or services let by a public entity, or which otherwise transacts or applies to transact business with a public entity. The term "person" includes those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in management of an entity.
6. Based on information and belief, the statement which I have marked below is true in relation to the entity submitting this sworn statement (indicate which statement applies).

☒ Neither the entity submitting this sworn statement, or any of its officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity, nor any affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July, 1989.

☐ The entity submitting this sworn statement, or one or more of its officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity or an affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 01, 1989.

☐ The entity submitting this sworn statement, or one or more of its officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity or an affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 01, 1989. However, there has been a subsequent proceeding before a Hearing Officer of the State of Florida, Division of Administrative Hearings and the Final Order entered by the Hearing Officer determined that it was not in the public interest to place the entity submitting this sworn statement on the convicted vendor list (attach a copy of the final order).

I UNDERSTAND THAT THE SUBMISSION OF THIS FORM TO THE CONTRACTING OFFICER FOR THE PUBLIC ENTITY IDENTIFIED IN PARAGRAPH ONE (1) ABOVE IS FOR THAT PUBLIC ENTITY ONLY AND, THAT THIS FORM IS VALID THROUGH DECEMBER 31 OF THE CALENDAR YEAR IN WHICH IT IS FILED. I ALSO UNDERSTAND THAT I AM REQUIRED TO INFORM THE PUBLIC ENTITY PRIOR TO ENTERING INTO A CONTRACT IN EXCESS OF THE THRESHOLD AMOUNT PROVIDED IN SECTION 287.017, FLORIDA STATUTES, FOR THE CATEGORY TWO OF ANY CHANGE IN THE INFORMATION CONTAINED IN THIS FORM.



(SIGNATURE)

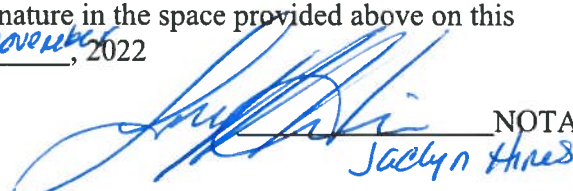


(DATE)

STATE OF FloridaCOUNTY OF Broward

PERSONALLY APPEARED BEFORE ME, the undersigned authority
Rafael E. Frias III, PE who, after first being sworn by me,
 (name of individual)

affixed his/her signature in the space provided above on this
11th day of November, 2022



NOTARY PUBLIC

My commission expires: May 2, 2023

EQUAL BENEFITS FOR DOMESTIC PARTNERS AFFIDAVITSTATE OF Florida)

: SS

COUNTY OF Broward)

I, the undersigned hereby duly sworn, depose and say that the firm of _____

Black & Veatch Corporation

provides benefits to domestic partners of its employees on the same basis as it provides benefits to employees' spouses, per City of Key West Code of Ordinances Sec. 2-799.

By: _____

Rafael E. Frias III, PE | Vice President

Sworn and subscribed before me this 11th day of November, 2022.NOTARY PUBLIC, State of Florida at LargeJaclyn HinesMy Commission Expires: May 2, 2023

CONE OF SILENCE AFFIDAVIT

Pursuant to City of Key West Code of Ordinances Section 2-773 (attached below)

STATE OF Florida)
COUNTY OF Broward : SS

I the undersigned hereby duly sworn depose and say that all owner(s), partners, officers, directors, employees and agents representing the firm of Black & Veatch Corporation have read and understand the limitations and procedures regarding communications concerning City of Key West issued competitive solicitations pursuant to City of Key West Ordinance Section 2-773 Cone of Silence (attached). Sworn and subscribed before me this

11th day of November, 2022.

(signature)

Rafael E. Frias III, PE | Vice President

NOTARY PUBLIC, State of Florida at Large

(date)

My Commission Expires: May 2, 2023



Sec. 2-773. Cone of Silence.

- (a) *Definitions.* For purposes of this section, reference to one gender shall include the other, use of the plural shall include the singular, and use of the singular shall include the plural. The following definitions apply unless the context in which the word or phrase is used requires a different definition:
- (1) *Competitive solicitation* means a formal process by the City of Key West relating to the acquisition of goods or services, which process is intended to provide an equal and open opportunity to qualified persons and entities to be selected to provide the goods or services. Competitive solicitation shall include request for proposals ("RFP"), request for qualifications ("RFQ"), request for letters of interest ("RFLI"), invitation to bid ("ITB") or any other advertised solicitation.
 - (2) *Cone of silence* means a period of time during which there is a prohibition on communication regarding a particular competitive solicitation.
 - (3) *Evaluation or selection committee* means a group of persons appointed or designated by the city to evaluate, rank, select, or make a recommendation regarding a vendor or the vendor's response to the competitive solicitation. A member of such a committee shall be deemed a city official for the purposes of subsection (c) below.
 - (4) *Vendor* means a person or entity that has entered into or that desires to enter into a contract with the City of Key West or that seeks an award from the city to provide goods, perform a service, render an opinion or advice, or make a recommendation related to a competitive solicitation for compensation or other consideration.
 - (5) *Vendor's representative* means an owner, individual, employee, partner, officer, or member of the board of directors of a vendor, or a engineer, lobbyist, or actual or potential subcontractor or sub-consultant who acts at the behest of a vendor in communicating regarding a competitive solicitation.
- (b) *Prohibited communications.* A cone of silence shall be in effect during the course of a competitive solicitation and prohibit:
- (1) Any communication regarding a particular competitive solicitation between a potential vendor or vendor's representative and the city's administrative staff including, but not limited to, the city manager and his or her staff;
 - (2) Any communication regarding a particular competitive solicitation between a potential vendor or vendor's representative and the mayor, city commissioners, or their respective staff;
 - (3) Any communication regarding a particular competitive solicitation between a potential vendor or vendor's representative and any member of a city evaluation and/or selection committee therefore; and
 - (4) Any communication regarding a particular competitive solicitation between the mayor, city commissioners, or their respective staff, and a member of a city evaluation and/or selection committee therefore.

(c) *Permitted communications.* Notwithstanding the foregoing, nothing contained herein shall prohibit:

- (1) Communication between members of the public who are not vendors or a vendor's representative and any city employee, official or member of the city commission;
- (2) Communications in writing at any time with any city employee, official or member of the city commission, unless specifically prohibited by the applicable competitive solicitation.
 - (A) However, any written communication must be filed with the city clerk. Any city employee, official or member of the city commission receiving or making any written communication must immediately file it with the city clerk.
 - (B) The city clerk shall include all written communication as part of the agenda item when publishing information related to a particular competitive solicitation;
- (3) Oral communications at duly noticed pre-bid conferences;
- (4) Oral presentations before publicly noticed evaluation and/or selection committees;
- (5) Contract discussions during any duly noticed public meeting;
- (6) Public presentations made to the city commission or advisory body thereof during any duly noticed public meeting;
- (7) Contract negotiations with city staff following the award of a competitive solicitation by the city commission; or
- (8) Purchases exempt from the competitive process pursuant to [section 2-797](#) of these Code of Ordinances;

(d) *Procedure.*

- (1) The cone of silence shall be imposed upon each competitive solicitation at the time of public notice of such solicitation as provided by [section 2-826](#) of this Code. Public notice of the cone of silence shall be included in the notice of the competitive solicitation. The city manager shall issue a written notice of the release of each competitive solicitation to the affected departments, with a copy thereof to each commission member, and shall include in any public solicitation for goods and services a statement disclosing the requirements of this ordinance.
- (2) The cone of silence shall terminate at the time the city commission or other authorized body makes final award or gives final approval of a contract, rejects all bids or responses to the competitive solicitation or takes other action which ends the competitive solicitation.
- (3) Any city employee, official or member of the city commission that is approached concerning a competitive solicitation while the cone of silence is in effect shall notify such individual of the prohibitions contained in this section. While the cone of silence is in effect, any city employee, official or member of the city commission who is the recipient of any oral communication by a potential vendor or vendor's representative in violation of this section shall create a written record of the event. The record shall indicate the date of such communication, the persons with whom such communication occurred, and a general summation of the communication.

(e) *Violations/penalties and procedures.*

- (1) A sworn complaint alleging a violation of this ordinance may be filed with the city attorney's office. In each such instance, an initial investigation shall be performed to determine the existence of a violation. If a violation is found to exist, the penalties and process shall be as provided in section 1-15 of this Code.
- (2) In addition to the penalties described herein and otherwise provided by law, a violation of this ordinance shall render the competitive solicitation void at the discretion of the city commission.
- (3) Any person who violates a provision of this section shall be prohibited from serving on a City of Key West advisory board, evaluation and/or selection committee.
- (4) In addition to any other penalty provided by law, violation of any provision of this ordinance by a City of Key West employee shall subject said employee to disciplinary action up to and including dismissal.
- (5) If a vendor is determined to have violated the provisions of this section on two more occasions it shall constitute evidence under City Code section 2-834 that the vendor is not properly qualified to carry out the obligations or to complete the work contemplated by any new competitive solicitation. The city's purchasing agent shall also commence any available debarment from city work proceeding that may be available upon a finding of two or more violations by a vendor of this section. (*Ord. No. 13-11, § 1, 6-18-2013*)

CITY OF KEY WEST INDEMNIFICATION FORM

PROPOSER agrees to protect, defend, indemnify, save and hold harmless The City of Key West, all its Departments, Agencies, Boards, Commissions, officers, City's Engineer, agents, servants and employees, including volunteers, from and against any and all claims, debts, demands, expense and liability arising out of injury or death to any person or the damage, loss of destruction of any property which may occur or in any way grow out of any act or omission of the PROPOSER, its agents, servants, and employees, or any and all costs, expense and/or attorney fees incurred by the City as a result of any claim, demands, and/or causes of action except of those claims, demands, and/or causes of action arising out of the negligence of The City of Key West, all its Departments, Agencies, Boards, Commissions, officers, agents, servants and employees. The PROPOSER agrees to investigate, handle, respond to, provide defense for and defend any such claims, demand, or suit at its sole expense and agrees to bear all other costs and expenses related thereto, even if it (claims, etc.) is groundless, false or fraudulent. The City of Key West does not waive any of its sovereign immunity rights, including but not limited to, those expressed in Section 768.28, Florida Statutes.

These indemnifications shall survive the term of this agreement. In the event that any action or proceeding is brought against the City of Key West by reason of such claim or demand, PROPOSER shall, upon written notice from the City of Key West, resist and defend such action or proceeding by counsel satisfactory to the City of Key West.

The indemnification provided above shall obligate PROPOSER to defend at its own expense to and through appellate, supplemental or bankruptcy proceeding, or to provide for such defense, at the City of Key West's option, any and all claims of liability and all suits and actions of every name and description covered above which may be brought against the City of Key West whether performed by PROPOSER, or persons employed or utilized by PROPOSER.

The PROPOSER's obligation under this provision shall not be limited in any way by the agreed upon Contract Price as shown in this agreement, or the PROPOSER's limit of or lack of sufficient insurance protection.

COMPANY SEAL

PROPOSER: Black & Veatch Corporation
2121 Ponce de Leon Boulevard, Suite 305, Coral Gables, FL 33134

Address

Signature

Rafael E. Frias III, PE

Print Name

Date

Vice President

Title



21 | RFQ #22-006

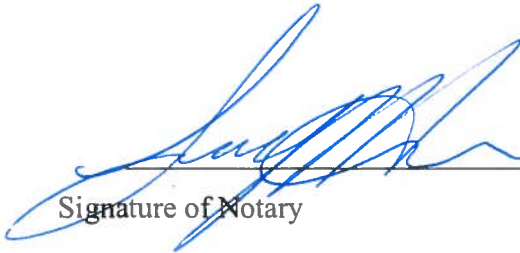
General Engineering Services

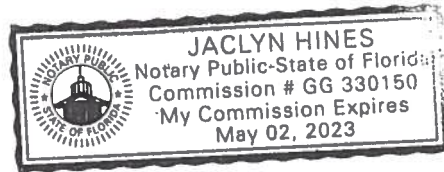
NOTARY FOR THE PROPOSER

STATE OF FloridaCOUNTY OF Broward

The foregoing instrument was acknowledged before me this 11th day of November, 2022. By Rafael E. Frias III, PE,
of Black & Veatch Corporation (Name of officer or agent, title of officer or agent) Name of corporation
acknowledging)

or has produced N/A as identification.

 Jaclyn Hines
Signature of Notary



Return Completed form with Print, Type or Stamp Name of Notary

Supporting documents to: City of Key West Purchasing

Admin Assistant

Title or Rank

22 | RFQ #22-006
General Engineering Services



THE CITY OF KEY WEST

Post Office Box 1409 Key West, FL 33041-1409 (305) 809-3883

ADDENDUM NO. 1

Engineering Services RFQ 2022

This addendum is issued as supplemental information to the Request for Qualifications package for clarification of certain matters of both a general and a technical nature. The referenced Request for Qualifications package is hereby amended in accordance with the following items:

- 1) Question: Are sub-consultants only to be shown as supplemental staff to the prime or are we to include only in-house staff? There is some confusion per "A.3 Ability to provide required services with in-house staff."
Response: Both in-house staff and sub-consultants should be listed. A.3 highlights that the ability for in-house staff to provide services will be part of the selection criteria, so in-house capabilities are of value.
- 2) Question: Does the City plan to provide an extension due to the Thanksgiving holiday?
Response: The original deadline was 11/23 and has already been extended for the holiday to 11/30.
- 3) Question: Will the City include covers, tabs, and table of contents in the 40-page max?
Response: The items listed will not be included in the 40-page limit.
- 4) Question: Can a firm serve as both sub and prime?
Response: To avoid any conflicts of interest, the City will not accept proposals where consultants considered the prime are listed as sub-consultants on other proposals.
- 5) Can the City please confirm the deadline for clarification; the RFP stats Oct. 21, 2022.
Response: The deadline for clarification is November 21, 2022.

Prior to final award, proposers shall acknowledge receipt and acceptance of all Addendums. Proposals submitted without acknowledgement may be considered non-responsive.

Signature

Black & Veatch Corporation

Name of Business



THE CITY OF KEY WEST

Post Office Box 1409 Key West, FL 33041-1409 (305) 809-3883

ADDENDUM NO. 2

Engineering Services RFQ 2022

This addendum is issued as supplemental information to the Request for Qualifications package for clarification of certain matters of both a general and a technical nature. The referenced Request for Qualifications package is hereby amended in accordance with the following items:

- 1) **Question:** Can the City confirm if staff resumes are included in the 40 single-page limit?
Response: Pages used for organizational and formatting purposes, like cover sheets, table of contents, section headers, etc. and required forms like sworn statements and affidavits are not included in the page limit. Content to be considered for ranking, such as company and staff information and background, resumes, past projects, references, etc. are to be included in the page limit.
- 2) **Question:** Can 11"x17" pages be used? If so, how many 11"x17" pages will count towards the 40 single-page limit?
Response: The proposal should consist of standard 8.5"x11" pages. Pages can be displayed in landscape orientation if desired.
- 3) **Question:** Due to the page limit on the proposal, will the City consider resumes for personnel identified on the Organization Chart be excluded from the page count in the proposal?
Response: All resumes will be included in the page count.
- 4) **Question:** Do resumes have to be provided for everyone identified on the Organization Chart or only key personnel?
Response: Resumes are not required for all personnel.
- 5) **Question:** There are several office closures in place for staff to prepare for Tropical Storm Nicole. Would the City consider moving the submission date another week to have sufficient time to put proposals together?
Response: The proposal due date has been changed to 12/7/2022 at 3PM.

Prior to final award, proposers shall acknowledge receipt and acceptance of all Addendums. Proposals submitted without acknowledgement may be considered non-responsive.

Signature

Black & Veatch Corporation

Name of Business