ARCADIS

Bid Contact **Carolina Pachano**
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Supplier Code VS0000013130

Item #	Line Item	Notes	Unit Price	Qty/Unit	Attch.	Docs
PNC2115559P1--01-01	Professional Engineering Services for Studies and Reports	**Supplier Product Code:**	**First Offer -**	1 / each	**Y**	**Y**

Supplier Total $0.00

ARCADIS

Item: **Professional Engineering Services for Studies and Reports**

Attachments

Arcadis Response to PNC2115559P1.docx

ARCADIS Design & Consultancy for natural and built assets

BROWARD COUNTY FLORIDA

Broward County Board of County Commissioners

PROPOSAL

Professional Engineering Services for Studies and Reports

PNC2115559P1

MAY 2018

LOCAL PRESENCE | EXTENSIVE EXPERIENCE | EFFECTIVE SOLUTIONS

WWS Water Supply Warehouse
ATTN: Environmental Engr. 1 FL
2555 W. Copans Road
Pompano Beach, FL 33069

Arcadis U.S., Inc.
8201 Peters Road, Suite 2400
Plantation, Florida 33324
Tel 954.761.3460
Fax 954.761.7939

Subject:
Professional Engineering Services for Studies and Reports
Solicitation PNC2115559P1

WATER BUSINESS LINE

Date:
May 18, 2018

Contact:
Leah Torres, PE

Phone:
954.525.2499

Email:
Leah.Torres@arcadis.com

Our ref:
66006522.0009

Florida License Numbers

Engineering	7917
Geology	GB564
Surveying	LB7062
Building Contractor	CBC059326

Dear Board of County Commissioners, Selection Committee Members, and Ms. Olesen:

Arcadis U.S., Inc. (Arcadis) is pleased to submit our qualifications to provide Professional Engineering Services for Studies and Reports projects for Broward County Water and Wastewater Services (County). Through this solicitation, the County is presenting Arcadis and our trusted teaming partners with an opportunity to assist you and participate on water and wastewater projects. Selection of Arcadis by the County will bring you a robust and solid team and a capacity to deliver each work authorization, n successfully and meeting all County expectations and objectives.

Some of the key qualifications that make Arcadis the right choice for the County:

A PROVEN TRACK RECORD WITH MUNICIPALITIES OF SIMILAR SIZE AND SCALE.

Arcadis holds similar general consulting services contracts with many of your neighboring public utilities and agencies:

- City Hollywood
- City of Sunrise
- City of Miramar
- Miami-Dade County Water and Sewer
- South Florida Water Management District
- Solid Waste Authority of Palm Beach County
- Miami-Dade Department of Solid Waste Management
- PortMiami

We also hold similar contracts with clients throughout Florida including: Hillsborough and Sarasota counties; the cities of Tampa, Venice, Saint Petersburg, Tampa Bay Water, and JEA.

We have successfully completed studies, designs, permitting and construction management efforts for each and through the continued delivery of quality work, we continue to develop these long-term relationships as a valued partner and trusted advisor.

A DIVERSIFIED LOCAL SOUTHEAST FLORIDA TEAM THAT CAN BE READILY MOBILIZED TO ADDRESS THE COUNTY'S NEEDS

The local Arcadis Plantation office has a team of more than 20 engineering professionals across a wide variety of disciplines backed up by professionals in Florida and more than 4,900 staff members nationally that can be called upon for technical expertise as needed. This team of engineers is complimented by a professional team that is highly skilled in areas such as planning, permitting and construction management. Located only minutes away, our local Plantation team, augmented by our Boynton Beach and Miami teams, allows Arcadis to readily respond to any County challenge..

A NATIONAL TEAM OFFERING FULL-BREADTH CAPABILITIES TO SUPPORT OUR LOCAL AND FLORIDA TEAM WITH ANY SERVICE THE COUNTY MAY NEED

The County has a fully developed CIP to implement and within those projects, and very likely on multiple occasions over the life of this professional engineering contract, the County will require the breadth of technical services that a large and technically diverse firm like Arcadis can provide. Such services could include national regulatory guidance and support, project funding services, business advisory services, sustainability and resilience services, or any skill across a wide array of technical areas that only a large firm can provide. Our local leadership and delivery team is fully aware of Arcadis' breadth of capabilities and will serve as the County's representative to access such technical skill as-needed from within our firm.

Please find enclosed our Proposal, which includes our organizational chart of all key project personnel and resumes, relevant experience, and additional information. We thank you for the opportunity to outline our team's qualifications and look forward to the possibility of working with Broward County.

Please do not hesitate to contact us should you have any questions.

Very truly yours,

Arcadis U.S., Inc.

Leah Torres, PE
Project Officer

Joan Fernandez, PE
Project Manager

Christopher Barlow, PE
Project Manager

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ARCADIS Design & Consultancy for natural and built assets

BROWARD COUNTY FLORIDA

Professional Engineering Services for Studies and Reports
Bid Number: PNC2115559P1

1. ORGANIZATION AND QUALIFICATIONS

1 ORGANIZATION AND QUALIFICATIONS

Company Profile

Arcadis is ***the leading global Design & Consultancy firm*** for natural and built assets. Applying deep market sector insights and collective design, consultancy, engineering, project and management services we work in partnership with our clients to deliver exceptional and sustainable outcomes throughout the lifecycle of their natural and built assets. We are 27,000 people active in over 40 countries that generate $3.7 billion in revenues. They also support UN-Habitat with knowledge and expertise to improve the quality of life in rapidly growing cities around the world.

Established in 1967, Arcadis has long-standing relationships with many clients involving a wide variety of water and wastewater consulting and engineering services, some spanning multiple decades. Working closely with our clients to address their unique circumstances and concerns, we have developed innovative ideas and solutions for some of the most complex problems and projects in our industry.

Arcadis offers a full range of water and wastewater utility services, including:

- Water treatment and distribution design
- Water supply planning and development
- Wastewater treatment and conveyance design
- Water and Wastewater pumping systems
- Permitting
- Master Planning
- Program Management
- Construction Management
- Management Consulting and IT services
- Water and wastewater rate and cost of service studies
- Surface water management

Employees and Offices

United States:

* 4,900 personnel

* 135+ offices

Worldwide:

* 27,000 personnel

* 350 offices in 40 countries

Our local office located in Plantation has a team of over 20 engineering professionals across a wide variety of disciplines backed up nationally by more than 4,900 professionals that can be called upon for technical assistance as needed.

Our local Plantation office has a team of over 20 staff members and it is supported by over 340 professionals among eight Florida offices, which includes three offices located directly in Southeast Florida. Arcadis has performed a thorough review of resources in the State to ensure that local knowledge and established local relationships can be leveraged to bring Broward County exemplary services.

Firm's Qualifications

Water and Wastewater Master Planning

Our comprehensive, flexible approach to water and wastewater planning begins with developing demand projections that incorporate the anticipated savings of proven water conservation techniques, recent plumbing code changes, and water reuse opportunities. We have completed literally hundreds of projects requiring the production of demand projections.

We help utilities assess options for the development of new supplies and optimization/maximization of existing surface and/or groundwater supplies using reservoir and groundwater system models to fine-tune analyses. Using the latest hydraulic modeling techniques, we develop practical plans for extension and upgrades of water distribution and wastewater collection systems.

Water Treatment Plants

Arcadis routinely conducts evaluations and prepares facility improvement plans for existing water treatment facilities. We also plan and design new water treatment systems for areas of development and population growth. **We are recognized for our design work using innovative technologies such as membranes, granular activated carbon, ozonation and advanced oxidation processes, and ultraviolet light disinfection, as well as conventional coagulation, high-rate sedimentation, and high-rate filtration technologies.** We frequently conduct bench-scale, pilot plant, and full-scale treatability studies to obtain data for process design.

The majority of our water treatment projects involve work within existing facilities. This work typically is more complex than new designs because of the need to integrate solutions within existing infrastructure and to maintain effective treatment operations during plant modification. We have considerable experience in planning and designing these types of projects to minimize disruption of normal operations.

Water Supply and Raw Water Wells

Since the 1950's, Arcadis has not only provided our clients with cost-conscious, long-term solutions to their water supply challenges, but also has continually elevated the standard of care in a challenging industry. Arcadis understands variable geologic conditions are often encountered. Through a careful lithologic, geophysical, water quality and aquifer performance data collection program, appropriate well designs will be decided. **Arcadis has a proven track record in our ability to determine in the field the most suitable design that provides a sand-free, high performing Biscayne Aquifer well and that provides a productive Floridan Aquifer well with exceptional water quality and minimal sand and silt content.** We have also implemented numerous innovative solutions to develop and enhance the performance of newly constructed wells and to rehabilitate existing and aging wells. By combining an unequalled knowledge and stewardship of your water resource needs with a commitment to the sustainability of the client-service provider relationship, Arcadis ensures that our solutions are in your best interest.

Wastewater Treatment Plants

Wastewater engineering is a core discipline of Arcadis. Through the performance of hundreds of wastewater-related projects for a diverse array of municipal and industrial clients, our experts have confronted a wide range of problems and applied a variety of treatment technologies to develop the most technically feasible and cost-effective solutions. **Our experience includes the design of more than 100 new or upgraded wastewater treatment facilities during the last decade alone.** This work has involved evaluation, planning, design, and construction administration for facilities that collectively treat well over 10 billion gallons of wastewater every day.

Our wastewater treatment projects range from some of the largest and most sophisticated installations in the country to small facilities.

Arcadis specializes in the design, upgrading, permitting and construction management of treatment facilities. Most of our projects involve work on existing facilities, which tends to be more complex than new design because of the need to match existing construction and maintain flow and treatment during plant modification. We have developed considerable skill in completing this type of work without significant disruption to normal operations. Over the past decade, our engineers have completed well over 100 retrofit/upgrade projects nationwide.

In both new and upgraded facilities, we have continued our involvement beyond the planning, design, and construction stages to include services during startup, assistance with plant operations and staff training, and further studies at process optimization.

Water Distribution, and Reclaimed Systems

Arcadis engineers have evaluated, designed, and provided design and construction administration services for a variety of pipelines for the transmission and distribution of water from supply sources to treatment plants and for the distribution of water.

We design new pipelines based on each Client's existing systems and specific needs. Types of distribution and conveyance systems that our engineers have designed include:

- Cast iron, ductile iron and steel
- Reinforced-cylinder concrete (RCP & PCCP)
- Polyvinyl chloride (PVC)
- Polyethylene pipe

Pipelines ranging in length from a few hundred feet to over 40 miles and in sizes ranging from 4 to 98 inches in diameter have been designed and installed under our direction. Our pipeline design studies have included detailed consideration of delivered capacity required, working pressure, required surge protection, air release and vacuum, allowable loss of head, pipe grade, location, soil conditions, trench bedding, depth of cover, characteristics of water, and materials of construction.

Our Florida experts also have extensive experience in the use of alternative construction techniques that can reduce cost or avoid the challenges of the commonly used open-cut trenching. Amongst these alternative construction alternatives are: jack and auguring, microtunneling, horizontal directional drilling, pipe-bursting, guided boring, tunnel boring machines and aerial crossings.

Our staff will be able to help the County find the right solution for individual projects. In instances where unique circumstances require an in-depth look from an outside perspective, our national experts are available at the County's disposition to provide a fresh perspective and help find the right solutions. **Just recently we assisted Tampa Bay Water evaluate potential alternative for rehabilitating segments of 42-inch prestressed concrete cylinder pipe (PCCP) for a well collection transmission main that predated a high-end and affluent neighborhood.**

The analysis provided Tampa Bay Water potential solution and recommendation so that they can engage the community and obtain buy-in for proceeding with repair of this critical infrastructure.

Wastewater Collection Systems

Arcadis has been involved in the evaluation, planning, design, and construction of collection and conveyance systems for over 100 years. Our engineers have provided these services to a wide range of municipal, industrial, and private clients, developing new or replacement systems as well as evaluating and upgrading existing systems. The firm's range of services related to wastewater collection systems includes:

- Studies of sewer systems to quantify infiltration and inflow (I/I), eliminate bypasses, and increase hydraulic capacity
- Facility planning for the rehabilitation, upgrading, and expansion of wastewater collection systems, or for the construction of new systems in unsewered areas
- Pipeline routing studies and environmental assessments for new sewer systems
- Design, environmental monitoring, and construction phase services for new and rehabilitated sewer

Pipe Rehabilitation and Repair

Pipe rehabilitation often is necessary to reduce the amount of leakage and/or to stabilize/repair a deteriorating pipe. This rehabilitation work frequently requires an evaluation of innovative technologies to overcome construction obstacles. Our experience in the rehabilitation of distribution and collection systems throughout the U.S., under a wide range of conditions, provides Arcadis with in-depth knowledge of virtually all traditional as well as state-of-the-art rehabilitation techniques. We have evaluated and implemented a broad range of pipeline repair methods to reduce the risk of pipe rupture, and we have prepared emergency response plans for pipe failures.

Members of our proposed staff participate in the local, state and national professional organizations and stay up to date with the latest proven technologies used to solve complex problems in a cost-efficient way. Much of our work on improving existing transmission systems has involved trenchless pipe repair techniques, including slip lining, cured-in-place pipe lining, spiral-wound expandable lining, fold-and-formed pipe insertion, pipe bursting, internal and exterior bracing with the use of carbon fiber wraps or steel bands – all of which are less costly and less disruptive than pipe replacement construction.

Wastewater Retail Lift Stations and Master Pump Stations

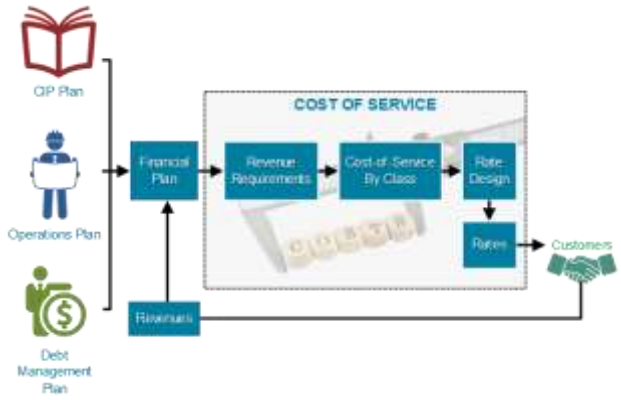
Arcadis has a long history of experience in the design of new wastewater pump stations and the upgrade of existing pump stations. **Through our value engineering approach, we can provide our clients with designs that meet their needs while achieving the goal of minimizing construction and O&M costs.**

Upgrading existing pump stations requires a special design approach because of the need to work within existing site constraints and to maintain continuous operation of the station during construction. We have developed the necessary skills to complete this type of work with minimal disruption to normal operations.

In both new and upgraded facilities, our involvement continues beyond the planning, design, and construction stages to include configuration of computerized monitoring and control systems, startup guidance, assistance with operations, and staff training. In designing the layout of pump stations and in configuring piping systems, force mains, and support systems, Arcadis engineers consider the need for future expansion. Durability and reliability also are major considerations. We give particular attention to specifying materials and equipment that will give long life and require low maintenance.

Drainage, Canal and Surface Water Management

Our Team develops solutions that fit our client's particular needs by treating stormwater as a valuable resource that can be managed for reuse, irrigation, or environmental features such as wetlands. Our management of stormwater resources is coordinated with the management of ground and surface water so that the entire water cycle of the community or region factors into the planning process.



Our approach begins with identifying and solving the right problem. Rather than constructing costly solutions that might not address real water quality issues, we focus available resources on addressing actual, rather than perceived problems. Our goal is to match watershed environmental benefits with targeted environmental management actions.

Our services include:

- Existing system assessments
- SFWMD permitting and SWPPP development
- Stormwater system design
- Water quality assessment
- Evaluation of alternative stormwater retention and flow routing, considering roadside swales, valley gutters, or some portion of curb/gutter
- BMP evaluation, planning, and design

The south Florida region has been identified as one of the most vulnerable to climate risks by the World Economic Forum, with an estimated $278 billion in financial losses that could be potentially realized due to rising sea levels.

While the challenges faced by the County due to sea levels are multifold, the causes are clear – a higher potential for acute flooding during extreme storm events as well as increasingly frequent chronic flooding during high tides.

Challenges such as these are not new to the County. It exists at the interface of land and sea – balancing the two has required an ability to adapt and change. Protection of residents, investments in critical infrastructure necessary to sustain a vibrant economy, and environmental stewardship are important factors to protect.

Business Advisory: Finance/Administrative Rates and Fees, Bond Feasibility, Annual Engineering Reports required by Bond Covenants

Arcadis is the leader in financial management consulting services and the team members selected to work on this project represent some of our best and brightest. Further, Arcadis has extensive financial market experience and an excellent reputation on Wall Street. We ensure trust among the investment community by representing clients in an independent and accurate manner. Our reputation lends additional credibility to the County that can result in strong investor confidence and better bond issuances and rates.

Excellence in...	Offers...	And Delivers...
Rates and Fee Analysis & Bond Engineering	Credibility in the financial markets, improved bond ratings and offerings	**A coordinated team that sees a single big picture, increasing reliability as your trusted advisor and reducing risk for investors in the County's present and future.**
Utility Engineering	Expertise to assess and evaluate your facilities, system and cost projections.	
Public-Private Partnerships	Strong guidance to navigate complex agreements / deals	

Information Technology

Arcadis' global strategy, Creating a Sustainable Future, includes a focus on "Innovation and Growth". As part of this focus, we can assist the County in exceling and integrating sustainable solutions to become a digital frontrunner. Digital innovation is the lynchpin of our offerings and allows us to provide better and faster solutions: from scaling existing technologies such as BIM to the incubation of new innovative solutions in co-creation with the County.

Trusted Subconsultants

To further enhance the depth and abilities of our project team, we have joined forces with the following subconsultants. A brief corporate biography for each subconsultant is provided below. **"We are committed to meaningful CBE participation. Arcadis has established a collaborative working relationship with our CBE partners and will provide meaningful roles to them, making them partners in decision making and often relying on them to perform entire tasks. Arcadis is committed to an overall CBE participation of 27 percent, which exceeds the 25 percent required by the Office of Economic and Small Business Development Program for this contract."**

McCafferty Brinson (CBE) – Water & Wastewater Process

McCafferty Brinson (MBC) was established in February 2006 by two Florida Professional Engineers, focusing on potable water, reclaimed water, and wastewater treatment systems, pumping and transmission systems, and utility infrastructure. MBC's suite of services is supported by a highly qualified team of project engineers, technical professionals, CAD designers, and administrative staff to offer responsive, personal attention to the County.

Gamboa Engineers, LLC (CBE) – Electrical and Instrumentation

Gamboa Engineers began in 2012 when Mario A. Gamboa, PE, after 20 years of working at Carollo Engineers, an environmental engineering firm that specializes in the planning, design, and construction of water and wastewater facilities, as an Electrical Engineer, decided to start his own consulting electrical engineering company offering engineering services to clients in the water and wastewater industry. Gamboa specializes in the planning, design, and engineering support during construction of electrical power distribution, process controls and instrumentation systems with focus in support of wastewater treatment facilities and water treatment / distribution facilities.

CES Consultants, Inc. – Lift Stations and Stormwater Conveyance

CES Consultants (CES) is a minority-owned corporation with the capabilities of providing engineering services to municipal, governmental, and private sectors throughout Florida and New York. As a full-service engineering and consulting firm founded by Rudy M. Ortiz, PE, CGC in 2001, CES is eager to deliver incomparable services and cutting-edge innovation while focusing on building lasting relationships with the County. CES has participated in important infrastructure projects for numerous governmental agencies, including Miami-Dade Water and Sewer Department, Broward County, the City of Miramar, the South Florida Water Management District, and the Federal Department of Transportation.

Cartaya and Associates Architects, P.A. (CBE) – Architectural Design

Cartaya and Associates (Cartaya) is an architectural firm located in Fort Lauderdale, Florida, in business since 1979. During this time, they have devoted themselves to the practice of high-quality private and governmental architecture. Cartaya' s work expresses aesthetic sensitivity and harmony with the environment. Cartaya has been the architects for hundreds of diverse projects including the City of Miramar Wastewater Recycling Plant and Broward County's North Regional Wastewater Treatment Plant.

Duland Design – Landscape Architects

Duland Design (Duland) has over 20 years of extensive global experience working on planning and detailed landscape design and interior design for residential communities, hotels and resorts, luxury private residence and clubhouses as well as urban design projects of various scales. Professionals from different fields work together to best integrate design into the sites and their surroundings.

Stoner and Associates (CBE) – Survey and Mapping

Since 1988, Stoner and Associates (Stoner) has placed a strong emphasis on quality surveying and mapping practices and procedures. This focus ensures that surveying personnel are committed to exceeding the County's expectations. This experience has resulted in a tremendous database of knowledge and information. Stoner's familiarity with local conditions and resources provides valuable insight into the County's individual project needs and requirements.

RADISE International – Geotechnical and GIS (CBE)

Founded in 1997, RADISE International (RADISE) has worked with many public and private sector clients and continues to grow and expand its capabilities. Their focus is on solving challenges and have built a reputation as a firm which delivers on time, on budget, and on target. The firm specializing in Geotechnical Engineering working with both the public and private sectors serving clients including FDOT, SFWMD, USACE, cities, counties and numerous private entities in both the prime and subconsultant capacity.

Assured Leadership

Our proposed Project Managers, Mr. Chris Barlow, PE and Ms. Joan Fernandez, PE have over 32 years of combined experience in a wide array of water and wastewater projects. They each serve as Project Managers for a number of professional engineering contracts providing on-call support.

Corporate Officer and Contract Manager

Ms. Leah Torres, PE has over 20 years of experience in a diverse background in environmental and civil engineering with a focus on servicing utilities such as Broward County Water and Wastewater Services. She serves as the Corporate Office and Contract Manager for a number of professional engineering contracts providing on-call support in a wide array of water wastewater projects. Our success in meeting schedule and budget can be credited to her contract oversight. The County can see the benefit of her leadership as Arcadis provides the caliber of technical staff needed to meet the critical aspects of the project. Ms. Torres also assures that the team is available, assigned and focused on project delivery on schedule and within budget. In this role, she will provide the controls and structure to enable our team to successfully complete projects both on schedule, and within budget. \The leadership for this team has extensive experience in the following areas for utility and municipal clients throughout south Florida:

- Water treatment and distribution design
- Water supply planning and development
- Wastewater treatment and conveyance design
- Water and wastewater pumping systems
- Permitting
- Master Planning
- Construction Management
- Water and wastewater bond covenant reports
- Surface water management

Our success in meeting schedule and budget can be credited to their project and contract oversight. The County can see the benefit of their leadership as Arcadis provides the caliber of technical staff needed to meet the critical aspects of the project. Ms. Torres, Mr. Barlow and Ms. Fernandez will also assure that the team is available, assigned and focused on project delivery on schedule and within budget. In this role, they will provide the controls and structure to enable our team to successfully complete projects both on schedule, and within budget.

Organizational Chart and Availability of Specialty Resources

The Project Organization Chart below displays our team members, all who are available and committed for the duration of the project for a timely project delivery. This chart illustrates the duties, responsibilities and lines of communication for project team staff members proposed for this project. The Arcadis Team proposed for this Professional Engineering Services for Studies and Reports contract provides the diversity and technical expertise from our Team as well as specialized staff from our subconsultants that the County needs to successfully perform under this contract. Short resumes for key team members identified in the organizational chart are included in Appendix A. Relevant projects our firm and key members have completed are included in Appendix B.

Reliable Project Delivery

As shown on the Organizational Chart, our Leadership Team is supported with a primary Project Delivery Team, composed of staff with expertise in the range of disciplines generally needed to support the typical range of projects in this contract.

Collectively, Arcadis has assembled a reliable project delivery team based in south Florida, ensuring that we can be agile and responsive to you. We are committed to providing you the high level of service and responsiveness to keeping you well informed of project progress and issues, and to rapidly and efficiently deliver projects in a timely matter.

Experience with On-Call Engineering Services Contracts

Arcadis has a record of proven performance in delivering quality projects, on time and within budget, as demonstrated by our numerous on-call contracts. Many of our clients have demonstrated their high level of trust in Arcadis by retaining the firm under continuing service agreements spanning several years. Arcadis currently has 33 active on-call contracts across the state, including clients in Broward County. Our large staff of experts with diverse backgrounds and technical abilities enables us to optimally staff numerous concurrent projects and respond to client requests on short notice.

ARCADIS Design & Consultancy for natural and built assets

Professional Engineering Services for Studies and Reports
Bid Number: PNC2115559P1

2. PROJECT UNDERSTANDING & TECHNICAL APPROACH

2 PROJECT UNDERSTANDING AND TECHNICAL APPROACH

We understand the County is soliciting the expertise and services of consulting engineering firms experienced in studies and reports for your entire portfolio of water and wastewater services. Further, that the selected firm must be ready lead the team of professional firms to deliver excellent service when called upon by the County.

Arcadis has a record of proven performance in delivering quality projects, on time and within budget. We offer a comprehensive range of water and wastewater treatment and conveyance, raw water supply, reclaimed water, storm water and drainage engineering and construction consulting services. We also have a extensive experience in business advisory and financial services. Arcadis employs specialists in every aspect from project development to construction completion. We also have immediate access to on-staff experts in all other engineering consulting disciplines that may be relevant to particular projects.

We tailor our services to meet the unique needs of each client and project. Our participation can range from small, specialized studies to complete development of large-scale projects from site planning through pilot studies, engineering/economic feasibility studies, environmental analyses, permitting, design, construction assistance, startup, and closeout.

Arcadis embraces a set of proven project management practices that are tailored to meet each client's individual needs. Our practices follow Project Management Institute (PMI) standards, including the Project Management Body of Knowledge (PMBOK).

The use of PMI's globally-accepted standards assures the County that your project is being initiated, planned, executed, monitored, controlled, and closed in accordance with world-class principles and procedures.

Project Understanding

Arcadis understands that these proposed services to the County are essential to the efficient execution of new projects for the Water and Wastewater Engineering Division's (WWED) projects and goals. We believe that these services will be delivered to the WWED in a manner such that Arcadis will serve as an essential element to the success of the County's Water and Wastewater Services , resulting in the augmentation to the County's own expertise in the water and wastewater fields. The WWED will appreciate the depth of professional service available through Arcadis. The depth of expertise from Arcadis and represented by this team will also be available for the other four divisions consisting of the Business Operations, Information Technology, Operations, and Water Management. Arcadis will accelerate the County towards exceeding its goals of high quality cost-effective service and protection to the environment.

Arcadis is aware of several project opportunities that the County will endeavor to implement, as improvements continue to be made to the system. The studies and reports projects that may be provided to the County could potentially include a Reclaimed Water Scalping Plant for Lighthouse Point, utilizing groundwater recharge as a barrier to saltwater intrusion, water quality analysis of the North Regional wellfield for consideration of MIEX® or membrane treatment, implementation of projects identified in the Integrated Water Resource Plan, and improvements associated with satisfying ocean outfall legislation. .

The Reclaimed Water Scalping Plant for Lighthouse Point is an example of a project where this contracts will allow Arcadis to deliver the complete range of services provided in this proposal. This report will identify the stakeholders, permitting, existing and future conditions, business planning requirements, and serve as the basis of design for this project. These elements of the project are spread across the entire spectrum of water resources and community involvement.

The project will occur on a property that is presently owned by the County that serves as the site of an existing master pump station that has available space for the new process equipment. The concept of the project is to utilize the wastewater collected from Lighthouse Point and provide localized treatment that will result in producing reclaimed water that can then be distributed to the local community for irrigation. The existing wastewater force main will be the conduit for transmitting the liquid sludge on to the existing wastewater treatment plant for final treatment.

This study will identify the sources and finished water quality requirements, best available treatment technologies, necessary civil, mechanical, electrical and instrumentation infrastructure necessary for the proposed facility. The site has space that will allow a portion of the area to be design for a public dog park enhancing the community use of the site. An essential element of this study will be the conceptual cost distribution and a basis for the customer rates and billing establishment for this new utility service. The Arcadis team that has been assembled for these services has the expertise and is excited to provide this innovative project to the County.

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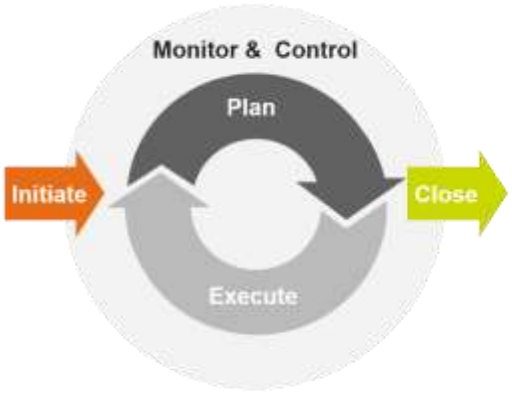
Project Approach

Our project management process is applied and documented through the development of a project-specific Project Management Plan. **Project Managers, Mr. Chris Barlow, PE and Ms. Joan Fernandez, PE** will use the Project Management Plan as a 'living' document that is continuously monitored and updated to achieve the ultimate project goals.

Effective project management relies on the ability of our project manager to manage and unify our team to deliver a project that exceeds the County's expectations. Both project managers are trained in consulting industry practices and has demonstrated excellence in this regard. Our local leadership, Mr. Chris Barlow and Ms. Joan Fernandez will always follow the following sequence when managing projects – **INITIATE, PLAN, EXECUTE AND CLOSE-OUT.**



Work Authorization Development Approach

Arcadis work authorization development approach has been proven on many on-going successful contracts.

Project Kick-Off Meeting

Arcadis will conduct a meeting with the County and acquire better understanding on the scope of work for the work authorization. Discussion at the kick-off meeting will include a thoroughly review the proposed project and consensus on the expectations and deliverables for each task. Consensus among all stakeholders at the earliest phase of the work will help facilitate each project's success. Arcadis is committed to prepare for and schedule this kick-off meeting within 10 days of the County's request.

Work Authorization Proposal

Our leadership team will work with County staff and prepare a proposal that includes the project's purpose and expected outcomes. Information gathered at the kick-off meeting will allow the team to create a draft scope of work, fee estimate and Work Breakdown Structure (WBS) for use during discussions with the County's Project Manager. The WBS for the project includes all the activities required to complete the project tasks and the expected cost for each activity and allows our team to "hit the ground running" upon NTP, saving critical schedule time.

Creation of a Baseline Schedule

Once agreed upon by all parties, a work breakdown structure (WBS) will form the basis to set up project controls for the schedule and budget. With a clear understanding of the project WBS, our team's management will properly sequence, resource load and estimate task durations to create a project Baseline Schedule that will be endorsed by the Arcadis Team and the County for performance measurement purposes.

We will then develop and manage a critical path schedule and perform a critical path analysis. The critical path schedule is used to determine the shortest time possible to complete a project. Once developed, the Arcadis Team, along with County personnel, will investigate all possible methods to accelerate the critical path schedule by reviewing project sequencing alternatives, resource reallocation, task modifications and other methods. This process will ensure that the project will be completed in the minimum time possible and within the time frame required by the County.

Project Delivery Execution

Our Project Managers, Mr. Chris Barlow and Ms. Joan Fernandez, will lead contract administration work, which includes frequent communication with the County to report budget and schedule performance. They will also perform resource balancing evaluation to confirm that tasks included in the work authorization are on track.

Our Project Delivery Team will assist in the identification of potential issues for each work authorization and manage risks accordingly.

Project management encompasses a wide range of financial (scope and cost), human resource and scheduling activities. The following are six critical project control areas that are addressed through our project management approach.

1. Budget Management. Project cost management includes initial cost estimating and baseline budget development as the project scope and schedule are defined, followed by continued cost monitoring and control during project execution. We will monitor, control, and communicate project cost performance with the aid of our computerized Project Management system. This highly interactive system greatly facilitates all aspects of project delivery and cost accounting for each project. It is a total system, supporting projects from the planning stage all the way through implementation. The system includes the following management functions:

- **Estimating.** Rapidly produces project budget estimates at different levels of detail.
- **Set-up.** Informs our financial/accounting system to start tracking the new project and to accurately track costs.
- **Controlling Activity Budgets.** Microsoft Project Timesheet system can be used to set-up and monitor activity budgets for each team member working on a task order.
- **Reporting.** Use of an Earned Value Management System allows us to compare planned, earned and actual value to gauge performance. Analysis of planned versus earned value provides an indication of schedule status, whereas comparison of earned versus actual value reveals budget status.
- **Forecasting.** Allows the Project Manager to predict expected charges at project completion so that they can make appropriate mid-course adjustments if needed.

Developing a budget estimate for a project takes a combination of experience, skill, and understanding/ knowledge of the County's organization. Often, the difference between a budget estimate and the final cost of a project reflects the foresight and acumen of the client as much as the skill of the estimator.

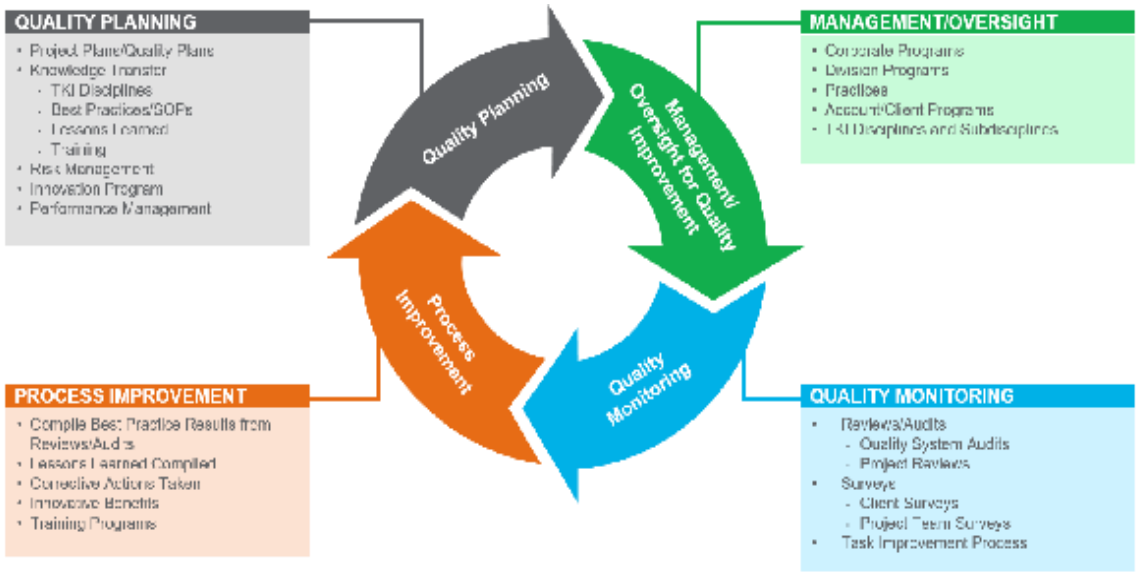
We therefore work closely with clients to identify and understand project risks and other undefined cost drivers that can derail a project, and we price these items early in project estimating.

We adhere to the estimate classification system endorsed by the American Association of Cost Engineers (AACE), which identifies recommended contingencies depending on the degree of project definition.

2. Scope Management. The primary tool we use for scope management is the detailed Work Breakdown Structure (WBS), which defines all activities that are required to complete the project. This WBS is used by our project managers, the project team, and our clients throughout the project to identify changes in scope and to prompt the authorization of activities to begin at the appropriate time. Active use of this tool allows us to adopt a value engineering mentality throughout project execution by continuously assessing the cost impacts of design decisions.

3. Schedule (Time) Management. Our schedule management approach is based on the use of Microsoft Project to plan, execute, monitor, and control the time management component. Developing a realistic and accurate schedule is obviously important. However, for the schedule to be a valuable tool throughout the project, it must be maintained and be reflective of project progress. To achieve these goals, we will implement the following steps:

- Identify overall project duration from the WBS.
- Identify major milestones and permit submittals.
- Incorporate County review periods.
- Identify County schedule constraints.
- Coordination with subconsultants (long-standing relationships enable us to understand their process).
- Accelerate non-critical path activities to compensate for unforeseen delays later on.
- Meet with County staff, public officials and key community members ahead of time for consensus on key project issues.
- Allow for proper QA/QC time.
- Update and submit schedule with monthly reports.



Milestones for key quality management checkpoints will be identified in the project schedule. These include QA/QC cross checks prior to scheduled deadlines, operability reviews, and constructability reviews. These QA/QC procedures will be built into the schedule and will allow for a high-quality product that is delivered on schedule. We also recognize that an integral part of schedule management is smoothly and consistently progressing the work between major deadlines. To facilitate this, we continuously coordinate during internal progress meetings.

Arcadis works hard to resolve issues that can delay a project. We strongly encourage teamwork among the stakeholders, the designer and the owner.

4. Subconsultant Management. Arcadis has worked with subconsultants over our long history of successful project implementation. We prefer to work with trusted subconsultants who we know will operate with the same focus, safety, quality and efficiency as Arcadis. Our approach to managing the efforts of our subconsultants is based on early and frequent communication regarding a specific project's needs, including scope, schedule and budgetary requirements.

The multiple project controls instituted on our projects are designed in part to provide the necessary level of management of our subconsultants. We routinely review all subconsultants' work products for technical quality, coordinating our review frequency and timing to allow any needed revisions to be accomplished within the established project schedule. **Because Arcadis has the capabilities to perform almost any task in house, we provide the same level of review to our subconsultants' work as we do our own. This assures a consistent product that is technically correct and meets or exceeds our clients' expectations during our Quality Control process.**

5. Quality Control. Our quality management process integrates our firm's quality policies, procedures and activities into our projects. The process involves clear definition of project roles and responsibilities, project-specific planning to incorporate quality in every aspect of the project and identification of appropriate quality assurance and control procedures for each project. Our quality management program defines the steps we take as a firm so that we:

- Do the right job by asking the right questions and providing the right solution.
- Have the right team on the project.
- Do the job right by correctly using the appropriate techniques to meet the CBE goals.

Arcadis' quality control activities confirm that all deliverables meet the client's specified quality standards and requirements and applicable industry standards, standard-of-care as well as the client's stated project-specific goals.

The basic tenets of our QC program include:

- The project manager will have complete authority and responsibility to execute the work.
- A "kick-off" meeting will be held with key members of the project team to define the scope of work and the quality requirements.
- All project decisions will be documented.
- All supporting calculations, text or data used to develop the project documents will be signed and dated by the preparer when the work is performed.
- All telephone conversations and meetings, which include or affect a project decision, will be documented.
- Notes from meetings will be prepared and distributed to attendees for confirmation of decisions made and then filed after appropriate action.
- All project documents will be reviewed and/or checked by qualified individuals who are not directly performing the initial work activity. The individual doing the checking will sign and date the documents and will prepare a record of review after checking the findings. The findings will be resolved by the originator of the document and rechecked until satisfactorily resolved.
- The Project Manager or designated alternate(s) will monitor and evaluate the review and/or check activities for the project. The review will specifically cover such items as clarity, accuracy, completeness, scope compliance, etc. Any follow-up activity required will be noted and initiated as appropriate.
- Individuals independent of project staffing will periodically and at specific targets review all project development documents for adequacy, conformance with the scope of work, completeness, accuracy, and proper documentation.

6. Change Order Minimization. Change orders are an inevitable part of major construction projects; however, we believe that minimizing change orders is in our clients' best interest. For this reason, Arcadis strongly emphasizes accuracy and completeness in our plans and specifications. We work closely with our clients throughout the design process to make certain that our deliverables will satisfy client needs, thereby minimizing change orders based on redesign. We also subject our plans and specifications to thorough in-house reviews by senior engineers to identify inconsistencies, conflicts and omissions. When necessary, due to a valid contractor claim, changes requested by the client or unforeseen conditions, we prepare change order documents along with detailed cost estimates. We closely monitor the change order process because we understand that delay in processing of change orders is a primary factor in the delay of projects.

We are proud that change orders for Arcadis design projects are well below the industry average of 5 percent. We believe that this level of performance is a measure of the quality and thoroughness of our work.

Proven Approach

Southeast Florida Water Supply Demands

City of Sunrise, FL

Following the project approach discussed above, Arcadis assisted the City of Sunrise, FL in the engineering design of the conversion of an existing Floridan Aquifer test well near the Sawgrass Utility Complex to an Aquifer Storage and Recovery (ASR) well. This project involved permitting through FDEP UIC Section and Broward County.

Two Floridan Aquifer test wells drilled between 2011 and 2012 were less productive and more brackish than was anticipated. Arcadis prepared a feasibility study for the conversion of the test wells to ASR use, rather than for use in a reverse-osmosis treatment system.

The City will recharge raw groundwater from its two largest Biscayne Aquifer wellfields during the low-demand rainy season and recovery water during the high-demand dry season to balance maximum-month raw water use below the wellfields' limitation in the City's South Florida Water Management District permit.

Recovered water will be blended with wellfield flows to optimize the water quality reaching the existing membrane treatment trains. Based on the feasibility analysis, up to 4 MGD of excess rainy season wellfield flow is available. The City also has purchased future shares of base canal flows from (Palm Beach County's) C-51 diversion project which will augment canal recharge in the City and provide another

6 MGD in permitted allocation. The Class V ASR permit application is complete and the draft FDEP permit issuance is expected by June 2018.

Benefits and Savings

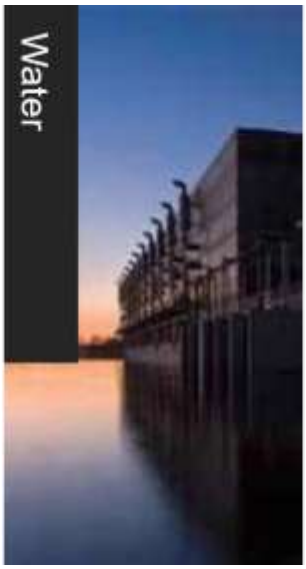
The additional allocation will be stored in the ASR well during the rainy season and 1.5 to 2.0 MGD will be added to the treatment process without exceeding the wellfields' maximum-month raw water allocation.

The re-purposing of an existing Floridan Aquifer test well will save the City more than $750,000 in well construction costs.

Conclusion

The Arcadis team that has been assembled for these services has the expertise and is excited to provide this innovative project to the County.

We look forward to the opportunity of working with you, your staff, stakeholders and elected officials to make this contract a huge success!



ARCADIS Design & Consultancy for natural and built assets

BROWARD COUNTY FLORIDA

Professional Engineering Services for Studies and Reports
Bid Number: PNC2115559P1

3. PAST PERFORMANCE

3 PAST PERFORMANCE

Arcadis has extensive experience all areas relevant to Broward County Water and Wastewater Services. Our proposed team has collaborated on a variety of projects that match up well with your anticipated needs. **Appendix B includes project descriptions for relevant projects.** The table below summarizes our experience with each of the elements described in the scope of work

Summary of Project Experience

PROJECTS	Water and Wastewater Master Planning	Water Treatment Plants	Water Supply and Raw Water Wells	Wastewater Treatment Plants	Water Distribution and Reclaimed Systems	Wastewater Collection Systems	Pump Stations	Drainage, Canal and Surface Water Management	Finance/Administrate Rates and Fees, Bond Feasibility and Annual Engineering Reports	Information Technology	Renewable Energy
Broward County, FL	●	●		●	●						
City of Hollywood, FL	●	●	●	●	●						
City of Sunrise, FL		●	●	●	●	●		●			
Tampa Bay Water, Tampa FL		●					●				
City of Venice, FL		●									
Sarasota County, FL		●									
City of Casselberry, FL					●	●					
City of Tavares, FL					●	●			●	●	
Hillsborough County, FL					●					●	
JEA, Jacksonville FL					●	●					
South Florida Water Management District, SE Florida							●	●			
Saint Petersburg, FL										●	
City of Miramar, FL			●								
Water and Sewer Department, Miami-Dade County, FL					●	●	●		●	●	

PROJECTS	Water and Wastewater Master Planning	Water Treatment Plants	Water Supply and Raw Water Wells	Wastewater Treatment Plants	Water Distribution and Reclaimed Systems	Wastewater Collection Systems	Pump Stations	Drainage, Canal and Surface Water Management	Finance/Administrate Rates and Fees, Bond Feasibility and Annual Engineering Reports	Information Technology	Renewable Energy
Miami-Dade County, FL	●				●	●	●	●	●	●	
Solid Waste Authority, West Pallm Beach FL									●		●
City of Coconut Creek, FL					●						
City of Fort Lauderdale, FL		●									
City of Pompano Beach, FL		●			●						
City of Hallandale Beach, FL		●									
City of North Miami, FL					●	●					
City of Miami Beach, FL					●	●		●			
City of West Palm Beach, FL								●			

CITY OF SUNRISE FLORIDA

"The Arcadis team has demonstrated an extensive knowledge of water and wastewater system engineering, relevant regulatory advice and has provided timely and reliable guidance."

– Tim Welch, Utilities Director, City of Sunrise

Venice, FL City on the Gulf

"[Arcadis'] staff have performed very well on these projects, have essentially worked as an "extension" of my staff in a collaborative and cooperative manner, consistently exhibiting outstanding technical skills and interpersonal abilities, all contributing to the successful evolution and completion of projects."

– Lenox E. (Len) Bramble, Director City of Venice

References

As required, we have provided 5 references as proof of our qualifications and previous experience. The Vendor Reference Verification forms for Arcadis and our trusted subconsultants are included in Section 7. **All references have also been submitted as Vendor Verifications.**

City of Tavares, FL

James Dillon | Public Works Director
201 East Main Street
Tavares, FL 37778
352.455.7718

Project: GIS Modeling and Integration of Utilities Infrastructure

City of Miramar, FL

Robin Bain, PE | Project Manager
2300 Civic Center Place
Miramar, FL 33025
954.883.6825

Project: East Water Treatment Plant Replacement Wells and Design-Build

South Florida Water Management District

Rich Virgil | Bureau Chief Infrastructure
301 Gun Club Road
West Palm Beach, FL 33406
561.682.6759

Project: S-193 Lock Refurbishment, C-41A Canal Bank Stabilization, Lake Okeechobee North Shore Pump Station Trash Rake Upgrades and Site Improvements

City of St. Petersburg, FL

Nicole Allen | CADD/GIS Supervisor
PO Box 2842
St. Petersburg, FL 33731
27.893.7316

Project: Water Resources Department GIS Data Migration

CIty of Sunrise, FL

Timothy Welch. PE | Utilities Director
10770 West Oakland Park Boulevard
Sunrise, FL 33351
954.888.6055

Project: General Consulting Services Contract

ARCADIS Design & Consultancy for natural and built assets

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Professional Engineering Services for Studies and Reports
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4. WORKLOAD OF THE FIRM

4. WORKLOAD OF THE FIRM

4 WORKLOAD OF THE FIRM

The staff resources available in our local and regional offices provide significant "bench strength" that facilitates required resource allocations to meet the County's needs. Our South Florida offices (Plantation, Boynton Beach and Miami) include more than 50 professionals to cover the potential services described in this Solicitation. And we have more than 350 additional professionals located throughout Florida if needed. Key project personnel are available to initiate the work immediately upon contract execution and to continue work on an ongoing basis. Furthermore, we commit to provide other resources as needed to supplement the proposed team to meet the County's needs. **Our Project Managers, Mr. Chris Barlow, PE and Ms. Joan Fernandez, PE will be responsible for scheduling and committing team resources to the project and incorporating additional staff as-needed.**

The timely and successful completion of projects is our highest priority. We perform workload evaluations on a regular basis so that adequate staffing resources are available for each new assignment undertaken by the firm. Arcadis has built and implemented a project staffing tool that allows project managers to leverage our staff and make sure the right person is assigned to each task. This tool is fully integrated with our project management system and our online database of staff resumes and skill profiles. The functions of this tool aids in the initial staffing of projects, as well as making crucial staffing changes to accommodate the needs of our clients and the changing demands of managing multiple projects simultaneously. This tool also enables us to predict, prevent and amend potential shortfall in staffing resources.

Based on a recent workload evaluation, Arcadis' committed staffing resources are below our projected capacity for the next 12 months. **Our availability is more than sufficient to meet the County's staffing requirements for this contract and will allow us to deliver quality projects on schedule and within budget.** In addition, our subconsultants have also evaluated their current and planned workloads, and can dedicate the necessary time to work on their assigned tasks with the identical thoroughness and quality our clients have come to expect from us.

The table below summarizes the workload for our team leaders in each area including their current work assignments, the typical number of projects handled by the team member, and projected workload activities.

Key Team Member / Role	Current Work Listing	Typical No. of Projects Handled at Any Given Time	Projected Workload of Project Management Activities as Defined in SOW
Chris Barlow, PE / Project Manager / Water and Wastewater Treatment Plants / Lift Stations and Master Pump Stations	City of Sunrise Miscellaneous Utility Improvement Projects, City Hollywood High Service Pump Improvements, Miami-Dade WASD Bond Engineering Services	4-6	30%
Joan Fernandez, PE / Project Manager / Water Distribution, Sewer Collection Systems and Reclaimed Water Pipeline	City of Sunrise Miscellaneous Utility Improvement Projects, Miami-Dade WASD Asset Management Framework and Bond Engineering Services	4-6	30%
Leah Torres, PE / Project Officer, Rates, Bond Feasibility, Annual Engineering Reports	Business advisory (Miami-Dade WASD, PortMiami, SWA) and solid waste technical lead, QA/QC and general project oversight for a number of projects within the State of Florida and clients therein	10-15	10%

Key Team Member / Role	Current Work Listing	Typical No. of Projects Handled at Any Given Time	Projected Workload of Project Management Activities as Defined in SOW
Ed Balchon, PE / Overall Quality	QA/QC and general project oversight for a number of projects within the State of Florida and clients therein	15-20	5%
Greg Osthues, PE - Planning and Condition Assessment QA/QC / Planning	JEA Large Diameter Pipe Evaluation Program, Oceanside CA Condition Assessment, NYCDEP Asset Management, Indian River Asset Management, Polk County Asset Management	5-7	20%
Mike Waldron, PG / Permitting / Water Supply & Wellfields	City of Miramar Well Projects and City of Sunrise ASR Well	5-7	20%
Chris Tillman, PE / Drainage, Canal and Surface Water Systems	Pinellas County NPDES, Miami-Dade Bond Engineer Projects (A total of 7 projects)	5-7	20%
Scott Lehman / Information Technology	Miami-Dade WASD Asset Management Framework, PortMiami Bond Engineer activities, Lee County Asset Management Plan	5-7	20%

ARCADIS Design & Consultancy for natural and built assets

BROWARD COUNTY FLORIDA

Professional Engineering Services for Studies and Reports
Bid Number: PNC2115559P1

5. FIRM'S LOCATION

5 FIRM'S LOCATION

Arcadis has a long history of being the preferred consultant to many of the nation's largest municipalities. We have more than 4,900 personnel located in the United States across 130 offices. We have provided engineering and consulting services to thousands of public and private sector clients and their communities for more than 125 years. Arcadis maintains an office in Plantation, FL, located within the heart of Broward County. This allows us to respond quickly to any requests or meetings with the County or any associated stakeholder groups. With the location of our Plantation office, we are able to have staff on-site within 20 minutes of receiving a call.

Our Project Managers, Mr. Chris Barlow, PE and Ms. Joan Fernandez, PE, are also located in our Plantation office. They will be supported by a substantial team also located in offices in Plantation, Boynton Beach, and Miami (FL).

ARCADIS Design & Consultancy for natural and built assets

Professional Engineering Services for Studies and Reports
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6. WILLINGNESS TO MEET TIME AND BUDGET

6 WILLINGNESS TO MEET TIME AND BUDGET

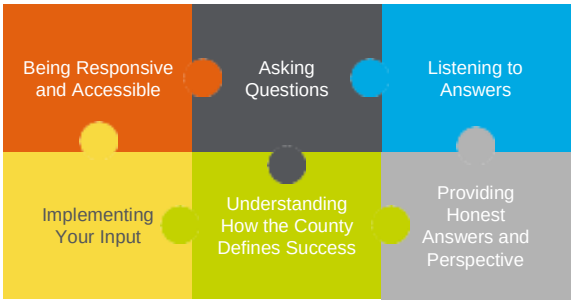
The Arcadis Team has a proven record of completing projects on or ahead of schedule and within budget. Our understanding of scheduling and budget requirements as well as overall procedures, preferences and standards has been acquired and perfected over our long history working with municipal clients on critical projects. The following subsections highlight key components of each project, that our team implements, and it outlines our approach to ensuring success for each project, a method which will allow us to commit to meeting the established project's completion date requirement within the established project budget. These key components include the following:

- **Clear Expectations for Scope, Schedule and Budget**
- **Project Controls to Maintain Project Schedule and Budget**
- **Assignment of Personnel to Effectively Handle All Tasks and Maximize Efficiency**
- **Clear Expectations for Scope, Schedule and Budget**

Our team's management approach is focused on partnering, communication and evaluation of the most cost-effective project alternatives that will meet the established project timeline. **We strongly believe in collaborating and maintaining effective communication within our project teams, with our subconsultants, and also between our team and the client. All of the key project decisions will be made jointly with the County.**

Resource-Loaded Schedule

Task and staffng assignments will be made through development of a resource-loaded schedule, which is an effective way to identify and eliminate risks during the early stages when they can be corrected with minimal impact. This schedule provides a detailed forecast of the staffng requirements for the project, and allows time to plan for key personnel to be available when required. Efforts can then be made early in the planning phase to level the resources in the schedule to eliminate the risk of schedule slippage and increase effciency (i.e., eliminating the chance that critical staff are unable to complete all the tasks required of them due to overloading).



Project Controls to Maintain Work Authorization Schedule and Budget

Project cost management includes initial cost estimating and baseline budget development as the project scope and schedule are defined, followed by continued cost monitoring and control during project execution. During project initiation, as the scope, schedule and resource requirements are developed, Mr. Barlow and Ms. Fernandez will guide the project team in developing a project scope that is tailored to fit both the County's quality and budget goals.

Once this planning is complete and a baseline has been established, Mr. Barlow and Ms. Fernandez will monitor scope, cost and schedule compliance on a weekly basis. Weekly reports document expenditures to date, estimates to complete, estimates at completion and activity progress. These reports can also assess the “actuals” and estimates against the initially proposed budget and schedule to evaluate schedule variance, cost variance, schedule performance index and cost performance index at both the individual task level and the overall project level.

In addition to the Project Controls discussed in Section 2 to maintain project schedule and budget the Arcadis Team will include a schedule update with every invoice. This allows the County to track progress on both production and financials, providing a peace of mind that the project is being delivered under the agreed budget within the assigned timeframe. It also provides the opportunity to identify tasks where necessary corrective actions are required.

Assignment of Personnel to Effectively Handle All Tasks and Maximize Effciency

In identifying our proposed team for each work authorization, our goal is to provide a uniquely qualified team that includes primarily local staff with a history of working together on similar municipal projects throughout Florida. Our locally experienced and knowledgeable team maximizes our project delivery efficiency and optimizes each assigned work tasks.

ARCADIS Design & Consultancy for natural and built assets

Professional Engineering Services for Studies and Reports
Bid Number: PNC2115559P1

7. REQUIRED FORMS AND SUPPORTING CONTENT

7 REQUIRED FORMS AND SUPPORTING CONTENT

Included in Bid Offer

Arcadis U.S., Inc. State of Florida Authority to Do Business

Arcadis U.S., Inc. Broward County Local Business Tax Receipt

Arcadis U.S., Inc. City of Plantation Local Business Tax Receipt

Vendor Reference Verification Forms

Subcontractors/Subconsultants/Suppliers Requirement Form

Letters of Intent Between Bidder/Offeror and County Business Enterprise (CBE) Subcontractor/Supplier Forms

Arcadis U.S., Inc. Specimen Certificate of Insurance

Arcadis U.S., Inc. Current Litigation List

Uploaded to Bidsync

Standard Instructions to Vendors (Accepted)

Vendor Questionnaire and Standard Certifications (Accepted)

Affiliated Entities of the Principal(s) Certification Form (Accepted)

Litigation History Form (Accepted)

Lobbyist Registration Requirement Certification Form (Accepted)

Agreement Exception Form (Accepted)

Local Preference - Tiebreaker Certification Form (Accepted)

Domestic Partnership Act Certification Form (Accepted)

Volume of Previous Work (Accepted)

Insurance Requirements Form (Accepted)

Submitted Separately

Firm Financials for Previous Two Years [Confidential, per Florida Statute 119.071(1)(c)]

State of Florida
Department of State

I certify from the records of this office that ARCADIS U.S., INC. is a Delaware corporation authorized to transact business in the State of Florida, qualified on February 26, 1998.

The document number of this corporation is F98000001104.

I further certify that said corporation has paid all fees due this office through December 31, 2018, that its most recent annual report/uniform business report was filed on April 10, 2018, and that its status is active.

I further certify that said corporation has not filed a Certificate of Withdrawal.

Given under my hand and the Great Seal of the State of Florida at Tallahassee, the Capital, this the Tenth day of April, 2018

Ken Detzner

Secretary of State

Tracking Number: CC9965121065

To authenticate this certificate,visit the following site,enter this number, and then follow the instructions displayed.

https://services.sunbiz.org/Filings/CertificateOfStatus/CertificateAuthentication

BROWARD COUNTY LOCAL BUSINESS TAX RECEIPT

115 S. AndrewsAve., Rm. A-100, Ft. Lauderdale, FL 33301-1895 - 954-831-4000

VALID OCTOBER 1,2017 THROUGH SEPTEMBER 30, 2 0 1 8

OBA:
Business Name: ARCADIS US INC

Rece'1pt # ' 315-250191
Business Type: ENGINEER (ENGINEERINGFIRM)

Owner Name: ARCADIS US INC
Business Location: 8201 PETERS RD STE 3400
PLANTATION
Business Phone: 954 761 3460

Business Opened: oa/ 03/ 2012
State/County /Cert/ Reg: 2282013o16 53
Exemption Code :

Rooms	Seats	Emplo yees	Machines	Professionals
		1		

For VendingBusiness Only
Number of Machines: Vending Type:

Tax Amount	Transfer Fee	NSF Fee	Penalty	Prior Years	Collection Cost	Total Paid
30.00	0.00	0. 00	3.00	0. 00 1	0.00	--:3T-.

THIS RECEIPT MUST BE POSTED CONSPICUOUSLY IN YOUR PLACE OF BUSINESS

THIS BECOMES A TAX RECEIPT

WHEN VALIDATED

This tax is levied for the privilege of doing business within Broward County and is non-regulatory in nature. You must meet all County and/or Municipality planning and zoning requirements. This Business Tax Receipt must be transferred when the business is sold, business name has changed or you have moved the business location. This receipt does not indicate that the business is legal or that it is in compliance with State or local laws and regulations.

Mailing Addres s:

ARCADIS US, INC
110 WEST FAYETTE ST STE 300
SYRACUSE, NY 13202

Receipt #WWW-17 -00000433
Paid 10/04/2017 33.00

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Broward County Board of
County Commissioners
City of Plantation

LOCAL BUSINESS TAX CERTIFICATE

Certificate # 164114

Account# OC16-0030

Valid from 10/01/2017 to 09/30/2018

THIS CERTIFICATE MUST BE CONSPICUOUSLY DISPLA YEO

Classifica tion: (26)d Administration/Management Office

Business Name & Address :
Arcadis U.S., Inc.
8201 Peters Rd #2400
Plantation FL 33324

Susan K. Slattery
CITY CLERK SIGNATURE

NOTICE : If Business is sold this Certificate must be transferred within 10 days or it becomes null and void.

Vendor Reference Verification Form

Broward County Solicitation No. and Title:

RFP No. R2115559P1, Professional Engineering Services for Studies and Reports

Reference for: Arcadis US, Inc.

Organization/Firm Name providing reference:

South Florida Water Management District

Contact Name: Rich Virgil, P.E. Title: Bureau Chief Infra Reference date: 05/14/2018

Contact Email: rvirgil@sfwmd.gov Contact Phone: 561.682.6759

Name of Referenced Project: S-193 Lock Refurbishment, C-41A Canal Bank Stabilization, Lake

Contract No.	Date Services Provided:			Project Amount:
4600000790	10/01/2008	UP	12/01/2016	$ 2,954,000.00

Vendor's role in Project: ☑ Prime Vendor ☐ Subconsultant/Subcontractor

Would you use this vendor again? ☑ Yes ☐ No If No, please specify in Additional Comments (below).

Description of services provided by Vendor:

Engineering Design and Engineering Services During Construction

Please rate your experience with the referenced Vendor:	**Needs Improvement**	**Satisfactory**	**Excellent**	**Not Applicable**
1. Vendor's Quality of Service				
a. Responsive	☐	☐	☑	☐
b. Accuracy	☐	☐	☑	☐
c. Deliverables	☐	☐	☑	☐
2. Vendor's Organization:				
a. Staff expertise	☐	☐	☑	☐
b. Professionalism	☐	☐	☑	☐
c. Turnover	☐	☑	☐	☐
3. Timeliness of:				
a. Project	☐	☐	☑	☐
b. Deliverables	☐	☐	☑	☐
4. Project completed within budget	☐	☑	☐	☐
5. Cooperation with:				
a. Your Firm	☐	☐	☑	☐
b. Subcontractor(s)/Subconsultant(s)	☐	☑	☐	☐
c. Regulatory Agency(ies)	☐	☑	☐	☐

Additional Comments: (provide on additional sheet if needed)

THIS SECTION FOR COUNTY USE ONLY

Verified via: EMAIL VERBAL Verified by: Division: Date:

All information provided to Broward County is subject to verification. Vendor acknowledges that inaccurate, untruthful, or incorrect statements made in support of this response may be used by the County as a basis for rejection, rescission of the award, or termination of the contract and may also serve as the basis for debarment of Vendor pursuant to Section 21.119 of the Broward County Procurement Code.

Vendor Reference Verification Form

Broward County Solicitation No. and Title:

RFP No. R2115559P1, Professional Engineering Services for Studies and Reports

Reference for: Arcadis US, Inc.

Organization/Firm Name providing reference:

City of Saint Petersburg Department of Engineering and Capital Planning

Contact Name: Nicole Allen Title: CADD/GIS Supervi Reference date:

Contact Email: nicole.allen@stpete.org Contact Phone: 727-893-7316

Name of Referenced Project: Water Resources Department GIS Data Migration

Contract No.	Date Services Provided:			Project Amount:
13-03-ARC/IT	12/09/2014	UP	09/15/2015	$ 59,250.00

Vendor's role in Project: ☑ Prime Vendor ☐ Subconsultant/Subcontractor

Would you use this vendor again? ☑ Yes ☐ No If No, please specify in Additional Comments (below).

Description of services provided by Vendor:

Migration of water, wastewater and storm water infrastructure information from CAD environment to Esri Local Government Information Model.

Please rate your experience with the referenced Vendor:	**Needs Improvement**	**Satisfactory**	**Excellent**	**Not Applicable**
1. Vendor's Quality of Service				
a. Responsive	☐	☐	☑	☐
b. Accuracy	☐	☐	☑	☐
c. Deliverables	☐	☑	☐	☐
2. Vendor's Organization:				
a. Staff expertise	☐	☐	☑	☐
b. Professionalism	☐	☐	☑	☐
c. Turnover	☐	☐	☑	☐
3. Timeliness of:				
a. Project	☐	☐	☑	☐
b. Deliverables	☐	☐	☑	☐
4. Project completed within budget	☐	☐	☑	☐
5. Cooperation with:				
a. Your Firm	☐	☐	☑	☐
b. Subcontractor(s)/Subconsultant(s)	☐	☐	☑	☐
c. Regulatory Agency(ies)	☐	☐	☑	☐

Additional Comments: (provide on additional sheet if needed)

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Vendor Reference Verification Form

Broward County Solicitation No. and Title:

RFP No. R2115559P1, Professional Engineering Services for Studies and Reports

Reference for: Arcadis US, Inc.

Organization/Firm Name providing reference:

City of Miramar

Contact Name: Robin E. Bain, P.E. Title: Project Manager Reference date: 05/14/2018

Contact Email: rebain@miramarfl.gov Contact Phone: 954.883.6825

Name of Referenced Project: East Water Treatment Plant Replacement Wells and Design-Build

Contract No.	Date Services Provided:		Project Amount:
P.O.# 172624-00	10/22/2017	UP 05/14/2018	$ 569,296.00

Vendor's role in Project: ☐ Prime Vendor ☑ Subconsultant/Subcontractor

Would you use this vendor again? ☑ Yes ☐ No If No, please specify in Additional Comments (below).

Description of services provided by Vendor:

Design, permitting, construction services for new Deep Injection Well and 4 new (replacement) production wells

Please rate your experience with the referenced Vendor:	**Needs Improvement**	**Satisfactory**	**Excellent**	**Not Applicable**
1. Vendor's Quality of Service				
a. Responsive	☐	☐	✓	☐
b. Accuracy	☐	☐	☑	☐
c. Deliverables	☐	☐	☑	☐
2. Vendor's Organization:				
a. Staff expertise	☐	☐	☑	☐
b. Professionalism	☐	☐	☑	☐
c. Turnover	☐	☐	☐	☑
3. Timeliness of:				
a. Project	☐	☐	☑	☐
b. Deliverables	☐	☐	☑	☐
4. Project completed within budget	☐	☐	☑	☐
5. Cooperation with:				
a. Your Firm	☐	☐	☑	☐
b. Subcontractor(s)/Subconsultant(s)	☐	☐	☑	☐
c. Regulatory Agency(ies)	☐	☐	☑	☐

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Vendor Reference Verification Form

Broward County Solicitation No. and Title:

RFP No. R2115559P1, Professional Engineering Services for Studies and Reports

Reference for: Arcadis US Inc.

Organization/Firm Name providing reference:

City of Tavares, Florida

Contact Name: James Dillon Title: Public Works Direct Reference date: 05/17/2018

Contact Email: jdillon@tavares.org Contact Phone: 352-455-7718

Name of Referenced Project: GIS Modeling and Integration of Utilities Infrastructure

Contract No.	Date Services Provided:			Project Amount:
06033048.0000	04/01/2017	UP	10/01/2017	$ 56,760.00

Vendor's role in Project: ☑ Prime Vendor ☐ Subconsultant/Subcontractor

Would you use this vendor again? ☑ Yes ☐ No If No, please specify in Additional Comments (below).

Description of services provided by Vendor:

Integrate drawings and images depicting pipe infrastructure into a GIS environment for easy retrieval. First project of a multi phase program to upgrade the City's GIS information.

Please rate your experience with the referenced Vendor:	**Needs Improvement**	**Satisfactory**	**Excellent**	**Not Applicable**
1. Vendor's Quality of Service				
a. Responsive	☐	☐	✓	☐
b. Accuracy	☐	☐	☑	☐
c. Deliverables	☐	☐	☑	☐
2. Vendor's Organization:				
a. Staff expertise	☐	☐	☑	☐
b. Professionalism	☐	☐	☑	☐
c. Turnover	☐	☐	☑	☐
3. Timeliness of:				
a. Project	☐	☐	☑	☐
b. Deliverables	☐	☐	☑	☐
4. Project completed within budget	☐	☐	☑	☐
5. Cooperation with:				
a. Your Firm	☐	☐	☑	☐
b. Subcontractor(s)/Subconsultant(s)	☐	☐	☑	☐
c. Regulatory Agency(ies)	☐	☐	☑	☐

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Vendor Reference Verification Form

Broward County Solicitation No. and Title:

RFP No. R2115559P1, Professional Engineering Services for Studies and Reports

Reference for: McCafferty Brinson Consulting, LLC

Organization/Firm Name providing reference:

City of Boca Raton

Contact Name: Lauren Burack, P.E. Title: CIP Manager Reference date: 05/11/2018

Contact Email: lburack@ci.boca-raton.fl.us Contact Phone: 561 338 7329

Name of Referenced Project: Glades Road WTP Sodium Hydroxide Tank and Chemical Systems

Contract No.	Date Services Provided:		Project Amount:
71-13-004	07/01/2013	UP 01/15/2017	$ 237,772.00

Vendor's role in Project: ☑ Prime Vendor ☐ Subconsultant/Subcontractor

Would you use this vendor again? ☑ Yes ☐ No If No, please specify in Additional Comments (below).

Description of services provided by Vendor:

Please rate your experience with the referenced Vendor:	**Needs Improvement**	**Satisfactory**	**Excellent**	**Not Applicable**
1. Vendor's Quality of Service				
a. Responsive	☐	☐	☑	☐
b. Accuracy	☐	☐	☑	☐
c. Deliverables	☐	☐	☑	☐
2. Vendor's Organization:				
a. Staff expertise	☐	☐	☑	☐
b. Professionalism	☐	☐	☑	☐
c. Turnover	☐	☐	☑	☐
3. Timeliness of:				
a. Project	☐	☐	☑	☐
b. Deliverables	☐	☐	☑	☐
4. Project completed within budget	☐	☐	☑	☐
5. Cooperation with:				
a. Your Firm	☐	☐	☑	☐
b. Subcontractor(s)/Subconsultant(s)	☐	☐	☑	☐
c. Regulatory Agency(ies)	☐	☐	☑	☐

Additional Comments: (provide on additional sheet if needed)

Lauren M. Burack

Digitally signed by Lauren Burack
Date: 2018.05.11 15:48:24 -04'00'

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Vendor Reference Verification Form

Broward County Solicitation No. and Title:

RFP No. R2115559P1, Professional Engineering Services for Studies and Reports

Reference for: CES Consultants, Inc.

Organization/Firm Name providing reference:

SCHOOLS BOARD OF BROWARD COUNTY (SBBC)/THE CORRADINO GROUP

Contact Name: JOHN M SASSINE Title: PM Reference date: 05/03/2018

Contact Email: john.sassine@browardschools.com Contact Phone: 305-216-4556

Name of Referenced Project: Stranahan High School Pool Site Renovation Project

Contract No.	Date Services Provided:		Project Amount:
	11/01/2016	UP 08/01/2018	$ 1,502,000.00

Vendor's role in Project: ☑ Prime Vendor ☐ Subconsultant/Subcontractor

Would you use this vendor again? ☑ Yes ☐ No If No, please specify in Additional Comments (below).

Description of services provided by Vendor:

Civil, Site Plans, Pool Design, Drainage, Structure, Sewer & Water and Construction Administration.

Please rate your experience with the referenced Vendor:	**Needs Improvement**	**Satisfactory**	**Excellent**	**Not Applicable**
1. Vendor's Quality of Service				
a. Responsive	☐	☐	✓	☐
b. Accuracy	☐	☐	☑	☐
c. Deliverables	☐	☐	☑	☐
2. Vendor's Organization:				
a. Staff expertise	☐	☐	☑	☐
b. Professionalism	☐	☐	☑	☐
c. Turnover	☐	☐	☑	☐
3. Timeliness of:				
a. Project	☐	☐	☑	☐
b. Deliverables	☐	☐	☑	☐
4. Project completed within budget	☐	☐	☐	☑
5. Cooperation with:				
a. Your Firm	☐	☐	☑	☐
b. Subcontractor(s)/Subconsultant(s)	☐	☐	☑	☐
c. Regulatory Agency(ies)	☐	☐	☑	☐

Additional Comments: (provide on additional sheet if needed)

Project still ongoing; and it is projected to be completed within budget

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Vendor Reference Verification Form

Broward County Solicitation No. and Title:

RFP No. R2115559P1, Professional Engineering Services for Studies and Reports

Reference for: CES Consultants, Inc.

Organization/Firm Name providing reference:

Pump Station Improvement Program

Contact Name: Paola Davalos Title: Project Manager Reference date: 05/07/2018

Contact Email: pdavalos@miamidade-psip.com Contact Phone: 786-873-5200

Name of Referenced Project: Pump Station Improvement Program

Contract No.	Date Services Provided:	Project Amount:
E13-WASD-03	01/15/2015 UP	$ 2,000,000.00

Vendor's role in Project: ☐ Prime Vendor ☑ Subconsultant/Subcontractor

Would you use this vendor again? ☑ Yes ☐ No If No, please specify in Additional Comments (below).

Description of services provided by Vendor:

Civil, Mechanical,Electrical, Structural and Management

Please rate your experience with the referenced Vendor:	**Needs Improvement**	**Satisfactory**	**Excellent**	**Not Applicable**
1. Vendor's Quality of Service				
a. Responsive	☐	☐	✓	☐
b. Accuracy	☐	☐	☑	☐
c. Deliverables	☐	☐	☑	☐
2. Vendor's Organization:				
a. Staff expertise	☐	☐	☑	☐
b. Professionalism	☐	☐	☑	☐
c. Turnover	☐	☐	☑	☐
3. Timeliness of:				
a. Project	☐	☐	☑	☐
b. Deliverables	☐	☐	☑	☐
4. Project completed within budget	☐	☐	☑	☐
5. Cooperation with:				
a. Your Firm	☐	☐	☑	☐
b. Subcontractor(s)/Subconsultant(s)	☐	☐	☑	☐
c. Regulatory Agency(ies)	☐	☐	☑	☐

Additional Comments: (provide on additional sheet if needed)

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Vendor Reference Verification Form

Broward County Solicitation No. and Title:

RFP No. R2115559P1, Professional Engineering Services for Studies and Reports

Reference for: CES Consultants, Inc.

Organization/Firm Name providing reference:

Lanzo Construction Co., FL

Contact Name: Michael Green Title: Project Manager Reference date: 05/02/2018

Contact Email: MichaelG@Lanzo.org Contact Phone: 954-979-0802

Name of Referenced Project: Design-Build Shenandoah B Water Mains

Contract No. Date Services Provided: Project Amount:

OB13-WASD-04 04/01/2015 to 05/01/2018 $ 15,000,000.00

Vendor's role in Project: D Prime Vendor ☐ Subconsultant/Subcontractor

Would you use this vendor again? ☐ Yes ☐ No If No, please specify in Additional Comments (below).

Description of services provided by Vendor:

Lead designer for neighborhood improvements including the replacement of 46,000 LF of 8" water mains and associated water services

Please rate your experience with the referenced Vendor:	**Needs Improvement**	**Satisfactory**	**Excellent**	**Not Applicable**
1. Vendor's Quality of Service	☐	☐	☐	☐
a. Responsive	☐	☐		
b. Accuracy	☐	☐	☐	☐
c. Deliverables			☐	
2. Vendor's Organization:	☐	☐	☐	☐
a. Staff expertise				
b. Professionalism	☐	☐	☐	☐
c. Turnover			☐	
3. Timeliness of:	☐	☐		☐
a. Project			☐	
b. Deliverables	☐	☐	☐	☐
4. Project completed within budget	☐	☐	☐	☐
5. Cooperation with:	☐	☐	☐	
a. Your Firm	☐	☐	☐	☐
b. Subcontractor(s)/Subconsultant(s)			☐	
c. Regulatory Agency(ies)	☐	☐	☐	☐

Additional Comments: (provide on additional sheet if needed)

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Procurement Code.

Vendor Reference Verification Form

Broward County Solicitation No. and Title:

RFP No. R2115559P1, Professional Engineering Services for Studies and Reports

Reference for: RADISE International, L.C.

Organization/Firm Name providing reference:

Miami Dade County, Parks, Recreation and Open Spaces Department

Contact Name: Cesar Perez-Castaneda Title: Project Manager Reference date: 05/10/2018

Contact Email: ceperez@miamidade.gov Contact Phone: (305) 755-7853

Name of Referenced Project: Black Point Park & Marina-Shrimpers Row Roadway Renovation

Contract No.	Date Services Provided:			Project Amount:
60220113002	10/05/2015	UP	11/25/2015	$ 16,486.47

Vendor's role in Project: ☐ Prime Vendor ☑ Subconsultant/Subcontractor

Would you use this vendor again? ☑ Yes ☐ No If No, please specify in Additional Comments (below).

Description of services provided by Vendor:

Geotechnical engineering and laboratory testing services.

Please rate your experience with the referenced Vendor:	**Needs Improvement**	**Satisfactory**	**Excellent**	**Not Applicable**
1. Vendor's Quality of Service				
a. Responsive	☐	☐	✓	☐
b. Accuracy	☐	☐	☑	☐
c. Deliverables	☐	☐	☑	☐
2. Vendor's Organization:				
a. Staff expertise	☐	☐	☑	☐
b. Professionalism	☐	☐	☑	☐
c. Turnover	☐	☐	☑	☐
3. Timeliness of:				
a. Project	☐	☐	☑	☐
b. Deliverables	☐	☐	☑	☐
4. Project completed within budget	☐	☐	☑	☐
5. Cooperation with:				
a. Your Firm	☐	☐	☑	☐
b. Subcontractor(s)/Subconsultant(s)	☐	☐	☑	☐
c. Regulatory Agency(ies)	☐	☐	☑	☐

Additional Comments: (provide on additional sheet if needed)

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Vendor Reference Verification Form

Broward County Solicitation No. and Title:

RFP No. R2115559P1, Professional Engineering Services for Studies and Reports

Reference for: Gamboa Engineers, LLC - Mario A. Gamboa, P.E.

Organization/Firm Name providing reference:

Sarasota County Government - Public Works/Capital Projects

Contact Name: Gene Allen Title: Project Manager Reference date: 05/17/2018

Contact Email: goallen@scgov.net Contact Phone: 941.861.0564

Name of Referenced Project: Central County Water Reclamation Facility Improvements & Expansion

Contract No.	Date Services Provided:		Project Amount:
Bid# 142801CS	05/16/2012	UP 02/20/2018	$ 25,000,000.00

Vendor's role in Project: ☑ Prime Vendor ☐ Subconsultant/Subcontractor

Would you use this vendor again? ☑ Yes ☐ No If No, please specify in Additional Comments (below).

Description of services provided by Vendor:

Gamboa Engineers has provided extensive electrical and instrumentation/control engineering design and construction services through multiple phases at our Central County WRF.

Please rate your experience with the referenced Vendor:	**Needs Improvement**	**Satisfactory**	**Excellent**	**Not Applicable**
1. Vendor's Quality of Service				
a. Responsive	☐	☐	☑	☐
b. Accuracy	☐	☐	☑	☐
c. Deliverables	☐	☐	☑	☐
2. Vendor's Organization:				
a. Staff expertise	☐	☐	☑	☐
b. Professionalism	☐	☐	☑	☐
c. Turnover	☐	☐	☑	☐
3. Timeliness of:				
a. Project	☐	☐	☑	☐
b. Deliverables	☐	☐	☑	☐
4. Project completed within budget	☐	☐	☑	☐
5. Cooperation with:				
a. Your Firm	☐	☐	☑	☐
b. Subcontractor(s)/Subconsultant(s)	☐	☐	☑	☐
c. Regulatory Agency(ies)	☐	☐	☑	☐

Additional Comments: (provide on additional sheet if needed)

Gamboa Engineers, lead by Mario, has provided exceptional professional design and construction services for Sarasota County on multiple projects. His engineering professionalism and breath of field experience surpasses most other firms in the electrical disciplines.

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SUBCONTRACTORS/SUBCONSULTANTS/SUPPLIERS REQUIREMENT FORM

Request for Proposals, Request for Qualifications, or Request for Letters of Interest

The following forms and supporting information (if applicable) should be returned with Vendor's submittal. If not provided with submittal, the Vendor must submit within three business days of County's request. Failure to timely submit may affect Vendor's evaluation.

A. The Vendor shall submit a listing of all subcontractors, subconsultants and major material suppliers (firms), if any, and the portion of the contract they will perform. A major material supplier is considered any firm that provides construction material for construction contracts, or commodities for service contracts in excess of $50,000, to the Vendor.

B. If participation goals apply to the contract, only non-certified firms shall be identified on the form. A non-certified firm is a firm that is not listed as a firm for attainment of participation goals (ex. County Business Enterprise or Disadvantaged Business Enterprise), if applicable to the solicitation.

C. This list shall be kept up -to-date for the duration of the contract. If subcontractors, subconsultants or suppliers are stated, this does not relieve the Vendor from the prime responsibility of full and complete satisfactory performance under any awarded contract.

D. After completion of the contract/final payment, the Vendor shall certify the final list of non-certified subcontractors, subconsultants, and suppliers that performed or provided services to the County for the referenced contract.

E. The Vendor has confirmed that none of the recommended subcontractors, subconsultants, or suppliers' principal(s), officer(s), affiliate(s) or any other related companies have been debarred from doing business with Broward County or any other governmental agency.

If none, state "none" on this form. Use additional sheets as needed. Vendor should scan and upload any additional form(s) in BidSync.

1. Subcontracted **Firm**'s Name: Stoner & Associates, Inc.

Subcontracted Firm 's Address: 4341 S.W. 62nd Avenue, Davie, FL 33314

Subcontracted Firm 's Telephone Number: 954-585-0997

Contact Person's Name and Positi on: Leigh Anne Stoner-Gioia, Own er

Contact Person's E-Mail Address: lstoner@stonersurveyors.com

Estimated Subcontract/Supplies Contract Amount: 2%

Type of Work/Supplies Provided: Survey

McCafferty Brinson Consulting

Subcontracted Firm's Address: 633 South Andrews Avenue. Suite 402, Fort Lauderdale, FL 33301

Subcontracted Firm's Telephone Number: 954.797.7100

Contact Person's Name and Position: Audra McCafferty, PE, Owner

Contact Person's E-Mail Address: amccafferty@mccaffertybrinsor .com

Estimated Subcontract/Supplies Contract Amount: 16%

Type of Work/Supplies Provided: Process Mechanical, WTP

SUBCONTRACTORS/SUBCONSULTANTS/SUPPLIERS REQUIREMENT FORM

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C. This list shall be kept up -to-date for the duration of the contract. If subcontractors, subconsultants or suppliers are stated, this does not relieve the Vendor from the prime responsibility of full and complete satisfactory performance under any awarded contract.

D. After completion of the contract/final payment, the Vendor shall certify the final list of non-certified subcontractors, subconsultants, and suppliers that performed or provided services to the County for the referenced contract.

E. The Vendor has confirmed that none of the recommended subcontractors, subconsultants, or suppliers' principal(s), officer(s), affiliate(s) or any other related companies have been debarred from doing business with Broward County or any other governmental agency.

If none, state "none" on this form. Use additional sheets as needed. Vendor should scan and upload any additional form(s) in BidSync.

3. Subcontracted Firm's Name: Gamboa Engineers, Inc.

Subcontracted Firm 's Address: 17433 SW 65 Ct, Southwest Ranches, FL 33331

Subcontracted Firm 's Telephone Number: 954.533.1121

Contact Person's Name and Position: Mario Gamboa, Owner

Contact Person's E-Mail Address: mgamboa@gamboainc.com

Estimated Subcontract/Supplies Contract Amount: 5%

Type of Work/Supplies Provided: Electrical, Instrumentation

4. Subcontracted Firm's Name: Cartaya and Associates Architects, P.A

Subcontracted Firm's Address: 2400 E. Commercial Blvd, Suite 201, Fort Lauderdale, FL 33308

Subcontracted Firm's Telephone Number: 954.771.2724

Contact Person's Name and Position: Mario Cartaya, Owner

Contact Person's E-Mail Address: mjcartaya@cartayaandassociates.com

Estimated Subcontract/Supplies Contract Amount: 2%

Type of Work/Supplies Provided: Architectural

SUBCONTRACTORS/SUBCONSULTANTS/SUPPLIERS REQUIREMENT FORM

Request for Proposals, Request for Qualifications, or Request for Letters of Interest

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B. If participation goals apply to the contract, only non-certified firms shall be identified on the form. A non-certified firm is a firm that is not listed as a firm for attainment of participation goals (ex. County Business Enterprise or Disadvantaged Business Enterprise), if applicable to the solicitation.

C. This list shall be kept up -to-date for the duration of the contract. If subcontractors, subconsultants or suppliers are stated, this does not relieve the Vendor from the prime responsibility of full and complete satisfactory performance under any awarded contract.

D. After completion of the contract/final payment, the Vendor shall certify the final list of non-certified subcontractors, subconsultants, and suppliers that performed or provided services to the County for the referenced contract.

E. The Vendor has confirmed that none of the recommended subcontractors, subconsultants, or suppliers' principal(s), officer(s), affiliate(s) or any other related companies have been debarred from doing business with Broward County or any other governmental agency.

If none, state "none" on this form. Use additional sheets as needed. Vendor should scan and upload any additional form(s) in BidSync.

5. Subcontracted Firm's Name: Duland Design, LLC

Subcontracted Firm 's Address: 2598 E Sunrise Blvd, Fort Lauderdale, FL 33304

Subcontracted Firm 's Telephone Number: 954.866.0066

Contact Person's Name and Position: Chang Du, Principal

Contact Person's E-Mail Address: cdu@dulanddesign.com

Estimated Subcontract/Supplies Contract Amount: 1%

Type of Work/Supplies Provided: Landscape Architecture

6. Subcontracted Firm's Name: RADISE International, LC

Subcontracted Firm's Address: 3296 Powerline Road, Oakland Park, FL 33309

Subcontracted Firm's Telephone Number: 954-881-3473

Contact Person's Name and Position: Greg Stelmack, PE, VP

Contact Person's E-Mail Address: gregory.stelmack@radise.net

Estimated Subcontract/Supplies Contract Amount: 2%

Type of Work/Supplies Provided: Geotechnical

LETTER OF INTENT BETWEEN BIODER/OFFEROR AND COUNTY BUSINESS ENTERPRISE (CBE) SUBCONTRACTOR/SUPPLIER

This form(s) should be returned with the Vendor's submittal. If not provided with solicitation submittal, the Vendor must supply information within three business days of County's request. This form is to be completed and signed for each CBE firm. Vendor should scan and upload the completed, signed form(s) in BidSync.

Solicitation Number: PNC2115559P1

Project Title: Professional Engineering Services for Studies and Reports

BIdder/Offeror Name: i Arcadis U.S., Inc.

Address: 8201 Peters Rd, Suite 2400 City: 1Plantation State: FL Zip: 133324

Authorized Representative: !Leah Torres, PE Phone: **954.761.3460**

CBE Subcontractor/Suppller Name: Mccafferty Brinson Consulting, LLC

Address: :_] 3 S Andrews 2. City: !Fort Lauderdale, State: F[Zip: .333(H

Authorized Representative:]Audra McCafferty, PE Phone: **954.797.7100**

A. This is a letter of intent between the bidder/offeror on this project and a CBE firm for the CBE to perform subcontracting work on this project.
s. By signing below, the bidder/offeror is committing to utilize the above-named CBE to perform the work described below.
c. By signing below, the above-named CBE is committing to perform the work described below.
o. By signing below, the bidder/offeror and CBE affirm that if the CSE subcontracts any of the \4J0rk described below, ii may only subcontract that work to another CBE.

Work to be performed by CBE Firm			
Description	NAIcs·	CBE Contract Amount[1]	CBE Percentage of Total Proiect Value
Process Mechanical. WTP	1 54		1f,o/,.

AFFIRMATION: I hereby afirm that the information above is true and correct.

CBE Subcontractor/Supplier Authorized Representative

(Signature) President (Title) May 17, 2018 (Date)

Bidder/Offeror Authorized Representative

Leah Torres, PE (Signature) AVP (Title) !May 16, 2018 (Date)

• Visit http://www.census.gov/eos/www/naics/ to search. Match type of work with NAICS code as closely as possible.
t To be provided only when the solicitation requires that bidder/offer includea dollar amount in its bid-offer.

In tile eV11nl *the biddetlofferor does not* receive *awird of* 1/Je *prime contract, any and all representations in this Letter of Intent and Affirmation shall be null and void .*

LETTER OF INTENT BETWEEN BIDDER/OFFEROR AND COUNTY BUSINESS ENTERPRISE (CBE) SUBCONTRACTOR/SUPPLIER

This form(s) should be returned with the Vendor's submittal. If not provided with solicitation submittal, the Vendor must supply information within three business days of County's request. This form is to be completed and signed for each CBE firm. Vendor should scan and upload the completed, signed form(s) in BidSync.

Solicitation Number: PNC2115559P1

Project Title: Professional Engineering Services for Studies and Reports

Bidder/Offeror Name: Arcadis U.S., Inc.

Address: 18201 Peters Rd, Suite 2400 City: Plantation State: FL Zip: 33324

Authorized Representative: Leah Torres, PE Phone: 954.761.3460

CBE Subcontractor/Supplier Name: Cartaya and Associates Architects, PA

Address: 2400 E. Commercial Blvd, Ste 201 City: Fort Lauderdale State: FL Zip: 33308

Authorized Representative: Mario Cartaya Phone: 854.771.2724

A. This is a letter of intent between the bidder/offeror on this project and a CBE firm for the CBE to perform subcontracting work on this project.
B. By signing below, the bidder/offeror is committing to utilize the above-named CBE to perform the work described below.
C. By signing below, the above-named CBE is committing to perform the work described below.
D. By signing below, the bidder/offerer and CBE affirm that if the CBE subcontracts any of the work described below, it may only subcontract that work to another CBE.

Work to be performed by CBE Firm			
Description	NAICS	CBE Contract Amount [1]	CBE Percentage of Total Project Value
Architectural	54		?OJ,,

AFFIRMATION: I hereby aflrm that the information above is true and correct.

CBE Subcontractor/Supplier Authorized Representative

(Signature)	President (Title)	ls1171201s (Date)

Bidder/Offeror Authorized Representative

Leah Torres, PE (Signature)	AVP (Title)	May 16, 2018 (Date)

* Visit http://www.census.gov/eos/www/naics/ to search. Match type of work with NAICS code as closely as possible.
t To be provided only when the solicitation requires that bidder/offer include a dollar amount in its bid-offer.

In the event the biddetfofferor does not receive a110ro of the prime contract, any and all representations in this Letrer of Intent and Affirmation shall be null and void.

Broward County Board of
County Commissioners

Bid PNC2115559P1

LETTER OF INTENT BETWEEN BIDDER/OFFEROR AND COUNTY BUSINESS ENTERPRISE (CBE) SUBCONTRACTOR/SUPPLIER

This form(s) should be returned with the Vendor's submittal. If not provided with solicitation submittal, the Vendor must supply information within three business days of County's request. This form is to be completed and signed for each CBE firm. Vendor should scan and upload the completed, signed form(s) in BidSync.

Solicitation Number: PNC2115559P1

Project Tille: Professional Engineering Services for Studies and Reports

BIdder!OfferorName: ! Arcadis U.S., Inc.

Address: !8201 Peters Rd, Suite 2400 City: IPlantation State: J FL Zip: 133324

Authorized Representative:]Leah Torres, PE Phone: f 954.761.3460

CBE Subcontractor/Supplier Name:]RADISE International, LC

Address: I 32§6 Powerl.1ne oa,d City: jOaklana Park State: I FL Zip: 33309

Authorized Representative:]Gregory J. Stelmack, PE Phone: 54-881-3473

A. This is a letter of intent between the bidder/offeror on this project and a CBE firm for the CBE to perform subcontracting work on this project.
B. By signing below, the b!dder/offeror is committing to utilize the above-named CBE to perform the work described below.
C. By signing below, the above-named CBE is committing to perform the work described below.
D. By signing below, the bidder/ofuror and CBE affirm that if the CBE subcontracts any oflhe IM>rk described below, it may only subcontract that work to another CBE.

Work to be performed by CBE Firm

Description	NAICS	CBE Contract Amount [1]	CBE Percentage of Total Proiect Value
I Geotechniail Enaineerina ..	L 54	I	?%

AFFIRMATION: I hereby allrm that the information above is true and correct.

CBE Subcontractor Supplier Authorized Representative

(Signature) IVce Presiaent (Title) L os71"171s (Date)

Bidder/Offeror Authorized Representative

Leah Torres, PE (Signature) I AVP (Title) !May 1'3, 2018 (Date)

• Visit http://www.census.gov/eosfwww/naics/ to search. Match type of work with NAICS code as closely as possible.
t To be provided only when the solicitation requires that bidder/offer include a dollar amount in its bid-offer.

In Ille *,vent* 11111 *biddal'ofterorc/Oes not receive av.erd oftlle prime contrac:t, any andaU repre talion& In this Letmrofintent and Atrirmaffon shall* ***be*** *null and* 110id.

Broward County Board of
County Commissioners

Bid PNC2115559P1

LETTER OF **INTENT BETWEEN BIDDER/OFFEROR AND COUNTY BUSINESS ENTERPRISE (CBE) SUBCONTRACTOR/SUPPLIER**

This form(s) should be returned with the Vendor's submittal. If not provided with solicitation submittal, the Vendor must supply information within three business days of County's request. This form is to be completed and signed for each CBE firm. Vendor should scan and upload the completed, signed form(s) in BidSync.

Solicitation Number: PNC2115559P1

Project Title: Professional Engineering Services for Studies and Reports

Bldder/Offeror Name; Arcadis U.S., Inc.

Address: 18201 Peters Rd, Suite 2400 City: Plantation State: Fl Zip: 133324

Authorized Representative: Leah Torres, PE Phone: 954.761.3460

CBE Subcontractor/Supplier Name: Stoner & Associates, Inc.

Address: 4341 S.W. 62nd Avenue City: ipav,e State: Fl Zip: 33:H4

Authorized Representative: Leigh Anne Stoner-Gioia Phone: BS4-585-0997

A. This is a letter of intent between the bldder/offeror on this project and a CBE firm for the CBE to perform subcontracting work on this project.
B. By signing below, the bidder/offeror is committing to utilize the above-named CBE to perform the work described below.
C. By signing below, the above-named CBE is committing lo perform the work described below.
O. By signing below, the bidder/offeror and CBE affirm that if the CBE subcontracts any of the "M>rk described below, it may only subcontract that work lo another CBE.

Work to be p11rfcm11ed by CSE Firm			
Description	NAICS	CBE Contract Amount	CBE Percentage of Total Proiect Value
Survey	54		:,ot,

AFFIRMATION: I hereby aflrm that the information above is true and correct .

CBE Subcontractor/Supplier Authorized Representative

(Signature) (Tille) Date)

Bidder/Offeror Authorized Representative

Leah Torres, PE (Signature) tNP (Tille) May 16, 2018 (Date)

• Visit http://www.census.gov/eos/www/naics/ to search. Match type of work with NAICS code as closely as possible.
t To be provided only when the solicitation requires that bidder/offer include a dollar amount in its bid-offer.

In the e'11/1t *the birldfllfoff&tor* does *not* receive *atNMd of the prime contract, any aM all repre/Senlltions in this* letter *of Intent and Affirmation* shall *be null llfld void.*

LETTER OF INTENT BETWEEN BIDDER/OFFEROR AND COUNTY BUSINESS ENTERPRISE (CBE) SUBCONTRACTOR/SUPPLIER

This form(s) should be returned with the Vendor's submittal. If not provided with solicitation submittal, the Vendor must supply information within three business days of County's request. This form is to be completed and signed for each CBE firm. Vendor should scan and upload the completed, signed form(s) in BidSync.

Solicitation Number: PNC2115559P1

Project Title: Professional Engineering Services for Studies and Reports

Bidder/Offeror Name: Arcadis U.S., Inc.

Address: 18201 Peters Rd, Suite 2400 City: Plantation State: FL Zip: 33324

Authorized Representative: Leah Torres, PE Phone: 954.761.3460

CBE Subcontractor/Supplier Name: Gamboa Engineers, Inc.

Address: 117433 SW 65 Ct, City: foutnwest Ranchesitate: Fl Zip: 33308

Authorized Representative: Mario Gamboa, PE Phone: b54.533.1121

A. This is a letter of intent between the bidder/offeror on this project and a CBE firm for the CBE to perform subcontracting work on this project.
B. By signing below, the bidder/offeror is committing to utilize the above-named CBE to perform the work described below.
c. By signing below, the above-named CBE is committing to perform the work described below.
D. By signing below, the bidder/offerer and CBE affirm that if the CBE subcontracts any of the 1M>rk described below, it may only subcontract that work to another CBE.

Work to be perfo			
Description	NAICS*	CBE Contract Amount	CBE Percentage of Total Project Value
Electrical Instrumentation	54		!;0/4

AFFIRMA TION: I hereby aflrm that the information above is true and correct.

CBE Subcontractor/Supplier Authorized Representative

(Signature)	(Title)	(Date)
Mario A. Gamboa	Owner Manager	os;17;1s

Bidder/Offeror Authorized Representative

(Signature)	(Title)	(Date)
Leah Torres, PE	AVP	May 16, 2018

• Visit http://www.census.gov/eos/www/naics/ to search. Match type of work with NAICS code as closely as possible.
t To be providedonly when the solicitation requires that bidder/offer include a dollar amount in its bid-offer.

In the event the bidderlofferor does *not receive e!Mlrd of the prime contract, any end ell representations in this Letter of/ntent and Affirmation shall be null and void.*

CERTIFICATE OF LIABILITY INSURANCE

DATE(MM/DD/YYYY)
12/27/2017

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

Holder Identifier :

PRODUCER Aon Risk Services South, Inc. Franklin TN Office 501 Corporate Centre Drive Suite 300 Franklin TN 37067 USA	CONTACT NAME: PHONE (A/C. No. Ext): (866) 283-7122 FAX (A/C. No.): 800-363-0105 E-MAIL ADDRESS:

INSURER(S) AFFORDING COVERAGE		NAIC #
INSURER A:	Greenwich Insurance Company	22322
INSURER B:	XL Specialty Insurance Co	37885
INSURER C:	XL Insurance America Inc	24554
INSURER D:		
INSURER E:		
INSURER F:		

INSURED
Arcadis U.S., Inc.
630 Plaza Drive
Suite 200
Highlands Ranch CO 80129 USA

COVERAGES CERTIFICATE NUMBER: 570069686063 REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS. Limits shown are as requested

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X COMMERCIAL GENERAL LIABILITY CLAIMS-MADE / X OCCUR X Contractual Liability GEN'L AGGREGATE LIMIT APPLIES PER: POLICY / X PRO-JECT / X LOC OTHER:			GEC001076116 SIR applies per policy terms & conditions	01/01/2018	01/01/2019	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG	$1,000,000 $1,000,000 $10,000 $1,000,000 $2,000,000 $2,000,000
B	AUTOMOBILE LIABILITY X ANY AUTO OWNED AUTOS ONLY / SCHEDULED AUTOS HIRED AUTOS ONLY / NON-OWNED AUTOS ONLY X Property Damage to			AEC001075816 AOS	01/01/2018	01/01/2019	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident)	$1,000,000
B	X UMBRELLA LIAB / X OCCUR EXCESS LIAB / CLAIMS-MADE DED / X RETENTION $10,000			UEC001075916	01/01/2018	01/01/2019	EACH OCCURRENCE AGGREGATE	$1,000,000 $1,000,000
C B	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR / PARTNER / EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) Y / N: N If yes, describe under DESCRIPTION OF OPERATIONS below	N / A		RWD943516312 AOS RWR943516712 AK, WI	01/01/2018 01/01/2018	01/01/2019 01/01/2019	X PER STATUTE / OTH-ER E.L. EACH ACCIDENT E.L. DISEASE-EA EMPLOYEE E.L. DISEASE-POLICY LIMIT	$1,000,000 $1,000,000 $1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)
Evidence of Insurance.

Certificate No : 570069686063

CERTIFICATE HOLDER

Arcadis U.S., Inc.
630 Plaza Drive, Suite 200
Highlands Ranch CO 80129 USA

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

Aon Risk Services South Inc.

ACORD

CERTIFICATE OF LIABILITY INSURANCE

DATE(MM/DD/YYYY)
05/30/2017

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

Holder Identifier:

PRODUCER	CONTACT NAME:	
Aon Risk Services South, Inc. Franklin TN Office 501 Corporate Centre Drive Suite 300 Franklin TN 37067 USA	PHONE (A/C. No. Ext): (866) 283-7122	FAX (A/C. No.): (800) 363-0105
	E-MAIL ADDRESS:	

INSURED	INSURER(S) AFFORDING COVERAGE	NAIC #
Arcadis U.S., Inc. 630 Plaza Drive Suite 200 Highlands Ranch CO 80129 USA	INSURER A: Steadfast Insurance Company	26387
	INSURER B: Lexington Insurance Company	19437
	INSURER C:	
	INSURER D:	
	INSURER E:	
	INSURER F:	

COVERAGES CERTIFICATE NUMBER: 570066576295 REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS. Limits shown are as requested

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
	COMMERCIAL GENERAL LIABILITY						EACH OCCURRENCE	
	☐ CLAIMS-MADE ☐ OCCUR						DAMAGE TO RENTED PREMISES (Ea occurrence)	
							MED EXP (Any one person)	
							PERSONAL & ADV INJURY	
	GEN'L AGGREGATE LIMIT APPLIES PER:						GENERAL AGGREGATE	
	☐ POLICY ☐ PRO-JECT ☐ LOC						PRODUCTS - COMP/OP AGG	
	☐ OTHER:							
	AUTOMOBILE LIABILITY						COMBINED SINGLE LIMIT (Ea accident)	
	☐ ANY AUTO						BODILY INJURY (Per person)	
	☐ OWNED AUTOS ONLY ☐ SCHEDULED AUTOS						BODILY INJURY (Per accident)	
	☐ HIRED AUTOS ONLY ☐ NON-OWNED AUTOS ONLY						PROPERTY DAMAGE (Per accident)	
	☐ UMBRELLA LIAB ☐ OCCUR						EACH OCCURRENCE	
	☐ EXCESS LIAB ☐ CLAIMS-MADE						AGGREGATE	
	☐ DED ☐ RETENTION							
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY Y / N						☐ PER STATUTE ☐ OTH-ER	
	ANY PROPRIETOR / PARTNER / EXECUTIVE OFFICER/MEMBER EXCLUDED? ☐ N / A						E.L. EACH ACCIDENT	
	(Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE-EA EMPLOYEE	
							E.L. DISEASE-POLICY LIMIT	
A	Archit&Eng Prof			EOC929693803 Professional Liability	06/01/2017	06/01/2018	Each Claim Annual Aggregate	$1,000,000 $1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

Evidence of Insurance.

Certificate No: 570066576295

CERTIFICATE HOLDER

Arcadis U.S., Inc.
630 Plaza Drive, Suite 200
Highlands Ranch CO 80120-2379 USA

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

Aon Risk Services South Inc.

ACORD 25 (2016/03)

AGENCY CUSTOMER ID: 570000005571
LOC #:

ADDITIONAL REMARKS SCHEDULE

AGENCY	NAMED INSURED
Aon Risk Services South, Inc.	Arcadis U.S., Inc.
POLICY NUMBER	
See Certificate Number: 570066576295	
CARRIER / NAIC CODE	EFFECTIVE DATE:
See Certificate Number: 570066576295	

ADDITIONAL REMARKS

THIS ADDITIONAL REMARKS FORM IS A SCHEDULE TO ACORD FORM,
FORM NUMBER: ACORD 25 FORM TITLE: Certificate of Liability Insurance

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER	
INSURER	
INSURER	
INSURER	

ADDITIONAL POLICIES — If a policy below does not include limit information, refer to the corresponding policy on the ACORD certificate form for policy limits.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YYYY)	POLICY EXPIRATION DATE (MM/DD/YYYY)	LIMITS	
	OTHER							
A	Env Contr Poll			EOC929693803 Pollution Liability SIR applies per policy terms & conditions	06/01/2017	06/01/2018	Each Claim	$2,000,000
							Annual Aggregate	$2,000,000
	X Professional Liabil							
	X and Contractors							
	X Claims-Made							
	X Pollution Liability							

ARCADIS Design & Consultancy for natural and built assets

The following is a summary of all PL litigation for the preceding five years. Such claims are disputed and not reasonably expected to be adversely determined, applicable insurance is available, and/or such claims are not reasonably expected to materially impact the financial condition or the operations of Arcadis.

Litigation Five-Year History: Arcadis U.S., Inc. and All Affiliates

Plaintiff	Defendant (Arcadis Affiliate)	Date Filed	Nature of Incident	Type of Claim	Jurisdiction	Business Line	Government Claim (Y/N)	Resolution 1 = Case Ongoing 2 = Dismissal 3 = Resolved/Settled 4 = Judgment
City of Newark	Malcolm Pirnie	Feb-17	Client's 3rd party claim for indemnification in underlying claim against client in connection with denial of change order request (Scafar Contracting v. City of Newark)	Prof. Liability	Essex Cnty, NJ	Water	N	1
City of New York	Malcolm Pirnie	Jan-17	Breach of contract and design defects related to private wastewater treatment plant upgrades	Prof. Liability	New York Cnty, NY	Water	N	1
Newport National/Cornerstone LLC	Arcadis US	Nov-17	Lease dispute	Breach of Contract	San Diego, CA	Corp	N	1
Chambliss	Arcadis US	Aug-16	Breach of contract and negligence claims related to drilling services	Breach of Contract	Broward Cnty, FL	Env	N	1
Kelly, Russell and Paula	Arcadis US	Aug-16	Taking of property and reverse condemnation claims due to location of sewer pump station adjacent to plaintiffs' home	Prof. Liability	Baton Rouge, LA	Water	N	1
Glenmont Arlington Kendall	Arcadis G&M (BHR)	Jul-16	Client's 3rd party claims for indemnification, contribution, equitable subrogation, and negligence in underlying claim against client for construction defect (Diamond v. Glenmont Arlington)	Prof. Liability	Duval Cnty, FL	Bldgs	N	1
Crawford Labs	Arcadis US	Jun-16	Dispute over contract structure and pricing	Breach of Contract	Arbitration - IL	Env	N	1
Visionary Integration Professionals	Arcadis US	Dec-15	Breach of services agreement - collection	Breach of Contract	Douglas Cnty, CO	Corp	N	1
Hayes, Bradley Steven	Arcadis US	Oct-15	Plaintiff alleged that family members suffered fatal illnesses on property that was contaminated by toxic metals; alleged a number of defendants, including Arcadis, responsible	Prof. Liability	USDC - ED KY	Env	N	2
Visionary Integration Professionals	Arcadis US	Sep-15	Breach of services agreement - collection	Breach of Contract	Hillsborough Cnty, IL	Corp	N	3
City of Chicago	The Rise Group and Arcadis US	Sep-15	Client's 3rd party claim for contribution in underlying claim against client for negligence (Young v. CTR)	Prof. Liability	Cook Cnty, IL	Infra	N	1
Yonkers Contracting	Arcadis US and Malcom Pirnie	Sep-15	Breach of contract claims against client and others, including Arcadis and Malcolm Pirnie, related to delays and disruptions of project causing monetary damages	Breach of Contract/Prof. Liability	Westchester Cnty, NY	Water	N	1
Enviro-Equipment	Arcadis US	Jul-15	Breach of rental agreement - collection	Breach of Contract	Wake Cnty, NC	Env	N	3
Honneycutt, Leo Baxter	Arcadis US	Jun-15	Taking of property and reverse condemnation due to location of sewer pump station behind plaintiffs' home	Prof. Liability	Baton Rouge, LA	Water	N	1
Interstate Home Loan	Arcadis US	May-15	Breach of contract claim against client and negligence claim against Arcadis related to environmental easement	Prof. Liability	Suffolk Cnty, NY	Env	N	2
Induchem Services	Arcadis US	Dec-14	Alleged non-payment for services performed	Breach of Contract	San Juan, PR	Env	N	3
Jeffrey Marcus Gray	Arcadis US	Jul-14	Alleged violation of Florida Statute Chapter 119 FOIA request	Breach of Contract	Duval Cnty, FL	Infra	N	3
1120 Club	The Rise Group	Feb-14	General contractor and all subs (RISE) sued alleging project did not comply with contract and was defective	Breach of Contract	Cook Cnty, IL	Bldgs	N	1
Allen, Paul (Sauk Village)	Arcadis US	Nov-13	Class action involving property damage for alleged groundwater contamination by client and others	Prof. Liability	Cook Cnty, IL	Env	N	2
Taisei Construction	Arcadis US	Nov-13	Contractor claim against subcontractors in suit with client for defective work	Prof. Liability	Los Angeles Cnty, CA	Bldgs	N	3
DR Horton	Arcadis US	Oct-13	3rd party claims against several subcontractors alleging breach of contract, negligence, indemnity, and contribution in connection with alleged defects	Negligence/Breach of Contract/Prof. Liability	Duval Cnty, FL	Infra	N	2
Heatcool	RISE	Aug-13	Client's subcontractor filed breach of contract claim for failure to pay for services rendered	Breach of Contract	Cook Cnty, IL	Bldgs	N	2
1 More Stop	Arcadis US	Jun-13	Property owner alleged damage associated with remediation activity	Breach of Contract/Prof. Liability	Wayne Cnty, MI	Env	N	3
Cincinnati Insurance	Arcadis US	Apr-13	Insurance company for contractor alleges design error caused damages	Prof. Liability	Lucas Cnty, OH	--	N	3
Arcadis US	Reeves Southeastern	Jan-13	LFR hired to clean and close site but current resident continues to pollute the ground water making site closure impossible	Breach of Contract	USDC - MD FL	Env	N	3
Arcadis US	Steel Services Enterprises	Dec-12	Dispute regarding subcontractor indemnifying Arcadis US	Breach of Contract	Cook Cnty, IL	Env	N	3
Maddux, Jamie Nicole	Malcolm Pirnie	Nov-12	Plaintiff alleged injuries sustained in vehicle accident due to alleged defective traffic control device; MP did not provide traffic engineering services	Prof. Liability	Orange Cnty, CA	Water	N	2
Duke Realty	Malcolm Pirnie	Oct-12	Plaintiff claimed that MP breached lease for office space	Breach of Contract	Hamilton Cnty, OH	Corp	N	3
Hilton Cocoa Beach	Arcadis US	Oct-12	Claim regarding design of curtain wall leaking at Hilton hotel	Prof. Liability	USDC - MD FL	Infra	N	3

ARCADIS Design & Consultancy for natural and built assets

BROWARD COUNTY FLORIDA

Professional Engineering Services for Studies and Reports
Bid Number: PNC2115559P1

APPENDIX A: RESUMES

Chris Barlow, PE

Project Manager / Water and Wastewater Treatment Plants / Lift Stations and Pump Stations

Years Performing Job Title:

- 19 years

Professional Registration/ Certification:

- Professional Engineer - FL
- Construction Documents Technologist
- Occupational Safety and Health Administration (OSHA), 10-hr Construction Safety and Health Course January 2014

Education:

- BS Environmental Engineering 1998

Chris is a Principal Water Wastewater Engineer with Arcadis in the Boynton Beach office. Chris is an experienced engineer on numerous water, wastewater, and water reclamation projects in Southeast Florida. Chris has served in all levels of project execution including coordination of the several disciplines involved complex projects, necessary for the successful project delivery. This experience includes the successful completion of new construction and facility process rehabilitation projects at treatment plants and related facilities by providing the design, permitting, construction observations, start-up, construction administration and final regulatory certification of these projects. Chris will serve as the Project Manager for this Studies and Reports Services.

Relevant Work Experience:

City of Hollywood: High Service Pump Station Upgrades / Water Treatment Plant / Hollywood, FL. Lead design engineer for the evaluation, design and permitting of the upgrades to the pump station that was originally built in the early 1970's. The project will provide for the installation six 8,000 gpm variable speed pumps to replace ten existing constant speed pumps that sizes that range in size from 2,500 gpm to 14,000 gpm pumps. The construction will include the installation of new isolation and control valves, controls improvements and the installation of HVAC improvements to the existing electrical room to account for the heat load produced by the variable frequency drives.

City of Sunrise: Sawgrass Aquifer Storage and Recovery Well System Design / Sunrise, FL. Engineer of Record and lead mechanical design engineer for the wellhead design and in-line booster pump station design associated with the conversion of two previously drilled Floridian (brackish) Aquifier wells into Aquifier Storage and Recovery (ASR) wells. The project responsibilities consists of the public water system (PWS) permitting by providing the hydraulic and mechanical process design. The wellhead design provided for 1.5-MGD variable speed submersible recovery pumps for each well and wellhead piping to account for the bi-directional flow of the ASR well. The 3.0-MGD in-line booster pump station provides the hydraulics to inject the surplus Biscayne water down the ASR.

City of Sunrise: Springtree Industrial Deep Injection Well Flow Delivery System / Sunrise, FL. Staff engineer for completion of the site piping associated with conveyance of reverse osmosis concentrate and wastewater effluent to new deep injection wells, along with extending a new water main through the site. The new water main results in looping two dead-end pipes with the new water originating at the water treatment plant.

City of Sunrise: Springtree Wellhead (13, 14, 15 and 16) Improvements / Sunrise, FL. Served as Lead Engineer during final pump selection. This work required the hydraulic calculations to accounting for the dynamic drawdown of the well, in conjunction with the dynamic headlosses of the raw water main network and the static elevation of the water treatment plant.

Martin County Utilities and Solid Waste: Tropical Farms Wastewater Treatment Plant / Stuart, FL. Engineer of Record and Project Manager for the modification to the FDEP Wastewater Operating permit that increased the capacity from 5.0 mgd to 5.9 mgd. The purpose of this modification was to increase the permit capacity based on the actual plant performance utilizing the most recent operational data after commissioning and the transfer of flow from two smaller plants that were decommissioned, as part of the Master Plan for this Utility.

City of West Palm Beach: RAS Pump Station Valve Replacement at the East Central Regional (ECR) WWTP / West Palm Beach, FL. Design Engineering and Construction Contract Administrator for the rehabilitation of four (4) triplex return activated sludge (RAS) pump stations serving this 55 mgd waste water treatment plant. The Work consisted of replacing reducing swing check valves with conventional swing check valves and fitting on the discharge piping, replacing the pump suction valves with new valves equipped with electric actuators, and the installation of 30-inch line-stops on the underground discharge piping.

Miami-Dade Water and Sewer Department: Government Cut Feasibility Study (ER No. 46425) / Miami-Dade County, FL. Lead Trenchless and Hydraulic Engineer and Co-author of a study that explored the details associated with the relocation of the 54-inch wastewater transmission force main from Miami Beach to Virginia Key. The project was necessitated by the plan from the United States Army Corp of Engineers to increase the depth of Government Cut and the associated inland waterways leading to the Port of Miami necessary to accommodate the New Panamax size ships.

Palm Beach County Water Utility Department (PBCWUD) and Florida Power and Light (FPL), West Central Energy Center (WCEC): WCEC Reclaimed Water Storage Tanks and Metering Project / Loxahatchee, FL. Lead design engineer for the installation of a 5 million gallon pre-stressed composite concrete (Crom) ground storage tank, a 36-inch flow meter, pipe connections to the three cooling towers, and a 20-inch flow control valve for the reclaimed water at the WCEC. This project provided the end user, FPL, the receiving and final distribution facilities for the reclaimed water supplied from the East Central Regional Water Reclamation Facility (ECRWRF).

South Martin Regional Utilities (SMRU): Reverse Osmosis Concentrate Ocean Outfall / , Hobe Sound, FL. Project Engineer for the construction phase observations of over 10,000 linear feet of 12-inch HDPE pipe, including horizontal direction drill of 2,200 linear feet of 12-inch pipe approximately 1,700 feet offshore into the Atlantic Ocean, and a 900 LF horizontal direction drill for the sub-aqueous crossing of the Intracoastal Waterway. The offshore installation's permit restricted the drill procedure from releasing any drilling fluid into the ocean, and required continuous observations by SCUBA divers. The construction successfully met this restriction.

Joan Fernandez, PE

Project Manager / Water Distribution, Sewer Collection Systems and Reclaimed Water Pipeline

Years Performing Job Title:

- 14 years

Professional Registration/ Certification:

- Professional Engineer - FL, MD

Education:

- MS Environmental Engineering 2007
- BS Environmental Engineering 2004

Joan has particularly thorough expertise in the areas of water distribution, wastewater collection and reclaimed water systems. As a principal engineer, she has demonstrated skills in various aspects of consulting engineering and specializes in project management. She has worked closely with various agency staff at all levels, consultants, and contractors in conducting contract negotiations, presentations, workshops, and project implementation and management. She also has assisted with permit acquisition for various projects and provided services during construction.

Relevant Work Experience:

City of Sunrise: Escape and Valencia Force Main Pipe Bursting / Sunrise, FL. Senior Project Manager. Prepared construction documents and associated permits for the replacement of over 2,000 lf of force main in communities of Escape and Valencia. The project consisted of pipe bursting existing aging force main and replacing with an 8-in pressure tested HDPE main. Post design services included Construction Observation assistance, assistance with certificate of completion and assistance with requests for information during construction.

City of Sunrise: Sawgrass Aquifer Storage and Recovery Project / Sunrise, FL. Design Manager. Assisted with the design coordination between disciplines to finalize the design drawings and specifications needed. The scope of the project includes the design and permitting for conversion of one Floridian well near the Sawgrass Utility Complex to ASR well. This system will store fresh water from the Biscayne Aquifer in the ASR well for recovery during the periods of high water demand, allowing the City to fully utilize its fresh groundwater before having to treat the brackish Floridian supply.

Broward County: Alternatives Analysis for Intracoastal Waterway Force Main Crossing Replacement / Broward County, FL, BCWWS operates four retail lift stations that discharge to Master Pump Station 220 (MPS 220). The wastewater is repumped through a 16-inch force main that crosses the Intracoastal Waterway (IWW) to emerge in the city of Lighthouse Point. The force main is the only transmission main in place to cross the IWW, and the county has concerns regarding the condition of the force main and the potential environmental impacts of raw sewage release to the IWW in the event of a pipe failure. Served as project manager and provided QA/QC for a study whose objective was to establish an alternative means of transmitting wastewater from the barrier island. Several conceptual routing alternatives were evaluated to establish a feasible redundant force main transmission corridor.

Unincorporated Broward County: Broadview Park Water Main Improvement Project / FL. As resident engineer inspector, responsibilities included supervision of daily construction of over 100,000 linear feet of pipe; tracking quantities; managing correspondence between the client, contractor and engineer change order processing and control and project close-out.

City of Sunrise: Lift Stations 114, 123, 125, 132 and 148 Rehabilitation / Sunrise, FL. As task order manager, led the conversion design of five sanitary lift stations from wet/dry pit to wet pit submersible pumps. The design included hydraulic modeling to establish design conditions and pump selection and overcoming site space constrictions, resulting in improved security, accessibility and aesthetics at each site.

Pump Station Improvements Program / Miami-Dade Water and Sewer Department, Miami, FL. As project manager, led the design team for pump station improvements program (PSIP) projects including upgrades to the MDWASD Wastewater Collection and Transmission System (sanitary sewer collection system, pump stations and force mains).

North District Wastewater Treatment Plant Pump Station Improvements Program / Miami-Dade Water and Sewer Department, Miami, FL. As project manager for the North District Wastewater Treatment Plant (NDWWTP) replacement and renewal contract, led the preliminary design for five regional pump stations (301, 414, 415, 416 and 417) that feed the NDWWTP. The work included an inspection of the facility and preparation of a BODR to clearly identify the necessary improvements relative to the requirements of the consent decree and the restoration of long-term reliability to the station. As part of the existing facility assessment, a hydraulic evaluation was conducted to assess the range of head and flow conditions associated with the pump station's system and to develop associated system curves to be used in the evaluation of pumping equipment (existing and new) for the station.

Leah Torres, PE,

Project Officer / Rates, Bond Feasibility, Annual Engineering Reports

Years Performing Job Title:

- 21 years

Professional Registration/ Certification:

- Professional Engineer - FL

Education:

- MS, Civil Engineering 2002
- BS, Environmental Engineering 1997
- Program Management, Academy -Leading Complexity University of Oxford - Said Business School

Mrs. (Richter) Torres has a diverse background in program management, business advisory and financial consulting services and civil engineering. She specializes in assisting clients with managing their planning, operational and capital program needs. Her experience includes project management and delivery, financial analysis, rate studies, vendor procurement, contract compliance, regulatory permitting, public outreach, annual reporting to bondholders/trustees, litigation support services, environmental compliance and operation and maintenance evaluation. She serves as the Project Manager for the Miami Dade County Water and Sewer Department Bond Engineering and Financial Services contract, which included most recently conducting a full-scale study of the retail rates charged to its customers and the restructuring of its rate system, as well as the Project Manager for the PortMiami Financial Services and Management Consulting contract.

Relevant Work Experience:

Miami-Dade County Water and Sewer Department: Water and Sewer Rates, Fee Analysis and Bond Engineering Services / Miami, FL. Serves as Project Manager for the following financial services required by the Department to meet Bond Ordinance requirements and general management policies: Retail Rate Study, Annual Adequacy of Rates and Charges Review, Annual Bond Consultant Report, Engineering Consultant Report for Bond Issuances, Annual Wholesale Rate Review, and miscellaneous other studies such as General & Administrative Cost Allocation Review.

PortMiami, Seaport Department of Miami-Dade County: Consulting Engineer's Report and Certificate / Miami, FL. Served as Project Manager for the preparation of a Consulting Engineer's Report and Certificate in support of the issuance of the Series 2014 Seaport Revenue Bonds in accordance with Bond Ordinance requirements. Activities included review of Port Miami organization, management structure, revenue characteristics (historical and budget), cargo and cruise contracts, five-year Capital Improvement Program, facilities inspection documents and other documentation provided to support revenue projections; developed comprehensive financial model to project net revenue for five-year period beyond bond issuance; prepared a draft and final Consulting Engineer's Report and supported Port Miami and entire County Financing Team in the development of the preliminary official statement and official statement, as well as participated in the presentations to and discussions with the rating agencies and letter of credit providers to address questions or run individual scenarios associated with their review of Port Miami's bond. The efforts also included financial support to meet the requirements of Master Bond Ordinance 88-66 and established management policies which consists of reviewing unaudited quarterly financial results for Quarter 3 and Quarter 4 of fiscal year (FY) 2014, including a review of actual financial results in comparison to projected results; assisting with preparation of updated FY 2014 year-end financial projections given the unaudited year to date actual results, including an evaluation of reasons for any significant deviations of actual financial results from projected results, and an assessment of the impact of any deviations on ability to meet debt service coverage requirements; and participate in regular meetings with staff to discuss financial analyses, forecast results and other recommendations as may be required as Consulting Engineer for the authorized period. In addition, Arcadis

conducted comprehensive facility inspections of the entire facility to review the state of condition and repair of the infrastructure as well as ultimately generate recommendations for repair, renewal, and replacement and issuance of a Consulting Engineer's Report documenting the results of such inspections and associated recommendations.

PortMiami, Seaport Department Miami-Dade County: Consulting Engineer's Services for Master Bond Ordinance 88-66 / Miami, FL. Serves as Project Manager for the following financial support required by PortMiami in order to meet the requirements of Master Bond Ordinance 88-66 and established management policies which consists of reviewing unaudited quarterly financial results for Q3 and Q4 of FY2014, including a review of actual financial results in comparison to projected results; assisting PortMiami with preparation of updated FY2014 year-end financial projections given the unaudited year to date actual results, including an evaluation of reasons for any significant deviations of actual financial results from projected results, and an assessment of the impact of any deviations on ability to meet debt service coverage requirements; and participate in regular meetings with PortMiami staff to discuss financial analyses, forecast results, and other recommendations as may be required as PortMiami's Consulting Engineer for the authorized period. In addition, ARCADIS conducts comprehensive facility inspections of the entire PortMiami facility to review the state of condition and repair of the infrastructure as well as ultimately generate recommendations for repair, renewal, and replacement, and issuance of a Consulting Engineer's Report documenting the results of such inspections and associated recommendations.

City of North Miami Beach: Miscellaneous Support Services / North Miami Beach, FL. Served as Deputy Project Manager to support the city in its implementation of a $50 million membrane-softening treatment facility and related improvements. Assignments included supporting the following efforts:

- Development of alternative sources of funding (grants) to more effectively leverage the city's resources.
- Development of a strategic project implementation approach that minimizes the city's capital investment without compromising quality objectives and more effectively aligns project attributes with selection criteria for alternative sources of funding.
- Development of a water quality monitoring strategy aimed at identifying areas of the distribution system that could potentially degrade the quality of water produced by the proposed membrane facility.

Puerto Rico Aqueduct and Sewer Authority: Contract Administration/Contract Negotiation / San Juan, PR. Assisted with the contract administration / contract negotiation for the Puerto Rico Aqueduct and Sewer Authority (PRASA). Performed cost analysis and invoice review to determine excess costs incurred by PRASA's consultant CGE-AA during Hurricane Georges and assisted with maintaining compliance of 301h water / wastewater facilities.

Edward R. Balchon, PE, BCEE

QA/QC - Overall Quality

Mr. Balchon has over 30 years of experience in the planning, design, and construction of water treatment facilities and distribution systems as well as sludge management, wastewater collection, and wastewater treatment facilities. Many of these projects have included standby power generation systems and coordinating the mechanical design with electrical engineering project leads. His 32 years of experience uniquely qualify him to ensure a high quality and successful project.

Years Performing Job Title:

- 32 years

Professional Registration/ Certification:

- Professional Engineer - FL
- Board-Certified Environmental Engineer

Education:

- BS Environmental Engineering 1985

Relevant Work Experience:

City of Tampa: McKay Bay Waste to Energy Facility Retrofit / City of Tampa, FL. Project Manager for the Owner's Representative services for the Design/Build procurement and design and construction oversight of the retrofit to the existing WTE Facility. Led Bond Engineer Reporting, D/B Team procurement, Design Criteria Package preparation, design oversight and management of construction inspection teams.

Hillsborough County Water Resource Services: Dale Mabry AWWTP / Tampa, FL. Quality reviewer for the headworks replacement design project at the 6 mgd, AADF treatment plant. The design included a new headworks with new perforated screens, vortex-type grit removal equipment, odor control, channel covering system, flow splitting, RAS and plant drain rerouting, influent flow monitoring reconfiguration, a separate electrical building, and staging the connection of a new facility to existing.

Hillsborough County: Valrico Advanced Wastewater Treatment Plant Expansion / Dover, FL. Project officer for the design and construction expansion of the AWTP from 6 to 12 mgd and completion of site planning for the ultimate expansion to 18 mgd. The 12 mgd expansion included major equipment modifications to the headworks, odor control, new biological nutrient removal tankage including anoxic and aeration basins with nutrient removal process control system, alum feed, three new clarifiers, RAS/WAS pumping, upgrade of the existing intermediate pumping station, four new denitrification filters, new UV disinfection system, new effluent pumps, new reclaimed water storage tanks, new reclaimed water pumping station, and a new reject water storage pond. The project also included two new 1,500 KW generators and the rehabilitation of two existing 750 kw generators.

Tampa Bay Water: Lithia Hydrogen Sulfide Removal Facility / Lithia, FL. Project Officer for design of 44 mgd side-stream ozone system to control hydrogen sulfide at the Lithia wellfield and water treatment facility. Responsible for maintaining staffing requirements and quality reviews throughout detailed design phase. The project included two 1,500 kw generators.

Pinellas County: W. E. Dunn Water Reclamation Facility Low Pressure Reclaimed Water Pump Station / Palm Harbor, FL. Project Officer for the design of a 6.0 mgd low pressure reclaimed water pump station to serve the Innisbrook Golf Resort irrigation pond system. Project scope included a new pump station to transfer reclaimed water from a 55-million-gallon reservoir to a series of irrigation ponds. Level control devices and process automation were added including associated modifications to the County SCADA system.

Robert Ryall, PE

Rates, Bond Feasibility, Annual Engineering Reports Quality

Years Performing Job Title:

- 20 years

Professional Registration/ Certification:

- Professional Engineer - FL

Education:

- MBA 2002
- BS Environmental Engineering 1998

Mr. Ryall is a nationally recognized consultant with expertise in financial and strategic planning for water and wastewater utilities around the country. He has assisted with over $1 billion in water and wastewater financing and has extensive experience in utility rate-making, impact fees, bond feasibility studies and acquisition/valuation analysis, and the development and use of interactive financial models. In addition to his financial experience, Mr. Ryall is a professional engineer in the State of Florida and has been involved in many strategic planning studies for water and wastewater utilities, including master plans, capacity analysis, consolidation studies and asset management-related engagements. Mr. Ryall is a contributor to industry manuals of practice and is a frequent speaker at regional and national water events including the Utility Management Conference, American Water Works Association (AWWA) Annual Conference, Florida Section AWWA Conference and Florida Water Resources Conference. He recently founded the finance and rates committee within the AWWA Florida Section.

Relevant Work Experience:

Miami-Dade Water and Sewer Department (MDWASD): Rate and Cost of Service Services / Miami, FL. Mr. Ryall serves as Project Manager for this engagement, which involves a comprehensive water and sewer cost-of-service and rate study for both retail and wholesale customers. MDWASD is the largest water system in Florida and serves approximately 2 million customers. MDWASD has more than 3,600 miles of sewage pipes, a service area of 341 square miles and 954 pump stations. This engagement includes the development of cost based rates for MDWASD's 15 water and 13 sewer wholesale customers. The rates to wholesale customers include an annual true-up as well as development of annual rates for the preceding year. Mr. works with MDWASD and wholesale customers to ensure understanding of the process for developing the cost based rates.

Miami-Dade Water and Sewer Department: Adequacy of Rates and Charges Evaluation / Miami, FL. Led the preparation of the annual adequacy of rates and charges evaluation as required by the department's master bond ordinance. As part of this engagement, prepared a review of MDWASD budgeted financial and capital plans, which included a projection of financial performance in relation to bond covenant requirements, evaluation of MDWASD's planned renewal and replacement deposit, and assessment of planned bond proceed expenditures.

Miami-Dade Water and Sewer Department: Annual Bond Consultant's Report / Miami, FL. Assisted MDWASD with the preparation of the annual bond consultant's report. Responsibilities included participation in interviews with management and staff to document the department's achievements and understand critical issues, evaluating the capital program, evaluating bond precede expenditures, and developing financial forecasts to evaluate MDWASD's performance with respect to requirements of the master bond ordinance.

North Texas Municipal Water District: Rate Methodology Assessment / Plano and Garland, TX. Project manager for an engagement with the North Texas Municipal Water District (NTMWD) together with the City of Plano, City of Garland, and other member cities of the NTMWD. The district is composed of 13 member cities and 33 customer cities from the North Dallas area serving 1.6 million consumers. The project involved an assessment of the rate methodology used by NTMWD to charge member and customer cities with the goal of developing a rate methodology that more equitably allocates costs among member cities and customer cities. The project team developed an interactive model to simulate changes in rate methodology and clearly show the impacts to members and customers.

Miami-Dade Water and Sewer Department: Series 2010 and Series 2013 Bond Issuance Support / Miami, FL. Assisted MDWASD with the issuance of over $900 million in revenue bonds. As part of this engagement, prepared bond feasibility studies to support this level of funding. The analysis included forecasts of debt service coverage, operating expenses, revenues and future rate needs. Also had a key role in the preparation of the Consulting Engineer's Report in support of these offerings.

Tampa Bay Water: Series 2012 Water Revenue Bond Feasibility Study / Tampa, FL. Project manager for a feasibility study of Tampa Bay Water's ability to issue $35 million Series 2012 water revenue bonds. The study included a formal review of system facilities for sound operating conditions, current regulatory compliance and adequate staffing. The project team performed a detailed review and projection of all revenue requirements including operation and maintenance expense, recurring capital, existing debt service, cost of new debt, maintenance of required reserve funds, and anticipated major capital improvements. Following the water revenue bond feasibility study, developed a comprehensive budgeting model at the authority's request. The utility uses the model to develop its annual financial plan and member rates.

Town of North East: Utilities Basis Cost-of-Service Review and Rate Development / North East, MD. Worked with the Town of North East to update water rates for both in-town and out-of-town customers. In 2011, the Public Service Commission of Maryland issued a decision that the town's out-of-town rates must be calculated using the utility basis cost-of-service approach. Using this approach as outlined in the PSC's decision, developed updated rates for the town and provided an update of major facilities and connection fees.

DeKalb County: Water and Sewer Revenue Sufficiency Evaluation / County of DeKalb, Georgia DeKalb County, Georgia's second largest water and sewer utility, engaged us to complete a series of facilitated financial planning workshops in order to develop a five-year plan for funding the Department of Watershed Management's $1.3 billion capital program. The engagement was completed using an interactive financial planning model in conjunction with facilitated workshops. Workshops included working with various Department representatives, including finance, engineering, and operations to develop a "best fit" plan for completing the required capital needs of the system. After being briefed on the plan, and seeing the staff consensus developed during the workshops, the County CEO expanded our role to include communication of results to the County's Board of Commissioners through the use of our financial planning model.

Ifetayo Venner, PE, ENV SP, LEED AP

Water and Wastewater Treatment Plants Quality

Years Performing Job Title:

- 18 years

Professional Registration/ Certification:

- Professional Engineer - CT, FL, TX
- Envision Sustainability Professional Credential
- Leadership in Energy and Environment Acrredited Professional

Education:

- MBA Business Administration 2008
- MS Environmental Engineering 2000
- BS Civil Engineering 1998

Ms. Venner is a professional engineer with 18 years of experience. As a project manager, she has been responsible for project delivery for various projects related to water and wastewater treatment and distribution. As a wastewater treatment technical expert, she has been responsible for the planning, modeling, design and startup of municipal wastewater treatment and reuse facilities throughout the United States. Ms. Venner is involved in several Water Environment Federation (WEF) task forces on wastewater process design, modeling, and sustainability. She is Director of the WEF Sustainability Community of Practice and sits on the Committee Leadership Council Steering Committee. She is also sits on the Institute for Sustainable Infrastructure's Envision Review Board.

Relevant Work Experience:

Pinellas County: W.E. Dunn Headworks Improvements / Palm Harbor, FL. Project Manager for the replacement of influent bar screens and the construction of a new flow splitter box to balance flows to both streams of the County's Dunn Water Reclamation Facility. The project included the inspection and repair of existing plant influent lines, the replacement of the existing screens with new perforated plate screens for improved solids capture and the addition of a new splitter box to balance flow and better mix the return activated sludge.

Orange County Utilities: Southwest Regional WRF Phase 1 / Orange County, FL. Project Manager for this project to build a 5 MGD greenfield facility, master planned to 15 MGD ultimate capacity. The new SWWRF will include a preliminary treatment structure with band screens and Headcell units for grit removal, and odor control; a four-stage Bardenpho process, clarification, filtration, chlorine contact tanks, effluent and reclaimed water pumping and storage, as well as sludge storage tanks and thickening facilities.

Hillsborough County Water Department: Dale Mabry Headworks Rehabilitation / Tampa, FL. Project Manager for project to review the condition of the headworks and conditioning (anaerobic) tanks, recommend rehabilitation or replacement and design recommended improvements at this 6 mgd plant. A new headworks facility with perforated plate screens and vortex grit removal and demolition of the conditioning tank was initially selected, designed and put out to bid. However, prior to contract award for the construction of the new headworks, the County decided to move to a regional WRF approach and decommission the Dale Mabry plant. The headworks was then rehabilitated to extend the service life to the expected startup of the new regional WRF.

Hillsborough County Water Department: Valrico Advanced WWTP Operations Assistance / Tampa, FL. Performed an operations evaluation to determine the cause of high effluent nitrogen concentrations at the AWTP. Based on a review of data and plant operations, the assessment concluded that the primary reason high nutrient concentrations were as a result of inadequate aeration control, specifically excessive aeration during the winter months when oxygen transfer is at its highest.

Paulding County: Richland Creek WTP / Pauling County, GA. Technical advisor/ ENV SP for this project which includes the design of a 60 mgd river intake, an 18 mgd water treatment plant, as well as an associated pipeline, reservoir and reservoir intake.

Responsible for guiding the team in the use of the Envision Rating tool to incorporate sustainability principles in to design and to ultimately submit the project for accreditation.

Hillsborough County Public Utilities Department: Expansion of Falkenburg Advanced Wastewater Treatment Plant / Tampa, FL. Responsible for the process design of the plants expansion from 9 to 12 mgd utilizing the existing tankage.

City of Plant City: Expansion of Water Reclamation Facility / Plant City, FL. Assisted with the biological process design as well as process air blower design for the expansion of the Plant City WRF from 8 to 10 mgd, with provisions to expand to 12 mgd. The new process consists of an anaerobic tank for biological phosphorus removal followed by and oxidation ditch for nitrification and denitrification. Responsible for providing ongoing operations after startup of the biological treatment system to assist plant operations staff with responding to changes in the service area during the course of the year such as the shutdown of several industrial customers which affected wastewater strengths to the plant and adversely affected denitrification.

City of Largo: Nutrient Removal Improvements / Largo, FL. Project Manager for this project to perform the following improvements at the City of Largo WRF: a structural assessment and structural repairs of one of the WRF's primary clarifiers, mechanical improvements in all primary clarifiers, installation of an alum feed system for supplemental chemical phosphorus removal to the existing enhanced biological phosphorus removal system, installation of mixers to convert the first aeration zone of ACH aeration tank to an anoxic/aerobic swing zone, and the addition of nutrient analyzers for improved process control.

New Kent County: Parham Landing WWTP Expansion and Upgrade / Richmond, VA. Project Discipline Leader for process and process/mechanical aspects of the design of a 2-mgd upgrade of the Parham Landing WWTP for nitrogen and phosphorus removal. The project includes new headworks, pre-equalizations tanks with pump station, sequencing batch reactors, blower building, post-equalization tanks with pump station, cloth disk-type filters, ultraviolet disinfection, effluent/reclaim/non-potable pump station, alum, carbon, hypochlorite, and magnesium hydroxide addition systems. The project also includes the conversion of existing clarifiers to sludge holding tanks and modification of an existing filter building to an administrative/storage/chemical building.

Seminole County: Country Club Water Treatment Plant Ozone Design / Sanford, FL. Design Leader for the upgrades that included sodium hypochlorite and fluoride systems, transfer pumps, and an ozone system for removal of hydrogen sulfide in raw water.

Greg Osthues, PE

Planning and Condition Assessment Quality / Planning

Mr. Osthues is a national Technical Director for water and wastewater and brings extensive experience in the evaluation and implementation of assessment programs for water and sewer pipeline infrastructure including large gravity mains, conduits, force mains, water transmission and distribution. Mr. Osthues has served as technical lead for the evaluation of non-destructive testing approaches for complex infrastructure programs and has provided field oversight of program implementation. In his Technical Director role, he is responsible for developing and maintaining master services agreements with leading vendors and technology providers to assure ARCADIS remains at the forefront of proven technology innovations. He is an asset management specialist in the development of infrastructure condition and risk assessment programs for capital planning and has authored articles and presented on asset management topics for the Utility Management Conference, the International City/County Management Association and the Water Environment Federation.

Years Performing Job Title:

- 31 years

Professional Registration/ Certification:

- Professional Engineer - NY

Education:

- MS Environmental Engineering 1994
- BS Civil Engineering 1987

Relevant Work Experience:

Large Diameter Pipeline Evaluation and Replacement Program: NDT Program Development / Jacksonville, FL. Technical lead for development and implementation of non-destructive testing (NDT) program for over 800 miles of large diameter pipelines (gravity sewers, force mains and water transmission mains). NDT technologies include CCTV, sonar, ultrasonic, electromagnetic and acoustic. Overall program includes desk-top risk assessment to select candidate pipelines, NDT program planning, field oversight, data management and results review. Based on risk and NDT results, business cases are prepared for renewal/replacement alternatives and inclusion in the capital improvement program.

Lee County, Fort Myers, FL. Asset management technical for development of asset condition, criticality and risk assessment methodology for water, wastewater and reclaimed water systems, including: a water plant, wastewater plant, 33 lift stations, 50 miles of sewer and 60 miles of water and reclaimed water distribution. Activities included: development of asset hierarchy, development of assessment methodologies and guidelines with LCU staff, field collection of asset inventory and condition assessment data, criticality evaluation and risk analysis. Results were used to develop estimates of asset effective life and to develop business cases for a prioritized 10-year CIP.

The Metropolitan District: Capital Needs Assessment / Hartford MDC, CT. Project Lead for data management and condition assessment activities for a comprehensive 25-Year Capital Needs Assessment, including the Districts four wastewater treatment facilities. The assessment provides a hierarchical capital asset database, condition and criticality assessment, 25-year $250-million capital improvement plan for wastewater facilities, and financial analysis of a combined total $1-billion CIP wastewater and CSO programs.

The Metropolitan District: Solids Management at the Hartford Water Pollution Control Facility / Connecticut. Project Engineer for preparation of a comprehensive solids management facilities plan for biosolids receiving and processing for the Districts three wastewater treatment plants, including analysis of historical operating data, projection of future solids loadings resulting from ongoing CSO improvements, and assessments of all existing solids handling operations DAFs, belt filter presses, centrifuges, composting, incineration. Assessment identified excess disposal capacity.

Facilities plan provided a conceptual design for conversion of abandoned sludge holding tanks to gravity thickeners for non-District sludge to be processed as a revenue source - projected annual revenue is $1 million

City of Norwalk: Pump Station Modifications / Norwalk, CT. Evaluated the existing pumping station at the citys 15-mgd wastewater treatment plant including four 100-hp dry pit extended shaft pumps, wound rotor motors and liquid rehusted variable-speed control system. Performed complete hydraulic and economic analyses. Wrote a technical report recommending replacement of the pump motors and installation of new variable-frequency drives.

Hamilton Township: Upgrading of Wastewater Treatment Plant / Hamilton, NJ. Developed conceptual design for upgrading the nonpotable water system at a 16-mgd plant, including life cycle cost analysis, preliminary design of the selected constant pressure, variable speed pumping system, and a construction cost estimate.

Northeast Ohio Regional Sewer District: Neo Solids Handling / Cleveland, OH. Project Manager for construction of contract 23 and 24 solids handling improvements to the 250-MGD Southerly WWTC, including expansion and upgrade of the Zimpro system with new process air compressors, new high-pressure feed pumps and new controls, and installation of six new dewatering centrifuges, screw conveyors, and controls. Project Manager for development of Information Access System IAS for solids handling facilities at the Southerly WWTC. The IAS is a web-based intranet application providing online O&M manuals, troubleshooting, preventive maintenance schedules, and as-built drawings.

Northeast Ohio Regional Sewer District: Wet-Weather Capacity Evaluation of the Southerly Wastewater Treatment Center / Ohio. Project Lead for methodology development, data management, and condition assessment activities for NEORSD's 240-mgd Southerly WWTC. The condition assessment is part of the District's overall facilities planning for wet weather improvements and capital planning for overall renewal and replacement. Activities included field data collection for assessment of physical condition for mechanical, electrical, instrumentation and HVAC equipment along with staff interviews to assess equipment and process operating history. Data management was provided via a relational database tool and was coordinated with District's CMMS asset inventory.

Tohopekoliga Water Authority: Vertical Asset Condition Assessment / Kissimmee, FL. Asset Management Task Leader for development of condition assessment and risk methodology for pilot asset management program involving a wastewater treatment plant, water treatment plant and 47 lift stations. Facilitated workshops with Toho staff to develop customized guidelines for the assessment methodology. Directed the field asset inventory and condition assessment process, including data management and quality assurance. Facilitated workshops to review results and to develop overall risk assessment and the long-term asset renewal and replacement needs.

Northern Kentucky Water District: Asset Management Plan / Erlanger, KY. Task Leader for overall asset management program development including; asset criticality and condition assessment data review for NKWD's water treatment plants and distribution system, review of two current CMMS applications in use for asset hierarchy, work order types, data management, reporting and overall maintenance program structure. Technical oversight for development of IT Master Plan in support of asset management program including: GIS / CMMS integration, data requirements and reporting.

Allan Morris, PE

Lift Stations and Master Pump Stations Quality

Years Performing Job Title:

- 33 years

Professional Registration/ Certification:

- Professional Engineer - AZ, VA

Education:

- BS Mechanical Engineering 1985

Mr. Morris has design and management experience with water and wastewater collection, conveyance, pumping, and treatment facilities. He has performed hydraulic models for both pressure and gravity piping systems and designed collection and distribution systems based on these models. He has designed pumps for water and wastewater systems, including solids handling, booster stations, and deep well turbine pumps. He has performed construction management duties on numerous projects, including pump stations, treatment plants, and pipeline rehabilitation
.

Relevant Work Experience:

BWWB: Shades Mountain Filter Plant Upgrade-Phase 2 / Birmingham, AL. Project Engineer for clearwell, high-service pump station, and yard piping analysis and evaluation. Evaluated options for location of new 6- to 12-MG clearwell, integral pump station, and feasibility of ultraviolet disinfection options at 80-mgd water treatment plant.

BWWB: Carson Water Filtration Plant Expansion Design / Birmingham, AL. Design Quality Leader for a 10-MGD expansion fo an existing 26 MGD treatment plant. Including a new chemical facility for the entire plant, new finsihed water pump station, additional clearwell and new residuals handling facility including belt filter presses. Included on site generation of sodium hypochlorite for disinfection and liquid lime for pH control. Finshed water pumps included discharge pressures to over 250 psi and 1,000 horsepower pumps. Design included provisions to expand the plant to 50 mgd in the future. Very tight site required creative

District of Columbia Water & Sewer Authority: FDFU Construction / Washington, DC. Office engineer for three projects at Blue Plains - Completion of Primary Settling Tanks, construction of Phase 1 Filtration and completion of design of Phase 2 - Filtration. Project involved design and construction administration services. Responsibilities included revieweing shop drawings, responding to RFIs, filed visits, as required, and responding to owner requests for information.

23rd Avenue Wastewater Treatment Plant / Phoenix, AZ. Reviewed shop drawings, evaluated pay requests and change orders, and responded to requests for information during construction.

Daniel Boone Water Project / Scott County, VA. Project Manager for approximately 100,000 feet of waterline, storage tanks, and pump station, serving 400 customers in rural Scott County, Virgnia. Project included coordination with local, state, and federal agencies.

Gate City Water Project / Gate City, VA. Project Manager for preliminary engineering report reviewing water loss issues in town's water system, and prioritizing lines for replacement. Preparation of projects based on funding availability. Project included design of Phase I of improvements and replacement of 14,000-foot-long water line.

Haskell Street Wastewater Treatment Plant / El Paso, TX. Prepared technical memorandums for proposed sludge improvements, including clarifiers, sludge pumps, and digesters.

Indian School Road Water Line / Scottsdale, AZ. Designed 10,500 ft of 45-in welded-steel waterline to slip line into existing concrete pipe. Project began as a study to evaluate alternatives for upgrading pressure zones in the city. Worked in coordination with city to improve and calibrate city-provided hydraulic model. Project included traffic control, public involvement, and construction restrictions on a busy corridor in downtown Scottsdale.

Kingsport Sanitary Sewer Model / Kingsport, TN. Modeled backbone of city's sanitary sewer collection system. Modeled pipes nominally 12-inch-diameter and larger, predicting flows over a 50-year time frame. Recommended improvements based on flow projections. Arranged model to allow upgrade of flow projections based on revised population projections.

Pump Station Replacement / Kingsport, TN. Replacement of sanitary sewage pump station serving Super-Wal-Mart. Project included design and construction management, in conjunction with city forces. Construction services included shop drawing review, RFI responses, and periodic site visits.

Salt River Outfall Rehabilitation / Mesa, AZ. Rehabilitation with cured-in-place pipe (CIPP) of 1,600-ft, 48-in concrete sewer pipe. Project included bypass pumping of approximately 10-mgd flows and coordination with several municipalities and the contractor. Project one of the largest, single-shot CIPP projects in the Southwest.

Sams Area Pump Station Replacements / Kingsport, TN. Responsible for replacement of four sanitary sewage pump stations serving the eastern area of the city. Facilities included suction lift and city's first submersible pump station. Performed design and construction management, including shop drawing review, RFI responses, and periodic site visits, in collaboration with city forces.

Sanitary Sewer Rehabiliation Projects / Kingsport, TN. Responsible for replacement/rehabilitation projects for the city as part of ongoing state-mandated improvements. Rehabilitation methods included pipe bursting, cured-in-place pipe, and various structural and nonstructural manhole repairs. Typical project consisted of 8,000 to 10,000 feet of sewer and associated manholes and laterals. Responsilities included construction management, including supervising inspectors, reviewing shop drawings, responding to RFIs, and periodic sitie visits.

Scottsdale Water Wells / , Scottsdale, AZ. Provided complete site design for five potable well sites, including gas chlorination facilities, chlorine retention storage tanks, a hydropneumatic tank, deep well, and line shaft or submersible vertical turbine pumps. Coordinated structural, electrical, landscape, architectural, and geotechnical consultants. Work included a dual-purpose injection well for aquifer storage and recovery of potable water .

Freddy Betancourt, PE

– Water Distribution, Wastewater Collection and Reclaimed Water Systems Quality

Years Performing Job Title:

- 19 years

Professional Registration/ Certification:

- Professional Engineer - FL
- LEED Accredited Professional
  Envision Sustainability Professional

Education:

- MS Engineering 2001
- BS Civil Engineering 1999

Mr. Betancourt has more than 19 years of experience as an engineer. Mr. Betancourt has 17 years of experience in municipal collection, transmission, distribution and treatment work. Relevant work experience includes over 12 local design build projects in the Tampa Bay Area under the Utility Capital Improvements Projects (UCAP) Program for the City of Tampa. In addition, Mr. Betancourt has particpated in the design and construction services of various pipeline projects for the City of Sunrise, including pipe-bursting design.

Relevant Work Experience:

Hillsborough County: Pipeline Rehabilitation Projects (2014 & 2015) / Hillsborough County , FL. Project Engineer for the Pipeline Rehabilitation 2014 and 2015 projects, Pre-bid and Construction Phase Services CIP No. 10750 for Hillsborough County, FL. The County required the services of a qualified consulting engineer knowledgeable in sanitary sewer rehabilitation to provide technical specification review during the pre-bid phase and to provide construction services. The project included technical specification review and editing, attending the pre-bid meeting, responding to bidders questions, evaluating responsible bidders, and providing full construction services including, shop drawing, construction administration, and inspection for over 200,000 LF of sanitary sewers and additional storm sewers in the northwest area of the County. Mr. Betancourt participated in all tasks for these $7 Million dollar projects.

City of Cape Coral: North 2 Utility Extension Program (UEP) Design / Cape Coral, FL. Project Engineer and Design Team Leader for the $160M City of Cape Coral, Florida North 2 Utility Extension Project (UEP) Design. The project included project management, data collection, field investigations and surveys, water distribution system plan review, preliminary design, hydraulic modeling, assistance with public outreach and funding, and final design, permitting and preparation of construction documents. Proposed project infrastructure included new potable water mains, new gravity wastewater mains, new wastewater force mains, new irrigation mains, new and upgraded wastewater lift stations, replacement of existing storm drain systems, reconstruction of existing roads, two new master wastewater pump stations, two new canal pump stations and one new 10-MG capacity irrigation tank/booster pump facility. The project area encompasses 4.3 square mile area and is expected to serve approximately 8,700 parcels and is currently under construction. Mr. Betancourt's participated as team leader in the preliminary engineering for the sanitary sewer system, identifying services areas, contract areas, number and size of serving lift stations, number and size of master lift stations, routing of sewers, and force mains, siting and property acquisition of lift station parcels, review and update of the City Technical Specification and Standard Details and general coordination with other disciplines.

JEA: Large Diameter Pipeline Evaluation and Replacement Program / Jacksonville, FL. Mr. Betancourt is the design engineer for the JEA Large Diameter Pipeline Evaluation and Replacement Program. JEA is the primary utility for Jacksonville FL, providing electric, water, and sewer, to the largest city in the contiguous United States. JEA started off as the electric utility, but in the late 1990's acquired local municipal and private water and sewer systems. Their system now

includes 37 water treatment plants, 7 sewage treatment plants, Over 4,300 miles of water lines and 3,800 miles of wastewater collection lines. As the Program Managers for the JEA Large Diameter Pipe Evaluation and Replacement program, Arcadis is being tasked to develop a comprehensive plan to maintain, rehabilitate, and, if necessary, replace their most critical assets in a manner that maintains a high level of service to their customers and at the same time most efficiently utilizes their funding. The tasks associated with this program includes Risk Analysis and Capital Budget Development; Asset Condition Assessment and Long-Term Forecasting; Review and recommendations for updates of JEA Standards for Large Diameter Pipes; Designer Standard Review, Procurement and Management of third party consulting firms to execute the comprehensive plan. As the designer for the program, Mr. Betancourt was directly responsible for the linear asset standards and details evaluation for the Program. As part of this task, JEA utility standards were compared to multiple Florida and Non-Florida municipalities of similar size. Arcadis is currently providing recommendations of update standards for adoption.

Keren Bolter, PhD

Planning

Years Performing Job Title:

- 15 years

Professional Registration/ Certification:

- Geographic Information Specialist Professional

Education:

- PhD Geoscience 2014
- MS Environmental Science 2010
- BS Civil & Environmental Engineering 2003

Dr. Bolter is a senior consultant with a growing resume in the areas of GIS modeling, adaptation planning, vulnerability analysis, green infrastructure and outreach/ engagement. Her doctorate dissertation compared perceived risk to actual risk of sea level rise in South Florida. Dr. Bolter has presented her models and research at TEDx Miami and on national television stations including NBC, the History Channel and the Weather Channel. She most recently presented her models on the Miami episode of National Geographic's Years of Living Dangerously. Dr. Bolter's success is founded on her drive to increase awareness of environmental impacts in a positive way that inspires action. She has conducted climate research utilizing LIDAR elevation, storm surge and groundwater data. Her analyses involve overlaying health and socioeconomic data to determine the consequences of climate-related shocks and stressors.

Relevant Work Experience:

Broward County and the City of Fort Lauderdale: Adaptation Action Areas (AAA) Technical Assistance Project / Fort Lauderdale, FL. Project manager for the organization of a series of resources intended to steer Florida's coastal communities towards planning and adapting to sea level rise. The project highlighted a new policy tool, AAAs, that allows local governments to leverage funds and prioritize needs by designating high-risk areas. Resources included a case study, a guidebook, a podcast series and videos. Broward County and the city of Fort Lauderdale adopted the language written for AAAs into their coastal management elements.

Anglo-Floridian partnership to exchange adaptation strategies between the UK and the US / Boca Raton, FL and Southampton, UK. Provided project support including planning and coordination assistance.

Broward, Miami-Dade and Monroe Counties: Citi Community Development Equity Indicators Project / Broward, Miami-Dade and Monroe Counties, FL. Project manager for the generation of a visualization environment (WEAVE) website to illustrate the usefulness of inquiry-based data exploration. The project was focused on the cities of Hollywood and Opalocka and was part of an effort to better understand communities, improve policy and promote informed decision making. Focus groups with elected officials stimulated insights from the results and how to utilize big data for driving change.

Climate Change Vulnerability Advising / Multiple Locations. Provided advisory services to numerous entities:

Monroe County: Expansion of the Coastal High Hazard Area in the Florida Keys with a Focus on Islamorada / Monroe County, FL. Project manager for a Gulf of Mexico Alliance grant to conduct an innovative surge analysis to identify current and future exposure to a Category 1 hurricane. The results identified how assets within the Coastal High Hazard Area increase with 1 and 2 feet of sea level rise. Results were presented at a stakeholder engagement workshop to county and municipal staff, elected officials and residents.

Daniel Stepner, PE

Planning / Water and Wastewater Treatment Plants

Years Performing Job Title:

- 10 years

Professional Registration/ Certification:

- Professional Engineer - FL, NY
- Certified Construction Documents Technologist (CDT)

Education:

- MEng Engineering Management 2006
- BSE Civil and Environmental Engineering 2005

IMr. Stepner specializes in civil and environmental engineering disciplines, and construction oversight. He possesses experience working with municipalities on water, wastewater, solid waste management programs, including: operations monitoring and inspections, regulatory review, economic analyses, contract interpretation, preparation of procurement documents, proposal review, compilation of data and trend analyses of waste-to-energy facilities, and construction monitoring. He assists in evaluation of and assessed the efficiency of various types of energy programs including cogeneration from digester gas at wastewater treatment plants and waste-to-energy for solid waste.

Relevant Work Experience:

American Sugar Refining Company: Air Quality Services. The ASR refinery in Yonkers operates a gas turbine and boiler in the facility's power plant to provide electricity and steam for the plants processes. Developed the gas turbine monitoring plan for compliance with permit regulations. Developed a template for the facility to record operating parameters of the gas turbine and boiler unit and use the data to calculate monthly oxides of nitrogen NOx emissions and demonstrate compliance with the permit. Worked with the power plant supervisor to develop standard operating procedures for the startup, shutdown, and fuel transitions of the gas turbine and boiler..

Town of Southeast: Brewster Heights Wastewater Treatment Plant Upgrade / Southeast, NY. Developed Operations & Maintenance O&M Manual for a 150,000 gpd wastewater treatment plant. Responsibilities included coordination with plant staff, site visits, and writing of the O&M Manual. Plant includes screening, extended aeration, clarification, sand filtration, microfiltration, UV disinfection, aerobic digestion, and sludge drying beds.

Orange County Sanitation District: J-79 Pilot Testing for Catalytic Converter System. Provided assistance related to digester gas cleaning, selective catalytic reduction and catalytic oxidizer pilot testing. This was a design-build project to provide emissions reduction technology for the cogeneration facility internal combustion engines that operate on natural and digester gas and a digester gas cleaning vessel to clean the digester gas before entry into the engine. With regard to procurement of engineer-furnished equipment, tasks included writing the contract documents for all vendors including the Specifications for Goods and Special Services, General Conditions, and Agreement; negotiation and coordination with vendors; and startup and commissioning assistance of the equipment. Design and construction tasks included preparation of specifications including preparing the bid documents, preparing the final specifications, coordination with the construction contractor, responding to requests for information RFI, and review of shop drawings. Throughout the project, assisted with change order design, revision of as-built drawings, project management such as invoicing and client meetings, and acting as a general liaison between the client and the engineers, contractor, and equipment vendors. Prepared the monitoring test procedure for the pilot testing period. Throughout the pilot testing period, tasks included coordination with the sampling laboratories, analyzing sampling results, and preparation of technical memoranda and the pilot testing report. Prepared a full-scale capital and operational cost estimate to expand the pilot testing design to three engines at the current facility and five engines at the clients second facility.

Michael Waldron, PG

Permitting / Water Supply and Wells

Mr. Waldron has more than 28 years of experience in the water resources and environmental fields and has served as project manager and technical lead for numerous injection-well programs and water supply well projects. He understands operations and federal and state codes relating to design, permitting, testing and construction of Class V injection wells for disposal of treated water by-product and aquifer storage and recovery (ASR). He also has performed and directed permitting, rehabilitation, construction management and testing of water wells and Class V ASR well systems. He has particularly extensive experience with Surficial Aquifer System wells and Floridan Aquifer wells in south Florida, including well investigations and assessments, repairs, and performance rehabilitation or enhancement using low-strength acidation.

Years Performing Job Title:

- 28

Professional Registration/ Certification:

- Professional Geologist - FL, GA

Education:

- BA Geology

Relevant Work Experience:

City of Boynton Beach: Wellfield Redevelopment / Boynton Beach, FL. Served as Arcadis project manager in 2003 for hydrogeological services on the City of Boynton Beach's West Wellfield Expansion, Well Redevelopment Program to test and tie in Surficial aquifer wells drilled in the early 1990s. The water-supply well redevelopment program included high-rate development, sand-content testing, aquifer pumping tests, silt-density index testing and water sampling. In addition, Arcadis performed a Sand-Source Study on the West Wellfield to investigate the cause of pre-filter clogging at the membrane water-treatment plant using wellfield records analysis and microscopic analysis of the pre-filter sands. The results of the study, and sensitivity analysis strongly suggested that that sand was not originating from the wells.

City of Miramar: East Water Treatment Plant Improvements, Water Well and Injection Well Design / City of Mirimar, FL. Hydrogeological lead for the progressive design-build team developing the East Water Treatment Plant modification from lime softening to membrane filtration treatment. Work included the design of four replacement water supply wells and a design and UIC permitting of a Class I deep injection well system for membrane treatment reject concentrate disposal.

Bonita Springs Utilities, Inc.: Suwannee (Upper Floridan) Aquifer Well Rehabilitations / Bonita Springs, FL. Managed low-strength acid treatment of five deep, carbonate-aquifer, potable (Floridan Aquifer) water supply wells for a private utility that had experienced declining well performance. The innovative acid treatment method does not require pump removal or neutralization of recovered treatment fluids due to the molarity of the diluted-acid. The wells were tested before and after treatments for any potential for leaching of metals from the pumping system; improvement from pre-treatment specific capacities ranged between 38 and 100 percent. All five (5) wells demonstrated significant improvement in specific capacity.

City of Sunrise Florida: Aquifer Water Well Conversion to ASR by Permit Application/ Sunrise, FL. As hydrogeological lead, prepared the application, support document and technical specification to convert a Floridan Aquifer, brackish-water supply well to a Class V, Group 7 (ASR use) well by permit application under Chapter 62-528, Florida Administrative Code rules.

Kushala Gowda, PE

Permitting

Years Performing Job Title:

- 14 years

Professional Registration/ Certification:

- Professional Engineer - FL

Education:

- MS Environmental Engineering 2005
- BS Environmental Engineering 2001

Ms. Gowda works on a number of diverse projects for several clients in Florida. She has extensive engineering and permitting experience with water and wastewater treatment facilities including distribution and collection systems, stormwater management facilities, and solid waste facilities. Ms. Gowda's project experience includes annual reporting to bond holders, environmental permitting and compliance, asset management and condition assessment, waste-to-energy facility operations monitoring, construction monitoring, preparation of technical specifications, infiltration & inflow study, GIS, and stormwater modeling.

Relevant Work Experience:

Pinellas County: General Regulatory Compliance Consulting & Permitting Support Services / St. Petersburg, FL. Responsible for preparing regulatory compliance and reporting documents for the Pinellas County Resources Recovery Facility Annual Operations Report. Project work includes review of regulatory inspection reports, testing activities and reports submitted during the fiscal year including annual stack testing, RATA, CEMS, eAOR, and greenhouse gas monitoring reports to evaluate Facility compliance with applicable environmental laws and permit conditions. In addition, served as a task leader for the preparation of the facility's Title V Air Operations Permit renewal application including preparation of FDEP air permit application forms, equivalency calculations, identification of applicable air quality regulations, fuel analysis, identification of insignificant sources/activities and associated emission estimates, and emissions unit supplemental information.

Miami-Dade County: PortMiami Consulting Engineer's Report and Certificate / Miami, FL. Conducted PortMiami facilities inspection to perform a visual observation of the general condition of the primary facilities (such as Cruise Terminals, Cargo Facilities, Sheds and Provisioning areas, and other major facility assets) and to review the physical inspection assumptions and data provided by PortMiami and its other consultants. Reviewed PortMiami environmental permits information and discussed regulatory compliance with PortMiami staff as part of regulatory review. Prepared Port Assets Condition Review and Regulatory Review sections of the Consulting Engineer's Report.

Lee County: Lee County Utilities Asset Management / Fort Myers, FL. Performed vertical condition assessment of four Lee County Utilities' treatment plants as part of the asset management project. Conducted water treatment plant, wastewater treatment plant and lift station inspections to evaluate the condition of all vertical assets and prepared asset spreadsheets detailing the process, physical condition, useful life, and estimated replacement cost of each asset. As a key local resource, performed initial treatment plant evaluations, prepared plant process layout for condition assessment team, and attended meetings with the Lee County staff to obtain data required for condition assessments. Reviewed Lee County's collection system inspection reports and CCTV data to identify pipeline segments that required additional field assessment and assisted with the preparation of GIS map for manhole and pipeline inspections.

Lia Dombroski, EI

Rates, Bond Feasibility, Annual Engineering Reports

Years Performing Job Title:

- 1.5 years

Professional Registration/ Certification:

- Engineer-in-Training- FL

Education:

- BS, Environmental Engineering 2016

Ms. Dombroski earned her bachelor of science degree in environmental resources engineering from the State University of New York College of Environmental Science and Forestry (SUNY-ESF) in May 2016. She has a background in hydrologic modeling processes, water resource recovery, and water pollution treatment techniques and is familiar with remote sensing applications, fate and transport of contaminants, and solid/hazardous waste practices. Through international project experience in Chiapas, Mexico, she gained an understanding of permaculture, agroforestry and traditional ecological knowledge of Lacandon Maya communities. She has an aptitude for learning languages, including cultural language (e.g., Spanish) and computer-based language (e.g., Python).

Relevant Work Experience:

Miami-Dade County: PortMiami Consulting Engineer's Report and Certificate / Miami, FL. Conducted PortMiami facilities inspection to perform a visual observation of the general condition of the primary facilities (such as Cruise Terminals, Cargo Facilities, Sheds and Provisioning areas, and other major facility assets) and to review the physical inspection assumptions and data provided by PortMiami and its other consultants. Reviewed PortMiami environmental permits information and discussed regulatory compliance with PortMiami staff as part of regulatory review. Prepared Port Assets Condition Review and Regulatory Review sections of the Consulting Engineer's Report.

Miami-Dade County: Water and Sewer Department Consulting Engineer's Report / Miami, FL. Conducted facilities inspections (water and wastewater treatment plants, wellfields, wells and pump stations) to perform a visual observation of the general condition and to review the physical inspection assumptions and data provided by the County. Reviewed permits information and prepared Assets Condition Review and Regulatory Review sections of the Consulting Engineer's Report.

State University of New York College of Environmental Science and Forestry: Senior Planning and Design Course Created a pedestrian/bike path design for Phase II of the Onondaga Creekwalk in Syracuse, New York, while collaborating with C&S Companies and the City of Syracuse. Developed estimated cost proposals and performed necessary data analysis relevant to project tasks. Reviewed designs in AutoCAD to verify that all drafts are in compliance with public and corporate regulations. Attended community advisory meetings to better understand community concerns when developing Creekwalk engagement opportunities and maintaining safety

New York Water Environment Association: SUNY-ESF Chapter President. Created agendas, set goals, and led biweekly student organization meetings. Attended local and national conferences to build connections and allow students to present research. Organized club tours, events, and volunteer opportunities related to the water environment. Discussed regional water conservation initiatives while networking with professionals. Managed the club budget by tracking donations, club scholarships and expenditures.

Tim Ware, PE

Operations and Maintenance

Years Performing Job Title:

- 13 years

Professional Registration/ Certification:

- Professional Engineer - FL
- WW Treatment Plant Operator Class B

Education:

- MS Environmental Engineering 2011
- BS Civil Engineering 2006

In his role reviewing plant operations and regulatory reporting Mr. Ware will review current protocols and methods used for system operations and for reporting to regulatory agencies. Mr. Ware brings extensive experience working within municipalities. He has worked in city site planning and zoning, master planning, pipeline design and relocation, and operations of municipal wastewater treatment plants and collection systems. He is well versed in GIS and asset management systems and has assisted in their implementation. He has worked directly with regulatory agencies to understand needs, make corrections and update procedures to ensure continued compliance and reporting visibility.

Relevant Work Experience:

Tampa Bay Water: Desalination Plant / Tampa, FL. Plant manager overseeing the day to day operations of a 25 mgd reverse osmosis seawater desalination drinking water plant. A primary responsibility was to ensure compliance with all primary and secondary drinking water standards by monitoring laboratory data and onsite instrumentation. Additionally, would prepare and review the facilities Monthly Operating Report (MOR) and National Pollution Discharge Elimination System (NPDES) report. The facility was run as a contract operation so part of his role was to work with the client to ensure all contract requirements are met and to mitigate new challenges while developing new opportunities. He was also tasked with ensuring the constant safety of all staff and visitors at the facility.

City of Largo: NPDES Permit Renewal / Largo, FL. Acted as project engineer and back up project manager tasked to review and evaluate historical plant operational information for compliance with permit parameters and discharge limitations for the City's 18 MGD wastewater treatment plant. Conducted onsite plant inspections evaluating current operational status and capacity. Coordinated and participated in meetings with Florida Department of Environmental Protection (FDEP) to ensure compliance with current procedures and regulations and advocate for permit modifications on the City's behalf. Worked with the City to address any Requests for Additional Information (RAI) from the FDEP.

City of Tampa: Howard F Curren Advanced Wastewater Treatment Plant / Tampa, FL. Served as the plant manager overseeing the day to day operations of a 96 million gallon per day Advanced Wastewater Treatment Plant and 223 City owned lift stations sewage pumping stations. This role had the responsibility to ensure compliance with facilities NPDES Discharge permit, EPA Title V air permit and the EPA's 503 Biosolids regulations and worked with regulatory agencies to mitigate issues and maintain a positive relationship. As needed, Mr. Ware responded to emergency situations such as overflows, natural disasters and equipment failures to ensure system resilience and reliability. Facilitate the development of 150 technical and professional staff members that work at the plant and pump stations. This includes operations, maintenance, laboratory and supervisory skill sets. He also had the responsibility to establish and manage a $34 million Operations and Maintenance Budget and a $12 million Capital Improvement Budget.

New Orleans: East Bank and West Bank Wastewater Treatment Plants / New Orleans, LA. Working as the Plant Manager responsibilities included managing the day to day operations of the 122 mgd and 20 mgd wastewater treatment plants that serve Orleans Parish, Louisiana. Worked directly with Louisiana Department of Environmental Protection (LDEQ) to ensure compliance with all regulatory permits including NPDES, Title V Air and 503 Biosolids Rules. Worked with LDEQ and the USEPA in the permitting of a special waiver for discharging incinerator ash in the wetlands surrounding the plant for the planting of trees for storm surge protection. Managed the residuals produced from both facilities from production through disposal. Enforced the safety program to continue to ensure compliance with all state and federal safety regulations and maintain the safety of staff and visitors. Oversaw the Operations and Maintenance of both facilities including a staff of 45 operators, maintenance technicians and office staff. Work edclosely with the client, The Sewerage and Water Board of New Orleans, to ensure the continued operation of both facilities, create and maintain annual O&M and Capital budgets, and ensure environmental compliance.

City of Tampa: Wastewater Department / Tampa, FL. Serving as a staff engineer worked on the design for collection system repair and extension projects for an 1,850-mile municipal collection system. Designed plant upgrades and repair projects for a 96 mgd Advanced Wastewater Treatment Plant. Conducted a variety of testing throughout the collection system including: Flow testing pump stations, thickness testing of ferrous force mains, manhole inspections, and I&I inspections. Determined capacity and availability within the City's Sewer System completing master plans and hydraulic models for different parts of the City service area. Conducted system studies to determine current operating conditions through computer modeling and SCADA interpretation.

Tung Nguyen, PE

Water and Wastewater Treatment Plant

Years Performing Job Title:

- 10 years

Professional Registration/ Certification:

- Professional Engineer - St, St

Education:

- BS Civil and Environmental Engineering 2008

Mr. Nguyen is a civil engineer experienced in water and wastewater treatment plant design, process evaluation and optimization, project controls, and construction management by multiple project delivery methods including design-build (D-B). His extensive experience with major treatment facilities in Virginia and Washington, DC, includes the 370-million-gallon-per-day (mgd) Blue Plains Advanced Wastewater Treatment Plant, 225-mgd Corbalis Water Treatment Plant (WTP), 120-mgd Griffith WTP, 200-mgd Dalecarlia WTP, 24-mgd Mooney Water Reclamation Facility, and Loudoun Water's $460 million Potomac Water Supply Program. He has executed projects successfully by engaging and helping stakeholders navigate contractual, design, construction, and operational issues in his roles as the owner, engineer and design-builder.

Relevant Work Experience:

DC Water and Sewer Authority: Filter Influent Pump Station Improvements on the Filtration and Disinfection Improvements Project / Washington, DC. Project engineer for the in-depth analysis to modify existing 93-mgd axial flow pumps. The project included replacing existing 440-RPM 600-HP motors with larger 510-RPM motors and modifying the pumps accordingly. Analysis included condition assessments of existing pumps, pump performance and system curves, wire to water energy requirements, shaft torsional strength analysis, and risk analysis to determine if the existing pumps should be replaced rather than modified. While the desktop study suggested that it was possible to modify the pumps and motors; cavitation of exiting pump bells, failures of shafts, and non-Hydraulic Institute (H.I.) compliance of the existing facility in conjunction with a risk analysis led to recommendations to install new pumps meeting appropriate H.I. pump station geometry.

U.S. Naval Support Activities (NSA) Facilities Evaluation. Project engineer on task orders for NAVFAC Mid-Atlantic to deliver a protocol for a tracer study, design treatment modifications (including CFD modeling), and provide source water assessment for NSA Souda Bay, Greece. Evaluated existing and proposed modifications to verify that changes met both near-term and long-term changes to the drinking water regulations for the facility. As part of this task, developed the protocol and decision matrix for identifying groundwater under the direct influence of surface waters (GWUDISW).

Main Process Train Design-Build Installation at Blue Plains AWTP. Task manager on the commissioning team for the design-build installation of the main process train (MPT) at the Blue Plains AWTP, which involves major improvements to the biosolids management systems at the plant. This $208 million upgrade involves installation of the world's largest Cambi thermal hydrolysis process (THP) system. The upgraded biosolids system will produce Class A biosolids and, along with the overall program, will reduce the volume of biosolids hauled off-site by over 50 percent and generate 14 megawatts of power from biogas. As part of the commissioning team, led the development of functional testing and commissioning plans and directly performed the field testing of the processes upstream of the Cambi system, which included the solids screen system (rated for 500 dtpd), the pre-dewatering centrifuges and cake pumps

(rated for 500 dtpd), and other support systems including a 48,000-cfm odor control system. At the end of testing and commissioning, provided training to DC Water staff (operators) on system design and operations

Dalecarlia Water Treatment Plan. Project engineer for task orders at the Washington Aqueduct's 200-mgd Dalecarlia WTP. Developed design documents for the procurement and installation of additional lead service line loop monitoring rigs for WA's lead pipe study program. Developed the protocol for CFD modeling of the existing chemical mixing chamber and relocation of chemical addition at the plant's 30-mgd clearwell.

Corbalis Water Treatment Plant Belt Filter Press Start-up and Commissioning. On-site engineer for start-up and commissioning of the solids dewatering project at Fairfax Water's 225-mgd Corbalis WTP. Responsible for developing the testing protocol and validating performance testing results of solids process upgrades that included the addition of two 3-meter belt filter presses, dewatered solids handling, polymer storage and delivery, and control systems. Performed inspection during warranty and project closeout periods.

Stuarts Draft Wastewater Treatment Plant ENR Upgrade. Design engineer for the design-build expansion and ENR upgrade of Augusta County Sanitation Authority's Stuarts Draft WWTP. Designed the 12-mgd pump station expansion, BNR tank inclusive of membrane diffuser and process air design, and expansion of existing denitrification filters. Also designed other process mechanical systems including fixed and submersible mixing, nitrate recirculation, chemical feed, baffle walls, plant effluent service water system, and high-speed turbo blowers. A detailed economic analysis was performed as part of the high-speed turbo blower design,which resulted in significant energy savings and a payback period of less than 5 years. Worked closely with the construction team to review and approve equipment procurement, resolve construction issues, and plan for start-up and commissioning.

Raw Water Intake and Pump Station. Project manager for the final design of a new raw water intake and pump station. Successfully managed over $3.1 million of professional services and completion of the design within schedule and budget. The associated capital project was estimated to be valued at over $35.5 million and included an array of 16 barrel screens in the river; 500 feet of intake lines; 5,000 feet of small-diameter piping embedded in the river; 250 feet of 16-foot-diameter tunnels; 125 feet of a deep shaft (30-foot-diameter); and supporting electrical, control and ancillary systems. Also coordinated with county, state and federal agencies and managed the permitting process. The raw water intake is the first of its kind to be planned and permitted under Commonwealth of Virginia jurisdiction (VA DEQ JPA Permit process) and was preceded by a significant public outreach and consensus building campaign with the general public, regional water suppliers, and regulating agencies including the VDEQ, MDNR, U.S. Army Corps of Engineers, VMRC, ICPRB, Loudoun County, and environmental groups

Tony Michuda, PE

Drainage, Canal and Surface Water Systems

Years Performing Job Title:

- 41 years

Professional Registration/ Certification:

- Professional Engineer - FL

Education:

- BS Civil Engineering 1976

Mr. Michuda has more than 1 years of experience, as a Project Manager, Program Manager and Project Engineer for numerous public and private sector clients. He has extensive experience with the management, design and implementation of site infrastructure facilities supporting a variety of projects. He has participated in the engineering design and project management of numerous utility, roadway, canal and surface water management improvements for governmental, industrial, commercial, educational, and residential projects. In addition, Mr. Michuda has prepared construction documents, obtained government agency approvals and provided construction administration for projects located in central and south Florida, from Orlando to Key West.

His experience includes client services; program management; project management; capital improvement program planning and development; quality assurance and control; project identification, development and scoping; surface water management and drainage system modeling and design; hydrologic and hydraulic modeling; water and wastewater utility system engineering; urban and rural street and highway design; permit processing; construction observation and administration; engineering investigations and reports; si

Relevant Work Experience:

South Florida Water Management District: EDC Services. Project Manager for the development of the District's new standard guidelines for the hydraulic design of new, and refurbishment of existing, major water control structures. The guidelines were developed to provide guidance for District staff and engineering consultants for the hydraulic design of pump stations, gated spillway and fixed-weir structures, and gated culvert structures.

Project Director of the expedited design and delivery of 13 major O&M capital projects for 20 water control structures and canals. Services provided include project scope definition, detailed design and construction documents, technical review and approval through the District's DrChecks review process, permitting assistance, solicitation support and engineering services during construction

Martin County: North Plants Paving and Drainage / Martin County, FL. Civil Engineer for the site grading, stormwater management, drainage and plant and entrance road improvements for the existing water and wastewater treatment plants. Processed FDEP Environmental Resource Permit.

South Florida Water Management District: Engineering & Construction Department Program Management. Project Director of a seven-year contract for general engineering and program management services in support of the District's O&M Capitol Program. Worked onsite at the District's West Palm Beach headquarters, reporting directly to the Operations & Maintenance senior staff. Project responsibilities include development, management and oversight of the Structure Inspection Program, and the Canal Conveyance Capacity Program.

Kissimmee River and Port Mayaca ASR Pilot Project Sites. Project Civil Engineer for the site design and stormwater management system for two Aquifer Storage and

Recovery facilities for the SFWMD CERP, located adjacent to Lake Okeechobee. Prepared surface water management system design calculations for water quality treatment methods, erosion control and drainage features. Prepared construction plans and specifications for the stormwater management and drainage systems and site access roads.

LWDD L-13 Canal. Project Manager for the design, plans and permitting of a culvert road crossing for the South Entrance Road to Palm Beach Community College Central Campus. Work included the replacement of an existing culvert with dual 72" culverts; new endwalls and roadway barrier walls; new divided entrance road; and 1/4 mile of canal realignment, dredging, regrading and bank stabilization. Processed FDEP Dredge and Fill Permit.

Belle Glade Waste Transfer Station. Project Manager for the planning, design and permitting of a stormwater management and drainage system for an industrial development located within the Everglades Agricultural Area and SFWMD CERP boundaries. Prepared a Stormwater Management Plan which included hydrologic and hydraulic modeling of multiple interconnected lakes, the storm drainage collection system, water quality treatment methods and the control structure and outfall connection. Prepared construction plans and specifications for the stormwater management and drainage systems, access road network and site utilities. Processed SFWMD Environmental Resource and Water Use Permits, and Palm Beach County Land Development Permits.

Palm Beach Community College Central Campus. Project Manager for the planning, design, permitting and construction of a stormwater management and drainage system for the roadway reconstruction and parking lot additions to a 114-acre institutional development. Prepared a Stormwater Management Plan for project development, which included hydrologic and hydraulic modeling of multiple lakes, control structures, the storm drainage collection system, and water quality treatment methods. Prepared construction plans and specifications for the stormwater management and drainage systems and the entrance roads and parking lots. Processed SFWMD and LWDD Environmental Resource Permits..

Chris Tillman, PE

Drainage, Canal and Surface Water Systems

Years Performing Job Title:

- 19 years

Professional Registration/ Certification:

- Professional Engineer - FL, GA, AL
- AAEES Board Certified Environmental Engineer
- CSI Construction Documents Technologist

Education:

- BS Environmental Science 1994
- MS Environmental Analysis and Management 1997
- BCE Civil Engineering 2000

Mr. Tilman provides professional engineering and consulting services in several civil engineering disciplines. He specializes in assisting municipal and industrial clients in South Florida with various solid waste, water and wastewater, stormwater, and permitting projects. His 19 years of experience includes project management and delivery, bond engineering services, design services, hydraulic modeling, regulatory permitting and compliance, litigation support services, and operation and maintenance evaluations. Mr. Tilman currently serves as Project Manager for several Bond Engineer projects with the Miami Dade County Public Works and Waste Management Department.

Relevant Work Experience:

Broward County Waste and Recycling Services: Broward Interim Contingency (BIC) Landfill Stormwater System Certification / Plantation, FL. Engineer of Record responsible for the preparation of the stormwater system certification documents for the 588-acre BIC landfill site. Project work included the acquisition and review of permit drawings and construction documents, field verification, and preparation of certification documents, engineering calculations, and ADICPR flow modeling to verify the existing system capacity.

Miami-Dade County Department of Solid Waste Management: FY2009 - 2016 Resources Recovery Facility Annual Report / Miami, FL. Deputy Project Manager, responsible for the preparation of the Annual Report for the 3,000 ton-per-day Resources Recovery Facility. Project activities included conducting site inspections, coordination of the project team and reviewing information related to performance guarantees, operations and maintenance, and environmental compliance, and preparing the draft and final report.

Miami-Dade County Department of Solid Waste Management: FY2015 Solid Waste Refunding Revenue Bonds – Consulting Engineer's Report / Miami, FL. Project Manager and Engineer of Record, responsible for the preparation and delivery of the Consulting Engineer's Report for a $82.7 million Refunding Revenue Bond issuance for the Department of Solid Waste Management. Project activities included development and negotiation of the project scope and budget, assembling and coordinating the project delivery team, conducting a detailed evaluation of all Departmental facilities, operations, rolling stock, and finances (including the preparation of a financial model and five year financial projections of operational and financial parameters), meetings with County staff to review data and financial information, and the preparation of the draft and final report documents.

Solid Waste Authority of Palm Beach County: Palm Beach Renewable Energy Facility No. 1 Refurbishment Air Construction Permitting / West Palm Beach, FL. Engineer of Record, responsible for the preparation of the FDEP Air Construction permit application for a $167 million refurbishment of the existing REF#1 facility. Refurbishment work included replacement of the existing waterwall boilers, removal of the electrostatic precipitators and installation of a urea injection system and fabric filter baghouses to improve the performance and emissions of the facility.

Lee County, Florida: Solid Waste Engineer of Record FY 03-05 / Fort Myers, FL. Project Manager, responsible for coordinating work with MP, Covanta, and County staff and preparation of all contract deliverables. Performed monthly WTE facility

inspections, prepared quarterly operations monitoring reports, and the FY 2003-04 Annual Report for the Lee County Solid Waste System. Additional work included preparing and filing the 2005 Title V Air Operation Permit Renewal Application.

Marathon Petroleum Company LP: Spangler Terminal Above Ground Storage Tank / Broward County, FL. Engineer of Record responsible for the design and permitting of a new 200,000 barrel above ground storage tank and associated modifications to the stormwater system on site. The stormwater design included modifying an existing wet ditch into interconnected wet conveyance channels and providing dry retention capacity in accordance with regulatory requirements. Project work included analysis of historical site data and permit information, preparation of required forms, permit drawings, engineering calculations, pre- and post-development ICPR modeling, and supporting information.

International Paper Co.: MaxPak Site Remedial Design / Lakeland, FL. Engineer of Record responsible for the preparation of the design and Remedial Action Plan documents for the installation of a new stormwater system as a remediation measure at the site. The stormwater design included two separate dual-purpose systems that rerouted stormwater over lined swales to prevent infiltration and provided attenuation of stormwater from the site in accordance with regulatory requirements. Project work included the preparation of engineering drawings, hydraulic calculations, and ADICPR flow modeling.

CSX Transportation, Inc.: Nocatee Hull Creosote Site Remedial Design / Nocatee, FL. Engineer of Record responsible for the preparation of the design of the stormwater system at the remediation site. The stormwater design included a system of interconnected shallow dry ponds that provide attenuation of stormwater from both the site and the adjacent roadway. Project work included the preparation of engineering drawings, hydraulic calculations, and ADICPR flow modeling.

Jockey Prinyavivatkul, PE

Drainage, Canal and Surface Water Systems

Years Performing Job Title:

- 16 years

Professional Registration/ Certification:

- Professional Engineer - FL

Education:

- BS Ocean Engineering 2002r

Mr. Prinyavivatkul has experience in project management, construction management, project engineering, and construction inspecting for various projects including industrial facilities, water and wastewater facilities, levees, lift stations, surface water management systems, navigational lock facilities, major water control structures, drainage and paving facilities.

Some of his other practices consist of permitting, project coordination and permit certifications, finalizing with jurisdictional agencies including local, state and federal organizations, and field coordination with contractors and utilities to evaluate and assist with construction issues.

Relevant Work Experience:

Northern Palm Beach County Improvement District: Engineering Services / Palm Beach County, FL. Civil engineer assisting in various engineering services for Northern Palm Beach County Improvement District, a special district established by the Florida Legislature and has the authority to create Units of Development within its overall boundaries for the purposes of constructing and maintaining certain land development and drainage improvements. Project assignments as Assistant District Engineer include the review of stormwater management improvements.

Saint Lucie West Services District: Engineering Services / St. Lucie County, FL. Civil engineer assisting in various engineering services for the District, a special district established by the Florida Legislature for the purposes of constructing and maintaining certain land development and drainage improvements. Main project assignments as Assistant District Engineer includes the design and review of stormwater management improvements.

Loxahatchee River Environmental Control District: Jupiter Inlet Colony Neighborhood Rehabilitation / Jupiter Inlet Colony, FL. Project engineer and contract administration for the rehabilitation of an existing development/municipality known as Jupiter Inlet Colony. The project is a collaboration between three government entities; Loxahatchee River Environmental Control District (Sanitary Sewer), Jupiter Inlet Colony (Paving, Grading and Drainage), and the Village of Tequesta (Potable Water). This project required site civil design for the replacement of existing asbestos potable water piping with PVC and ductile iron piping, installation of a central sanitary sewer gravity collection system and sanitary sewer force main and lift station to replace all septic systems, storm drainage, pavement, permitting, project coordination and construction administration. The regulatory agencies involved were Loxahatchee River Environmental Control District, Village of Tequesta, Jupiter Inlet Colony, Palm Beach County, the Department of Environmental Protection, Palm Beach County Health Department, and South Florida Water Management District.

66th Avenue / Indian River County, FL. Civil engineer responsible for performing stormwater management calculations in support of the Arcadis Transportation Department. The project consisted of multiple individual stormwater management systems, each treating separate portions of the roadway expansion. The Stormwater systems were required to treat for nitrogen and phosphorus runoff per the latest proposed FDEP requirements. Permitting was conducted through St. Johns River Water Management District.

Steve Jones

Water Distribution, Sewer Collection Systems And Reclaimed Water Pipeline

Years Performing Job Title:

- 34 years

Education:

- Engineering Technology 1982

Mr. Jones has extensive experience in the civil/environmental engineering field serving as project manager, project designer, and resident engineer on municipal stormwater, street and drainage, water distribution, wastewater, reclaimed water, and civil site projects. His work experience includes permitting through the Southwest Florida Water Management District (SWFWMD), Florida Department of Environmental Protection (FDEP) and the US Army Corps of Engineers (USACE). Mr. Jones' work at Arcadis is focused on stormwater design/permitting, civil site design and pipeline transmission/ distribution design. Currnently, Mr. Jones is the lead designer for over 22,000 linear feet of reclaimed water pipeline ranging from 4- to 36-inch-diameter.

Relevant Work Experience:

Hillsborough County: Northdale Reclaimed Water Main & Dawnview Forcemain Replacement Project / Tampa, FL. Currently serving as Project Designer and Assistant Project Manager for the design and construction of of approximately 4,000 linear feet of 12-inch force main, 9,000 linear feet of 12-inch reclaimed water main and 2,600 linear feet of 8-inch reclaimed water main in the Northdale neighborhood of Tampa.

City of Sunrise: Sawgrass Aquifer Storage and Recovery Well System Design / Sunrise, FL. Project designer for the wellhead design and in-line booster pump station design associated with the conversion of two previously drilled Floridian (brackish) Aquifier wells into Aquifier Storage and Recovery (ASR) wells. The wellhead design provided for 1.5-MGD variable speed submersible recovery pumps for each well and wellhead piping to account for the bi-directional flow of the ASR well. The 3.0-MGD in-line booster pump station provides the hydraulics to inject the surplus Biscayne water down the ASR.

City of Clearwater: Allen's Creek Improvements Study / Clearwater, FL. Project entailed the development of a report to evaluate and provide recommendations for channel improvements to stabilize eroding banks within a segment of Allen's Creek. Also provided a topographic survey of the creek, developed cross-sections and met with regulatory agencies.

City of Nocatee: Hull Creosote Design / Nocatee, FL. Project entailed the design of three stormwater attenuation ponds, spreader swales and associated drainage improvements to mitigate the increased runoff from a large consolidation area which was part of a creosote remediation project. The stormwater management system was designed to meet FDEP ERP and DeSoto County permit requirements

City of Clearwater: Pollution Prevention Project / Clearwater, FL. Project entailed the design of two nutrient separating baffle boxes to be placed on existing stormwater systems to provide enhance water quality for Stevenson Creek and Clearwater Harbor.

City of St. Petersburg: Bayfront Stormwater Outfall Realignment / City of St. Petersburg, FL. Project manager and designer for the relocation of a major downtown stormwater outfall pipe that was replaced with approximately 650 lf of 7' x 5' box culvert. This project was required in order to accommodate the proposed Salvador Dali Museum.

Downtown Community Redevelopment Area (CRA) Area A Stormwater Treatment Improvements / City of Tavares, FL. Project Designer and Assistant Project Manager for the design and construction of a large stormwater collection and treatment system in the downtown area of Tavares. The project entails the construction of an 8-acre wet detention pond, 4,000 linear feet of RCP storm pipe, 60 storm structures and weir boxes, streetscape improvements (including on-street parking, brick streets and crosswalks) and miscellaneous utility improvements. This project will improve the water quality of the receiving water body, Lake Dora.

Nocatee / Hull Creosote Design - Stormwater Component / Nocatee, FL. Project Designer for three stormwater attenuation ponds, spreader swales and associated drainage improvements to mitigate the increased runoff from a large consolidation area which was part of a creosote remediation project. The stormwater management system was designed to meet FDEP ERP and DeSoto County stormwater permit requirements.

Northdale Reclaimed Water Transmission Main and Dawnview Force Main Replacement / Hillsborough County, FL. Project Designer and Assistant Project Manager for the design and construction of of approximately 4,000 linear feet of 12-inch force main, 9,000 linear feet of 12-inch reclaimed water main and 2,600 linear feet of 8-inch reclaimed water main in the Northdale neighborhood of unincorporated Hillsborough County.

N. Rome Water Main Interconnection Project / Hillsborough County, FL. Project Designer and Assistant Project Manager for the design and construction of of approximately 2,200 linear feet of 8-inch water main and 2,400 linear feet of 6-inch water main in the North Rome Ave. / Lake Magdalene neighborhood of unincorporated Hillsborough County.

David O'Connor, PE

Lift Stations and Master Pump Stations

Years Performing Job Title:

- 22 years

Professional Registration/ Certification:

- Professional Engineer - AL, MS, NC, TN
- Board-Certified Environmental Engineer

Education:

- BS Environmental Engineering 1996

Mr. O'Connor is the West Florida Water location leader for Arcadis. He has more than 21 years of experience in assisting clients in the planning, design, permitting and construction management of water, wastewater and reclaimed water projects. He has significant experience with the master planning, permitting, design, and construction management of water infrastructure projects including pumping stations, gravity and pressure pipelines, sewer rehabilitation and treatment plant improvements. Mr. O'Connor is a board certified environmental engineer who is specialty-certified in the areas of water supply and wastewater engineering. The academy's certification is accredited by the Council of Engineering and Scientific Specialty Boards.

Relevant Work Experience:

Hillsborough County: Duck Pond Stormwater Pump Station / Hillsborough County, FL. As project engineer, assisted with the planning, design and permitting of the county's Duck Pond stormwater pump station and force main. The stormwater pump station consists of four 350-hp submersible pumps with a firm capacity of 70 cfs, electrical systems, a masonry generator/control building, and an emergency generator with day tank and aboveground fuel storage tank. A SCADA system with RTU is included in the station design. The RTU is connected through a radio link to the City of Tampa's Donut Pond stormwater pump station. The work also included design and permitting of approximately 4,000 feet of 36-inch-diameter stormwater force main, including highway and railroad crossings by microtunnel, valves, fittings and other appurtenances.

Spring Hill Master and Booster Pumping Stations. The project included planning and design of a new 1.4 mgd master submersible pump station with redundant pumping capacity including dual fiberglass wet wells, 2,800 gpm pumps, controls, flow meter, odor control and standby power. A 3,000 gpm booster pump station was also designed to accommodate transfer of flows over a 12 mile span. The booster pump station included a pre-manufactured pumping station, flow meter, and standby power. Mr. O'Connor was responsible for all aspects of project deliverables, maintaining schedule, and managing all project financial tasks. Design fee of $140,000. Engineer's Opinion of Probable Construction Cost of $1.5M..

Hernando County: US 19 Water Main and Utility Adjustments / Hernando County, FL. Project Engineer responsible for the design, permitting, and construction administration of about 25,000 linear feet of 16-inch diameter water main along US19 from the Seville subdivision to Weeki Wachee High School. Additionally, the project includes design adjustments of existing water and sanitary force mains along a 34,000 linear feet corridor due to proposed stormwater improvements associated with a Florida Department of Transportation (FDOT) project. The County's work is to be constructed prior to the FDOT work and requires close coordination with FDOT regarding the Utility Work Schedule and preparation of red-green-brown (RGB) submittals.

Nita Naik, PE, ENV SP

Lift Stations and Master Pump Stations

Years Performing Job Title:

- 8 years

Professional Registration/ Certification:

- Professional Engineer - FL, OH
- Environmental Sustainability Specialist

Education:

- MS Civil and Environmental Engineering 2009
- BS Civil Engineering 2006

Ms. Naik has eight years of experience as a project engineer. She has performed master planning and contributed to the design of major water transmission mains to replace aging and deteriorated facilities. Her responsibilities have included preliminary and final design, permitting, preparation of quantity take-offs, preparation of specifications, and general and field construction services as well as project management.

Relevant Work Experience:

City of Tampa: Downtown Water Main Improvements / City of Tampa, FL. Project engineer for the planning, design, permitting and general construction services for approximately 34,000 linear feet (LF) of 8-, 12- and 16-inch-diameter water mains that deliver potable water in Tampa's downtown area. Provided data collection, design, quantity estimates and permitting services. Also participated in providing general construction services and preparation of record drawings.

City of Tampa: Distribution Main Replacement Adjacent to the Contribution in Aid of Construction / Tampa, FL. Project engineer for the design and permitting of approximately 24,130 LF of 6-, 8- and 12-inch-diameter water distribution mains to replace aging water mains. Participated in design, quantity estimates, permitting, general construction services and preparation of record drawings. The adjacent to Contribution in Aid of Construction (CIAC) Segment 2 project was canceled during later phase of design.

City of Tampa: Segments 1, 2 and 4 of the Contribution in Aid of Construction Water Project / City of Tampa, FL. The Segment 1 consisted of planning, design, permitting and general construction services for approximately 43,560 LF of 42-inch water main that delivers potable water from the David L. Tippin Water Treatment Facility to downtown and south Tampa. The project included multiple relocations of sanitary sewers and adjustments to the stormwater

Tampa Bay Water: Brandon Urban Dispersed Well No. 5 Replacement / Brandon, FL. Project engineer for construction services for the installation of well pumping equipment, a well house for an existing test/production well, and 5,600 lf of 12- through 16-inch-diameter raw water transmission main that conveys the raw water to an existing collection main in the vicinity of Wheeler Road at Seffner-Valrico Road.

City of St. Petersburg: Allen's Creek Water Transmission Main Relocation / St. Petersburg, FL. Project engineer for construction services for the relocation of 407 lf (230 lf requiring trenchless technology) of 36-inch water transmission main located just east of the U.S. Highway 19 right-of-way across Allen's Creek. The scope of services also included coordination with multiple agencies and property owners, permitting, and removal and abandonment of existing 36-inch mains.

City of St. Petersburg: Sawgrass Lake Water Transmission Main Relocation / St. Petersburg, FL. Project engineer for construction services for the relocation of 1,300 lf of new 36-inch-diameter water transmission main to accommodate an environmental remediation project planned by the Southwest Florida Water Management District. The main was relocated from a point adjacent to the south boundary of the remediation

project boundary to a point adjacent to the west boundary of the remediation project. The route also included crossing a man-made canal approximately 50 feet in width.

Pinellas County Utilities: Water Treatment Plant at the Waste to Energy Facility / Pinellas County, FL. Construction inspector and county liaison for construction of a new 2.5-mgd reverse osmosis water treatment plant and other related improvements. Provided construction inspection services to observe the progress of the work and to coordinate activities and communication with the county. Prepared construction observation reports and reported to the county when clarifications and interpretations of the contract documents were required.

City of Tampa: Krause Force Main Assessment and Replacement Alignment Study / Tampa, FL. Project engineer for the evaluation of a 60-year-old, 11,000-lf, 54-inch-diameter portion of the Krause force main, including subaqueous crossings of Garrison Channel and Sparkman Channel. Three segments of the force main were replaced in 1984. Participation included assessment of the existing pipe condition, analysis of the sub-bottom sonar data, alternative route evaluation, and assessment of permitting requirements for each of the alternative routes.

City of Tampa: Ybor City Pump Station Rehabilitation / Tampa, FL. The Ybor wastewater pump station was over 30 years old and in need of a major upgrade. Existing pumps consisted of three 800-hp units with eddy current couplings operating at 4160 volts and one 300-hp pump with a VFD operating at 480 volts. Project engineer for replacement of the 800-hp pumps with 400-hp pumps and replacement of the drive on the 300-hp pump to increase its capacity using a 400-hp motor and new VFD. The project included replacement of all electrical equipment within the station, replacement of major valves, installation of a new discharge meter, and several piping modifications. Work also included the development of a sequence of construction that included full bypass pumping of the station during construction. Participated in the final design and construction services phases.

Deborah Daigle, PG

Water Supply and Wellfields

Years Performing Job Title:

- 33 years

Professional Registration/ Certification:

- Certified Professional Geologist - FL

Education:

- MS Geology 1985
- BS Geology 1983

Ms. Daigle has extensive experience in project management, business development, technical leadership, permitting and permitting support, and construction oversight for water resources and environmental restoration projects throughout the state of Florida. Her project management skills include managing clients and multidisciplinary staff, budgets, schedules, subcontractors, and client communication. Her project experience encompasses environmental resource permitting and water supply permitting, water resources planning and development, water reuse, solid waste permitting and compliance, environmental restoration, geologic and hydrogeologic site characterization, development of groundwater monitoring and sampling programs, water disposal through deep injection, aquifer storage and recovery, risk assessment, water quality evaluation, facilities siting, National Environmental Policy Act (NEPA) projects, groundwater flow and contaminant transport modeling, Phase I and Phase II site assessments, and contamination assessments and remediation. She has diverse technical skills including aquifer testing and analysis, water budget modeling, analysis of site geologic and hydrogeologic data (including geophysical data), evaluation of water quality and water level data, statistical analysis of time series data, groundwater flow modeling using Groundwater Vistas software, design and operation of well systems, and design and coordination of monitoring programs.

Relevant Work Experience:

Florida Power & Light: Turkey Point Power Plant Expert Witness Testimony and Administrative Hearing for Site Certification / Homestead, FL. Testified as an expert witness for FP&L's site certification hearing for the proposed expansion of the Turkey Point nuclear power plant. Testimony focused on hydrogeologic testing for a proposed radial well system beneath Biscayne Bay to supply up to 130 mgd of cooling water to the new nuclear units 6 & 7.

Tampa Bay Water: Alafia River Project / Tampa Bay Regional Reservoir Siting Study / Tampa, FL. Technical lead for the preparation of the water use permit application for the Alafia River. Participated in the siting evaluation and selection for the Tampa Bay Regional Reservoir, a 1,200-acre off-stream water storage facility. The project involved evaluating site selection criteria, participation in public meetings, and preliminary geotechnical characterization of the short-listed sites.

Tampa Bay Water: Aquifer Storage and Recovery Feasibility Study / Tampa, FL. Performed a feasibility study to evaluate the benefits of ASR as a supplement to the Tampa Bay Regional Reservoir. The project included a review of the geologic and hydrogeologic literature to characterize the hydrogeology and an evaluation of the well capacity, treatment requirements, and costs of an ASR system.

City of Tampa: Aquifer Storage and Recovery System Annual Report / City of Tampa, FL. Prepared the 2010 annual report for the city of Tampa's ASR systems. The city has two permitted ASR systems: Tampa Rome Avenue Park (TRAP) and DLT Water Treatment Facility. The TRAP ASR system stores and recovers potable water supplied by the DLT facility to meet the seasonal peak water demands necessary to serve its customers.

South Florida Water Management District: C-44 Reservoir/ Stormwater Treatment Area Project - OMRR&R and PLMP for Project Repackaging / Martin County, FL. Worked under subcontract to HDR Engineering, Inc., in preparing the Operations, Monitoring, Repair, Replacement and Rehabilitation (OMRR&R) manual for the C-44 Reservoir and Stormwater Treatment Area (STA) project to attenuate flow and treat water from the C-44 Basin prior to discharge into the Indian River Lagoon as part of the Comprehensive Everglades Restoration. In addition to the OMRR&R, prepared the updated Project Level Monitoring Plan (PLMP) for the entire C-44 project.

South Florida Water Management District: C-44 Reservoir/ Stormwater Treatment Area Project - Test Cell Pilot Program / Martin County, FL. Project manager and technical team member for design of a monitoring program for a full-scale pilot program consisting of two reservoirs and two stormwater treatment area (STA) test cells located on a 500-acre portion of the main C-44 project site. Responsible for preparation of plans and specifications and for developing a monitoring and operations plan consisting of surface and groundwater monitoring, water quality monitoring and vegetation monitoring; managing all site activities; and interpreting data for monthly reports submitted to the SFWMD. Data interpretation included estimating seepage from the test cells through the development of a water budget model and statistical techniques to evaluate changes in water levels.

South Florida Water Management District: C-44 Reservoir/ Stormwater Treatment Area Project - M&O Plan Development and ERP Permitting Support / Martin County, FL. Project manager and technical lead in developing the Monitoring and Management Plan and the Project Level Operations Plan. Activities involved coordination with district staff through a series of workshops, development of a water budget model to evaluate reservoir and STA performance, coordination with the design team to incorporate project elements into the operations plan, preparation of plans and specifications, development of a monitoring plan incorporating CERP requirements for flow, water quality monitoring, and embankment performance monitoring.

South Florida Water Management District: C-44 Reservoir/ Stormwater Treatment Area Project - Site Characterization and ERP Permitting Support / Martin County, FL. Project principal, task manager and technical team member for the design and permitting of the C-44 Reservoir/STA project. Responsible for the geologic and hydrogeologic site characterization of the 12,000-acre C-44 project site, collection of geotechnical data, development of a conceptual site model, aquifer testing and analysis, development of numerical models to evaluate seepage losses, including MODFLOW and SEEP-W, preparation of a detailed site characterization report, and technical input to the project design.

South Florida Water Management District: C-44 Reservoir/Stormwater Treatment Area Project - Engineering During Construction / Martin County, FL. Worked under subcontract to HDR Engineering, Inc., for the construction phase of a project designed to attenuate flow and treat water from the C-44 Basin prior to discharge into the Indian River Lagoon as part of the Comprehensive Everglades Restoration Program. Responsible for reviewing contractor submittals and field verification with project elements related to the Project Level Monitoring Plan (hydrologic and water quality monitoring system).

John Mayhut, PG

Water Supply and Wellfields

Years Performing Job Title:

- 6 years

Professional Registration/ Certification:

- Professional Geologist - FL

Education:

- MS Geology 2004
- BS Geology 2004

Mr. Mayhut possess 16 years of experience in the water resources and has served as field support, project management, and technical lead for several injection-well and ASR programs. Knowledgeable concerning state and federal UIC codes and rules relating to the design, permitting, testing and construction of Class I and V (ASR and Non-ASR) injection wells for disposal of domestic wastewater, industrial wastewater and desalination concentrate. Performed and directed programs for well design, permitting, operating permit renewals, mechanical integrity testing and construction management of several Class I and V injection/ASR well systems in southwestern Florida.

Relevant Work Experience:

City of North Port: Injection Well IW-2: Design, Permitting, and Construction Management Project - 2012 / Sarasota County, FL

Installation of the new Class I injection Well IW-2 for the City of North Port. The well was designed and modified by permit revision prior to construction to modify the well based on new target design flows, and to utilize new well construction technologies and methods to save the City in excess of $400,000. Oversaw the preparation of the Bid Documents, provided support during Bid review, and managed the construction services from the start of construction until the well started operational testing.

City of North Port: Injection Well IW-1 Operational Permit Renewal Project Manager - 2011 & 2016 / Sarasota County, FL. Completed the 5-year operating-permit renewal for the Class I injection-well system. This application included: updated Area of Review (AOR) well inventory, water quality waste-stream analysis reports, all monitoring well data tabulation and analysis, injection and MIT testing results, flow rate, injection pressure, injectivity, graphic plotting and tabulation, current plugging and abandonment plan and cost estimate, and summary of monthly operational reporting requirements for permit compliance.

City of North Port: Mechanical Integrity Testing IW-1 and IW-2: Design, Permitting, and Construction Management Project - 2017 / Sarasota County, FL. Project consultant for the mechanical integrity testing of the City of North Port's two Class I injection wells. Provided technical oversight of the mechanical integrity test contractors on site, including geophysical logging, pressure testing, and external mechanical integrity via a radioactive tracer test. Provided planning and technical oversight, and analysis of the well data, work was conducted as a subconsultant to Hazen and Sawyer.

City of Oldsmar Injection Well IW-1: Design, Permitting, and Construction Project - 2010 / Pinellas, FL. Documentation preparation included UIC construction permitting, the Engineering Report and well construction Technical and Bid Specifications for the conversion of Exploratory Well (EW-1) to Injection Well IW-1. EW-1 was originally drilled to a total depth of 3,600 feet for the subsurface exploration to characterize the hydrogeological framework for potential ASR and deep injection. Well EW-1 was subsequently modified to serve as a Class I injection well will provide a means of disposal for 1.2 MGD of concentrate by-product. A Class I injection well and its monitoring well system was constructed and has been operating since 2010.

City of Punta Gorda: ASR Operational Permitting and Development of Institutional Control Project - 2014 / Charlotte County, FL. Responsible for the co-development and implementation of a new method of Institutional Control (IC) for ASR systems which are permitted under FDEP Class V UIC Section regulations. During the renewal their ASR construction and Testing Permit the concept of using specific, existing water-management regulations to both prohibit the use of water recharged into the ASR system and protect existing, legal users of the groundwater resource from adverse impacts due to ASR operations was developed. An IC was required by FDEP UIC Section due to potential migration of metals outside the Owner's property boundary. The newly conceptualized IC method had the advantage of implementation by default under existing water use application notification policies and was implemented without new local ordinance which was outside the ability of the utility to maintain. Project resulted in the approval of an Operating Permit with Institutional Control for the ASR system.

City of Punta Gorda: ASR Contamination Assessment and Remedial Action Plan for Arsenic Project – 2009 / Charlotte County, FL. Contamination Assessment Plan o delineated the estimated area of influence by the operation of the ASR system at the Shell Creek Water Treatment Plant (SCWTP). This assessment included an evaluation of the historical data with regard to the occurrence and migration of contaminants above the maximum contamination level (MCL), preparation of volumetric calculations, computer modeling of the system, and site water quality data obtained during the monitoring of this wellfield to present the ASR storage bubble. The remediation plan proposed a multi-level treatment and disposal approach.

City of Marco Island: ASR Operational Permitting Project - 2009 & 2015 / Collier County, FL. Prepared documentation to support the operational classification of the Marco Lakes ASR system, the first such permitted in Florida for fresh water storage in a highly brackish water aquifer. The ASR wells were constructed between 1996 and 2007 and are completed in the basal Hawthorn and upper Suwannee Formations between approximately 730 and 780 feet below land surface. The ASR system includes seven ASR wells and four monitor wells. Components of this report included solute transport modeling, historic water quality and potentiometric data analysis. The supporting documentation followed the information prepared for the operational permit application and included AOR, resource evaluations and impact assessments, as well as well design.

City of Marco Island: ASR Secondary Water Quality Exemption Project - 2009 & 2015 / Collier County, FL. Prepared documentation to support the Utility in seeking an aquifer exemption for secondary water quality parameters. It was shown that the economic, environmental, and social benefits of the project (a reliable supply of water at a reasonable cost that does not adversely affect the environment) outweigh the economic, environmental, and social costs of removing the color prior to storage in the ASR storage zone. This is especially relevant because the receiving groundwater is not currently used as a potable supply, and any future development would require treatment that would effectively remove color. The target aquifer is highly brackish.

Nichole Lynch-Cruz

Rates, Bond Feasibility, Annual Engineering Reports

Years Performing Job Title:

- 12 years

Education:

- MA Public Administration 2006
- BS Environmental Sciene 2005

Ms. Lynch has 12 years academinc experience in biology, ecology, hydrology, chemistry as well as public policy and management. She has assisted with a diverse number of projects including wetland delineation, wetland mitigation monitoring, solid waste bond engineering reporting as well as creating surveys and analyzing collected data. Ms. Lynch has technical writing skills and assists with drafting and finalizing reports, scopes of work, subcontractor contracts, and internal and external memoranda. In addition, she provides project management support through invoicing activities and utilizing the PM application.

Relevant Work Experience:

Miami-Dade County Water and Sewer Department: Water and Sewer Rates, Fee Analysis and Bond Engineering Services / Miami, FL. Serves as Deputy Project Manager for the following financial services required by the Department to meet Bond Ordinance requirements and general management policies: Retail Rate Study, Annual Adequacy of Rates and Charges Review, Annual Bond Consultant Report, Engineering Consultant Report for Bond Issuances, Annual Wholesale Rate Review, and miscellaneous other studies such as General & Administrative Cost Allocation Review.

PortMiami, Seaport Department of Miami-Dade County: Consulting Engineer's Report and Certificate / Miami, FL. Served as Deputy Project Manager for the preparation of a Consulting Engineer's Report and Certificate in support of the issuance of the Series 2014 Seaport Revenue Bonds in accordance with Bond Ordinance requirements. Activities included review of Port Miami organization, management structure, revenue characteristics (historical and budget), cargo and cruise contracts, five-year Capital Improvement Program, facilities inspection documents and other documentation provided to support revenue projections; developed comprehensive financial model to project net revenue for five-year period beyond bond issuance; prepared a draft and final Consulting Engineer's Report and supported Port Miami and entire County Financing Team in the development of the preliminary official statement and official statement, as well as participated in the presentations to and discussions with the rating agencies and letter of credit providers to address questions or run individual scenarios associated with their review of Port Miami's bond. The efforts also included financial support to meet the requirements of Master Bond Ordinance 88-66 and established management policies which consists of reviewing unaudited quarterly financial results for Quarter 3 and Quarter 4 of fiscal year (FY) 2014, including a review of actual financial results in comparison to projected results; assisting with preparation of updated FY 2014 year-end financial projections given the unaudited year to date actual results, including an evaluation of reasons for any significant deviations of actual financial results from projected results, and an assessment of the impact of any deviations on ability to meet debt service coverage requirements; and participate in regular meetings with staff to discuss financial analyses, forecast results and other recommendations as may be required as Consulting Engineer for the authorized period. In addition, Arcadis conducted comprehensive facility inspections of the entire facility to review the state of condition and repair of the infrastructure as

well as ultimately generate recommendations for repair, renewal, and replacement and issuance of a Consulting Engineer's Report documenting the results of such inspections and associated recommendations.

PortMiami, Seaport Department Miami-Dade County: Consulting Engineer's Services for Master Bond Ordinance 88-66 / Miami, FL. Serves as Deputy Project Manager for the following financial support required by PortMiami in order to meet the requirements of Master Bond Ordinance 88-66 and established management policies which consists of reviewing unaudited quarterly financial results for Q3 and Q4 of FY2014, including a review of actual financial results in comparison to projected results; assisting PortMiami with preparation of updated FY2014 year-end financial projections given the unaudited year to date actual results, including an evaluation of reasons for any significant deviations of actual financial results from projected results, and an assessment of the impact of any deviations on ability to meet debt service coverage requirements; and participate in regular meetings with PortMiami staff to discuss financial analyses, forecast results, and other recommendations as may be required as PortMiami's Consulting Engineer for the authorized period. In addition, ARCADIS conducts comprehensive facility inspections of the entire PortMiami facility to review the state of condition and repair of the infrastructure as well as ultimately generate recommendations for repair, renewal, and replacement, and issuance of a Consulting Engineer's Report documenting the results of such inspections and associated recommendations.

Broward County Solid Waste Disposal District: Needs Assessment Survey / Broward County, FL. Served as management consultant for the development of a needs assessment survey. The Resource Recovery Board (RRB) wanted to modify the governance and financial structure of its solid waste disposal district and tasked Arcadis with the development of the Survey to assist them in this effort. Assisted in the development of survey questions, that were developed in order to gauge city manager satisfaction with the current solid waste management system, their likes and dislikes, as well as the likelihood that their City would agree to be party to a new ILA after the expiration of the existing ILA in 2013. Utilized an Arcadis software, called Cvent, in order to create the survey electronically, coordinated with various City Managers and their staff to obtain correct email addresses, and issued the survey via email to all 31 of Broward County's cities. Also followed up with various city managers and their proxies to confirm completion of the survey, which results in 25 of the 31 Cities providing responses. Once the survey was closed, conducted various queries of the collected data in order to categorize and summarize the results. Assisted with the development of a summary memorandum and presentation, which provided the findings of the needs assessment survey and was presented to the resource recovery board.

Broward County Waste and Recycling Services: Broward Wetlands Monitoring / Fort Lauderdale, FL. Served as project scientist, provided wetlands mitigation monitoring services. Duties include performing quarterly site inspections of the mitigation sites associated with Broward County's resource recovery system. Areas monitored included the Wheelabrator South Facility Riverine Area, Ash Monofill, Tree Tops Park, Hacienda Flores, East Everglades, and the Broward Interim Contingency Landfill. Other duties included assessing the current condition of these mitigation areas and identifying areas that require continued maintenance.

Giovanna Rivera Montoya

Rates, Bond Feasibility, Annual Engineering Reports

Years Performing Job Title:

- 10 years

Education:

- MA Economics 2011
  BS Economics 2007

Ms. Rivera is a financial consultant specializing in financial analysis, long-range planning, cost-of-service analysis and rate design. She has eight years of experience in financial planning, consumer finance and investment analysis. In addition, she conducts affordability and cost/benefit analyses. She applies a solid background in financial analysis and economic theory to a variety of financial consulting projects.

Relevant Work Experience:

Miami-Dade County Department of Solid Waste Management: FY2015-2016 Utility Service Fee (USF) Reimbursable Cost Allocation Analysis / Miami, FL. Served as the lead financial analyst in the USF Report for Fiscal Years 2015 and 2016. Based on the cost allocation method originally developed in 2002 and further developed in subsequent analyses, the assessment required to calculate the amount of the DSWM's costs, including the corresponding portion of debt service, that is eligible for funding from the USF receipts for FY 2015 and 2016, ensuring that all eligible costs are included and costs not eligible are excluded. It also requires to compare the eligible costs to receipts received from the USF for FY 2015 and 2016 and calculate the cumulative balance through FY 2015 and 2016, and lastly, project USF revenues, eligible costs, and the cumulative balance for the five-year period following FY 2016.

Miami-Dade County Department of Solid Waste Management: FY2017 Adequacy of Rates and Charges Report / Miami, FL. Served as the lead financial analyst in the Annual Financial Assessment for Fiscal Year 2017 proposed budget in accordance with Section 607 of Bond Ordinance 96-168. This effort requires to annually analyse the adequacy of the solid waste collection and disposal fees and resulting revenue estimates in the Proposed Budget to meet operating expenses and bond covenants, and the adequacy of the amount budgeted to fund the Solid Waste System's renewal and replacement (R&R) projects to maintain the System in sound operating condition.

PortMiami: Consulting Engineering Financial Services / Miami, FL. Serves as a financial analyst and point of contact for the PortMiami. Engagements include leading the Financial Annual Report and the Quarterly Financial Analysis. These reports help understand deviations between actual and forecasted results and to help maintain or improve the accuracy of future financial forecasts. In addition, Section 502 (ii) of the PortMiami's Master Bond Ordinance requires the Consulting Engineer to provide their recommendation as to any necessary or advisable revisions of the rates, fees, rentals, or charges for the services and facilities of the Seaport Properties.

Miami-Dade County Department of Solid Waste Management: Rate and Cost of Service / Miami, FL. Serves as a financial analyst for this engagement, which involves a comprehensive water and sewer cost-of-service and rate study for both retail and wholesale customers. This engagement includes the development of cost based rates for MDWASD's 15 water and 13 sewer wholesale customers. The rates to wholesale customers include an annual true-up as well as development of annual rates for the preceding year.

Miami-Dade County Department of Solid Waste Management: Rate and Cost of Service / Miami, FL. Served as an analyst in the preparation of the annual adequacy of rates and charges evaluation as required by the department's master bond ordinance.

Archer Lebron-Cruz

Information Technology

As a digital analytics program manager, Mr. Lebron specializes in operational excellence, data processes, advanced analytics, and management consulting. He works with our digitalization and analytics team to empower clients with the use of valuable data and the tools to make use of data. He has experience in management consulting, business analysis, and advanced data analytics. He is skilled in Microsoft Dynamics (MCTS certified, GP and Sharepoint) and data analysis (R Programming, Microsoft Excel: Power View, Power Query, Power Pivots, PowerBI Desktop, SQL), as well as VBA programming/development.

Years Performing Job Title:

- 7 years

Education:

- BS Industrial Engineering 2010r

Relevant Work Experience:

Cost Analysis. Analyzed distribution warehouse costs with market competitors

Business Analysis. Analyzed plant's operational processes and developed complex data spreadsheets for a forecasting system to schedule work stations and procedure completion times (VBA development in Microsoft Excel). Increased the amount of production line's schedule forecasts for 85% of pharmaceutical products.

Data Analytics Program Management. Specializes in operational excellence, data processes, advanced analytics, and management consulting. Working along North America's Digitalization and Analytics team to empower internal colleagues and external customers with the use of valuable data and the tools to make use of data.

Microsoft Corporation: Program Management. Empowered Microsoft's Latam Services department with easy, fast, and accessible information for better data-driven decision making. Worked along Microsoft Latam Services BI team centralizing, standardizing, and developing reports to drive business growth. Delivered high impact reports and uncovered data insights that helped shape the organization's future. Served as BI lead and supported the implementation of a $28 million new business model in LATAM's Services division by providing crucial and effective reports and data insights.

Johnson & Johnson: EHS Global Audit Management – Process Management and Data Analytics Specialist. As analytics consultant, responsible for understanding customer's needs and requests, gathering required data for analysis and developing customized dashboards that allow for an easy data interpretation and understanding of business status and health & safety results.

Scott Lehman, GISP

Information Technology

Years Performing Job Title:

- 19 years

Professional Registration/ Certification:

- Geographic Info Systems Professional

Education:

- BA Anthropology/Archaeology 1999
- BA Geography 1999

Mr. Lehman is an Asset Management specialist with a strong background in data management and geographic information systems (GIS). He has developed and managed utility asset inventory databases and has managed GIS data for federal, industrial and municipal clients. These projects include utility asset date collection and analysis, remediation of industrial sites, data and map integration for municipalities, GPS survey and assessment, unexploded ordinance site investigation, 3-D geologic modeling, utility water/wastewater modeling and ground water modeling support. Mr. Lehman has experience using: CMMS software including SAP and Lucity/GBA-MS, Arc/GIS, Access, and SQL software.

Relevant Work Experience:

City of St. Petersburg: Regulatory Reporting Automation / St. Petersburg, FL. The City of Saint Petersburg produces reports for the DEP on a regular basis. Creating these reports is a labor intensive process that requires many labor hours. Interviewed staff involved in the report creation process and helped develop a streamlined approach to reporting. A new SCADA hardware and software environment was devised and automated reports were recommended. The outcome is a streamlined approach to reporting

Toho Water Authority: Asset Management Implementation / Kissimmee, FL. Mr. Lehman provided project GIS support for ongoing asset management work for Toho Water Authorities overall asset management program including DataStream 7i software with and ESRI GIS interface. Tasks have included establishing performance measures, performing inventory & condition assessments of wastewater assets, creating procedures for prioritizing capital projects, creating procedures for analyzing asset criticality and consequence of failure, and specific modifications to DataStream 7i to store asset management attributes and produce management reports.

Lee County, FL: Asset Management Plan / Lee County, FL. Provided project GIS and asset data collection support for the project. The project included the implementation of a comprehensive asset management program for the County consisting of an organizational assessment; computerized maintenance management system (CMMS) software evaluation; establishment of asset hierarchy, inventory, condition, criticality, and risk methodologies; a pilot inventory & condition assessment program for four treatment facilities and 60 lift stations; and formulation of an overall asset management plan and phased implementation strategy.

The Metropolitan District: Asset Management Program / The Metropolitan District, CT. The focus of the Water Distribution System Asset Management Project is to provide a comprehensive program that utilizes predictive asset modeling software to develop a 45-year capital improvement project CIP plan to optimize replacement and/ or rehabilitation of water distribution system assets. Mr. Lehman build custom GIS tools in an ESRI ArcGIS software environment for the purposes of gathering and performing spatial queries, in order to develop a single CIP personal geodatabase that can be used as input into the IDSS asset model.

Coquina Coast Seawater Desalination Project / Coquina Coast Desalination Committee, FL. Developed the approach used to site potential locations for a new water desalination plant and connection piping. Presented GIS information and received community buy-in on the approach. Performed GIS analysis, using multiple data sets and ESRI GIS interface. Presented results in GIS and report form that were approved by the stakeholders.

FGUA: Lehigh Water & Wastewater Mapping / Florida Governmental Utility Authority, FL. Project GIS Coordinator. Mr. Lehman led the designed and built of the Lehigh Acres Water and Wastewater utility GIS databases. Water and wastewater databases were designed to incorporate utility information giving FGUA a standardized easily accessible GIS system. ESRI GIS products and CAD software were used in this large-scale implementation.

City of Corona Utilities: Asset Inventory / Corona, CA. Mr. Lehman was part of the assessment team that collected asset data for over 120 facilities. This included assessments at three (3) water reuse plants, four (4) water plants, multiple pumping facilities and lift stations across the City of Corona.

Pubic Authority for Electricity and Water: GIS Implementation / Muscat, Oman. Mr. Lehman led the GIS Implementation task for the deployment of an upgraded GIS system for PAEW. He was responsible for configuration of ArcGIS utility editing tools, development of a Silverlight GIS web site, and knowledge transfer of the new tools and procedures to operations, asset management and GIS staff in the Sultanate of Oman.

Audra McCafferty, P.E., LEED AP BD+C
President

Experience Highlights
Ms. McCafferty has more than 24 years of experience in general environmental consulting and is con-founder of McCafferty Brinson Consulting, LLC.

Specialties include water and wastewater facilities design, environmental assessments, regulatory compliance strategies, permitting, cost estimating and scheduling.

Education
B.S. – Environmental Engineering, University of Florida, 1991

Professional Registration
State of Florida
Professional Engineer No. 54737

LEED BD+C Accredited Professional

Professional Society Memberships
USGBC – United States Green Building Council Member
ASCE – American Society of Civil Engineers
FES – Florida Engineering Society

Team Member Physically located in MBC's Fort Lauderdale office

633 S. Andrews Ave, Suite 402
Fort Lauderdale, Florida 33301

Professional Experience

Ms. McCafferty is an environmental engineer with twenty-four years of experience including ten years with McCafferty Brinson Consulting, Inc. In 2006, Ms. McCafferty co-founded McCafferty Brinson Consulting, LLC. Since that time, Ms. McCafferty has assumed a major role in the day to day operation of the company while maintaining her technical role as Project Manager/Principal Engineer. Her experience includes general environmental consulting, water, wastewater and reuse facilities permitting, environmental assessments, active and non-active remediation, real estate acquisition due diligence, regulatory compliance strategies, permitting, stormwater pollution prevention plans, and water quality evaluation.

While Ms. McCafferty's technical experience is primarily focused in environmental services, she also has experience in building materials, asbestos surveying, geotechnical engineering, and construction materials testing. Ms. McCafferty has a broad range of professional experience, including work execution in the Principal Engineer role, project management and project delivery, including cost estimating, scheduling, senior technical review, quality assurance/quality control (QA/QC) management, staffing and resource management, and business development. The following are some representative technical projects in which Ms. McCafferty has been involved.

Project Experience

Project Engineer, Broward County Retail Potable Water and Wastewater Master Plan. Broward County authorized the Prime Consultant to provide services for developing a Retail Potable Water and Wastewater Master Plan (Master Plan). MBC was hired as a subconsultant and was tasked with assisting with the components of the scope of work. Ms. McCafferty has assisted with the preparation of the Master Plan report sections associated with potable water source alternative for discrete services areas. The project is ongoing, additional anticipated activities include development of potable water system improvements.

Project Engineer, Broward County Reclaimed Water Treatment Plant Expansion. Broward County authorized the Prime Consultant to provide services for developing a design for improvements at the North Regional Wastewater Treatment plant. MBC was hired as a subconsultant to the prime consultant, and was tasked with assisting with the components of the scope of work. Ms. McCafferty is assisting with permitting efforts for the improvements. Coordination with various agencies is required to obtain operating and construction permits for the project.

Project Engineer, Broward County Water and Wastewater Services (BCWWS) WTP 3A, Storage Tank Sizing, Broward County, Florida, BCWWS is in the design phase of a project consisting of the construction of a second finished water ground storage tank and a new high service pump station at the WTP 3A site. MBC assisted in determining the appropriate storage capacity for the proposed finished water ground storage tank. Ms. McCafferty's tasks included a data request and review, storage sizing calculations, and preparation of a technical memorandum.

Project Manager / Broward County Water and Wastewater Services WTP 2A, Water Treatment Plant Compliance Study for 62-555 FAC 4-Log Virus Removal/Inactivation Requirement, Broward County, Florida. Services included demonstration of four-log virus treatment of groundwater to the Broward County Health Department and for Water Treatment Plant 1A utilizing free chlorine disinfection followed by ammonia addition. FDHBC issued the Provisional Determination of Four-Log Virus Treatment of Ground Water letter on October 22, 2013, pending submittal of ammonia concentration in the raw water for a period of one year. In October 2014, MBC submitted to the FDHBC the ammonia concentration data and requested that the FDHBC issue a Final Determination of Four-Log Virus treatment of Groundwater.

Project Engineer, Broward County Alternative Water Supply. Broward County authorized the Prime Consultant to provide services for developing an Alternative Water Supply (AWS) Master Plan. MBC was hired as a subconsultant and was tasked with providing assistance with various components of the scope of work. Ms. McCafferty prepared Master Plan report sections associated with discrete analysis of various AWS options such as implementation of conventional reuse for demand reduction, groundwater recharge reuse offset application, and Biscayne Aquifer allocation expansion via other offset approaches.

Project Engineer, Seminole County Water Supply Plan, as contractor for Prime Consultant. Provided assistance with various elements of the Seminole County Water Supply Plan (Plan). The Plan objectives are to meet Cooperators' current and future water demands with traditional and alternative water sources while sustaining water quality and protecting wetland and aquatic systems. Ms. McCafferty provided assistance with production of the Tech Memos: Task E - Data Gathering & Processing; Flow Projections Technical Memorandum, Task F1 - Analysis and Recommendations; Identification of Readily Identifiable Traditional and Alternative Water Supply Development Projects Technical Memorandum, Task F - Analysis and Recommendations; and Evaluation of Existing Facilities and Alternatives Development Technical Memorandum. Assisted with coordination with the Cooperators (the majority of the municipalities and utilities within the county) GIS data gathering and development of a GIS and Access database for the Plan, identification of projected water supply shortfalls (to 2045), development of project evaluation criteria and ranking methodologies and development of PowerPoint presentations for the Cooperators, and assembly of the final Water Supply Plan document for SJRWMD publication.

Project Engineer, Water and Wastewater Consulting, Florida Governmental Utility Authority, as contractor for Prime Consultant. From 2001 through 2006, Ms. McCafferty assisted with program management, planning, engineering, and implementation of capital improvement projects for FGUA's water and wastewater systems in Citrus, Collier, Hillsborough, Lee, Osceola, Polk, and Sarasota counties. Services included assessment of the systems; wastewater/reclaimed water master planning; water/wastewater system modeling; development, management and implementation of complete infiltration/ inflow reduction programs, engineering studies, design, permitting and compliance consulting, for various WTPs, WWTPs, lift stations and pipeline projects.

Project Manager, Annual Report, Miami-Dade Aviation Department (MDAD), Florida. Annual report compiled monies spent in a fiscal year and environmental projects at Miami International Airport. Ms. McCafferty's tasks included downloading the MDAD accounting and project management databases, and the integration and manipulation of the databases to determine total dollars spent per project. The majority of the projects evaluated were related to the Consent Order and Consent Agreement in place between Miami-Dade County and the State of Florida. MDAD environmental director, project managers, and accounting personnel, were extensively interviewed to validate data. Projections for future expenditures were compiled. The past expenditures and future projections were assembled on a project-by-project basis and totaled for overall airport-wide historical and 20-year projection figures. Litigation technical support was also provided.

Frank Brinson, P.E., DBIA, CDT, BCEE
Vice President

McCafferty Brinson consulting

Experience Highlights
Mr. Brinson has more than 26 years of experience in a wide range of environmental engineering projects.

Specialties include water and wastewater treatment facilities, membrane treatment, pumping and hydraulic systems, and utility infrastructure.

Education
B.S. – Environmental Engineering, University of Florida, 1991

Professional Registration
State of Florida
Professional Engineer, No. 51313

Professional Certifications
DBIA – Design Build Institute of America, Designated Design-Build Professional
CDT - Construction Document Technologist, Construction Specifications Institute
BCEE - Board Certified Environmental Engineer, American Academy of Environmental Engineering

Team Member Physically located in MBC's Fort Lauderdale office

633 S. Andrews Ave, Suite 402
Fort Lauderdale, Florida 33301

Professional Experience

Mr. Brinson is an environmental engineer with twenty-six years of experience. He is experienced in both management and execution of projects with expertise in engineering analysis, modeling, utility master planning, design, permitting, preparation of bidding and construction documents, construction contract administration, and construction management. Specialties include water and wastewater treatment facilities, membrane treatment systems, pumping and hydraulic systems, and utility infrastructure. The following are some representative projects in which Mr. Brinson has been involved.

Project Experience

Project Manager / Engineer of Record, Glades Road Water Treatment Plant, 40 mgd Membrane Softening Process Addition, City of Boca Raton, Florida. This project included design and construction administration for a 40-mgd membrane softening process addition to the city's 70-mgd conventional lime softening plant.

Project Manager / Engineer of Record, Glades Road Water Treatment Plant, 40 mgd Nanofiltration (NF) Membrane Element Replacement, City of Boca Raton, Florida. The project included pilot testing, development of Technical Specifications and bidding documents for the replacement membrane elements, as well as the membrane loading contract, permitting, engineering services during membrane loading, and engineering supervision of membrane performance testing.

Project Manager / Engineer of Record, Southern Regional Wastewater Treatment Plant Oxygen Generation System Upgrade Design-Build, City of Hollywood, Florida. The project included pilot testing, development of Technical Specifications and bidding documents for the replacement membrane elements, as well as the membrane loading contract, permitting, engineering services during membrane loading, and engineering supervision of membrane performance testing.

Project Manager / Engineer of Record, 3.0 mgd Reverse Osmosis Water Treatment Plant, Raw Water Wellfield, and Concentrate Disposal Injection Well, City of Clewiston, Florida. The project included pilot testing, development of Technical Specifications and bidding documents for the replacement membrane elements, as well as the membrane loading contract, permitting, engineering services during membrane loading, and engineering supervision of membrane performance testing.

Project Engineer / Broward County Alternative Water Supply Master Plan, Broward County, Florida. This project included the preparation of a master plan for the Broward County Water and Wastewater Services Utility outlining alternative water supply options.

Boca Raton Nanofiltration Process

Project Manager / Design Engineer, Nanofiltration Process Addition to Water Treatment Plant 1A, Broward County Office of Environmental Services, Florida. This project included membrane process pilot testing and preliminary design for a nanofiltration process addition to the District 1A Water Treatment Plant for Broward County, Florida

Project Engineer, Blue Hills Seawater Reverse Osmosis Water Treatment Plant (SWRO WTP), Water and Sewerage Corporation of the Bahamas. Engineering services included preliminary design, preparation of Tender Documents, bidding services, review and evaluation of tenders, assistance with execution of contracts, shop drawing review, construction observation, and miscellaneous construction administration services.

Project Manager / Design of a 7.0 mgd Lime Softening Water Treatment Plan, City of Bartow, Florida. This project consisted of engineering planning, raw water source evaluation and development, site selection and acquisition, bench-scale treatability studies, financial planning, preliminary and final design, and permitting.

Project Manager / Glades Road Water Treatment Plant Compliance Study for 62-555 FAC 4-Log Virus Removal/Inactivation Requirement, City of Boca Raton, Florida. This project included data collection and review, regulatory compliance review, development of compliance alternatives, and recommendations.

Hollywood SRWWTP Oxygen Generation System Upgrade D-B

Project Manager / Pompano Beach Water Treatment Plant Compliance Study for 62-555 FAC 4-Log Virus Removal/Inactivation Requirement, City of Pompano Beach, Florida. This project included data collection and review, regulatory compliance review, development of compliance alternatives, and recommendations.

Project Manager / Disinfection and Finished Water Blending Yard Piping Improvements, City of Pompano Beach, Florida. This project included identification of potential improvements to the plant yard piping, a study to identify the most cost-effective means of complying with the 62-555.320 Florida Administrative Code 4-Log Virus Removal/Inactivation requirements, and the design of the ammonia and hypochlorite system improvements.

Clewiston Water Treatment Plant

Project Manager / South Florida Water Management District Water Supply Cost Estimation Study (Phases I and II), West Palm Beach, Florida. This project included estimating the costs of various alternative water supplies in the District's four planning areas in terms of capital, operation and maintenance (O&M), and total capacity. Potable water treatment technologies considered included microfiltration/ultrafiltration (MF/UF), nanofiltration (NF), low pressure reverse osmosis (LPRO) with a groundwater supply, LPRO with a surface water supply, and sea water reverse osmosis (SWRO). Wastewater treatment technologies included advanced wastewater treatment (AWT), Bardenpho process, membrane bioreactors (MBR), and microfiltration/reverse osmosis (MF/RO). This document is considered the definite basis of comparison by the SFWMD in evaluating alternative water supply projects from cost perspective.

Fernando Vazquez, PE

Resiliency

Mr. Vazquez has 30 years of experience leading the planning, design, construction of water resources solutions for urbanized and populated coastal agencies including small and large diameter water and sewer transmission and distribution systems. Mr. Vazquez leadership roles in both Public and Private Sectors have given him a unique set of skills when leading and coordinating the implementation of public infrastructure solutions with regional and local stakeholders.

EDUCATION

BS Ocean Engineering, Water Resources

REGISTRATIONS

Professional Engineer, Florida

RELEVANT PROJECTS

Brickell Sewer Interceptors for Master Pump Station No. 3. Design-Build • Miami-Dade Water and Sewer Department, FL Project Manager for fast-track Design Built Project to increase sewer capacity in highly congested downtown Miami. Managed the successful design of approximately 5,000 ft of 48" gravity sewer constructed by micro tunneling (MTBM) methods. Design of secant pile shaft 33 feet deep, and four CMP (corrugated metal pipe) shafts ranging from 21 to 34-ft in depth. Project also included the design and construction of two large sewer diversion structures and connection to future Pump Station No. 3. FDOT for scheduled milling and resurfacing work. Driveway harmonization to improve positive drainage along adjacent properties

City of Miami Beach Stormwater Master Plan Comprehensive Citywide Stormwater Master plan considering Sea Level Rise.

West Ave Neighborhood Improvements Project The storm drainage for this design-build project consists of 1,300 LF of 24" RCP drainage, 220 LF of 30" RCP drainage, and 2,500 LF of 48" RCP drainage. As contracted with Ric-Man Construction Florida, CES's scope of work included complete replacement and rehabilitation of all public underground water, sanitary sewer, and storm sewer utilities, within the project's limits. In addition, as the lead civil designer, CES was responsible for the complete street redesign which included raising the existing grade of the roadway by approximately 2 feet, a revised typical section to incorporate a pedestrian/bicyclist friendly corridor, public/private property harmonization, new traffic signals, street lighting, and landscaping.

Citywide Sanitary Sewer System Improvement Projects City of Miami Beach, FL As a follow up to the original Consent Decree Order for the City of Miami Beach, and in order to meet on-going regulatory compliance efforts, the City of Miami beach engaged in a Comprehensive Citywide Sanitary Sewer System Improvement Project, which included a comprehensive Sanitary Sewer Evaluation Survey (SSES) Phase II Monitoring and a Post Rehabilitation Report. Following the completion of the SSES Phase II report in July, 2007, the City entered into a Consent Agreement with Miami Dade DERM (RER) to incorporate the warranted improvements. As City Engineer, Mr. Vazquez was responsible for the Program Management and implementation of the program, which new sewer collection system rehabilitation and reconstruction, construction management services, post rehabilitation flow monitoring and updating of SSES III Rehabilitation Report. As part of the SSES Phase III Report, the City was also required to complete Peak Flow Management Studies in accordance with Miami Dade County Section 24-42-2 (1) (c) which included dynamic hydrologic and hydraulic modeling of the City's 23 Sanitary Sewer Basins and as such evaluate the sewer systems performance under peak weather flow conditions.

Metro West Water Supply Tunnel - Massachusetts Water Resources Authority (MWRA) Project Manager responsible for coordination with all disciplines (Tunneling, Structural, Mechanical and Electrical, and Environmental). Project Manager responsible for the multidiscipline coordination (Tunneling, Civil, Structural Mechanical, Operations, Environmental, etc.) of the design of the Metrowest Water Supply Tunnel (MWWST) Project, a 14 ft. diameter tunnel aqueduct extending for about 17.6 miles at approximately 200 to 500 ft. below the communities

of Southborough, Marlborough, Framingham, Wayland and Weston, conveying approximately 500 MGD. MWWST was designed to improve water transmission reliability and redundancy to Metropolitan Boston. In addition to meeting the fundamental hydraulic requirements of operation, such as flow capacities and operating hydraulic characteristics, additional important operations and maintenance provisions required identification and incorporation in the design, including provisions for future reentry into the tunnels and associated unwatering and safe future access for men as well as essential equipment. Design included also 120 inch welded steel pipes connecting from two (2) 300 foot vertical shaft to valve chambers connecting to the main Weston aqueducts which were approximately 100 years old. The requirements for construction of the receiving shaft, pipelines and covered tanks had to take into account impacts to a quiet, residential neighborhood and required extensive mitigation efforts in place to minimize the impact of noise, dirt, rock blasting, and construction traffic on the neighborhood. Other responsibilities included the site grading and drainage, storm water management BMP's, contaminated soil management, construction management, mined material staging, construction review and scheduling for the Weston Shaft location.

City of Fort Lauderdale, RDII Implementation Program, Fort Lauderdale, FL Engineering Design Manager for the implementation of the citywide wastewater conveyance system long-term remediation program to address peak wet weather hydraulic loads at George Lohemeyer Wastewater Treatment Facility. Once finalized, the implementation of this program will have reduced Induced Infiltration and Inflow in identified problem areas throughout the City. The goals of the program are to 1) Implement non-structural lining solutions in identified areas with the largest amount of RDII, 2) Quantify inflow and infiltration (I/I) following lining and compare results with original flow monitoring results. 3) Identify existing capacities along main lines following repair and provide infrastructure solutions if needed.

Wampanoag Transmission Main, East Providence, RI Senior Project Manager for the design of 10,000 LF of 16" ductile iron domestic water main pipe for the City of East Providence, RI. Design included hydraulic modeling, layout and bedding design taking into account present contaminated soils and groundwater from adjacent decommissioned Mobil Plant. Prepared plans and specifications, and headed construction administration process.

Sewer Rehabilitation Project, Barcelona, Venezuela Project Manager for the design, rehabilitation and procurement for water and sewerage systems in Barcelona, Venezuela. Development of Master Plan for Sewerage and Water. Intake design repairs for Reservoirs, water treatment retrofit works including upgrades in primary treatment facilities (settlement and flocculation) large raw water main repairs. Development of regional water supply master plan, installation of sewer collection systems and sewer treatment works for communities under septic conditions. Project Management responsibilities included supervision of entire master plan, local design operation costs, oversight of technical staff, subcontracting services, maintenance and operations, and client relationships.

Emergency installation of 60" Pre-Stressed Concrete Cylinder Force Main (PCCP- FM) – Miami Beach Miami Dade County WASD Department Director responsible for the City's oversight of the emergency installation of 1023 LF of 60" PCCP in the roadway with an average invert depth of 17' below grade for the new sanitary sewer force main. This project is located in a highly urbanized residential area in Miami Beach along Commerce Street and Washington Ave. Work included dewatering, installing a 48" plug valve, automatic air release valves and required sheeting and shoring. Surface restoration included sub-base, base, asphalt paving, pavement markings, flatwork including sidewalk and curbing. Work also included substantial coordination with residents and business in the South Pointe Neighborhood and businesses as well as coordination with ongoing neighborhood improvements projects, traffic flow and access to landmark South Pointe Park.

David Hoot, PE

Water/Wastewater Engineering

Mr. Hoot is responsible for the provision of engineering management, project planning and development, client-consultant liaison, and construction-related services for infrastructure related projects. He has 40 years of experience in project and program management, and civil/environmental engineering design and plan preparation, involving site development and pre-development services; environmental impact studies and assessments; utilities and infrastructure improvements; water and wastewater transmission and treatment systems; environmental permitting and stormwater management; and roadway and transportation-related design. As both an area manager and a senior project manager, he has held P&L and various operational responsibilities, developed and monitored office and project budgets and schedules, allocated manpower, and maintained client contact/coordination.

FIRM
CES Consultants

EDUCATION
B.S. Civil Engineering – Environmental Engineering & Water Resources; Michigan Technological University, 1976

REGISTRATIONS
Florida: PE#35970; Civil Engineering Georgia: PE#13518; Civil Engineering

RELEVANT PROJECTS

Orange County Solid Waste System Evaluation Client/Program Manager for the comprehensive review and study of the solid waste system and facilities for Orange County, FL. Provided client coordination, project management and technical support for landfill analysis/operations during the evaluation of the solid waste collection, transfer, disposal and operational components throughout the County. This analysis also included Market Analysis, Organizational Review, Waste Flow Analysis and Financial Review. Participated in numerous meetings with City Mayors, County staff and various Stake holders. Prepared and reviewed interim Technical Memorandums and a Final Report, and presented findings and results to the BOCC. Budgetary and operational recommendations yielded potential savings of $16 Million.

West Ave Neighborhood Improvement Project manager for the storm drainage design of the West Avenue Neighborhood Improvements – South of 14th Street project. The storm drainage for this design-build project consists of 1,300 LF of 24" RCP drainage, 220 LF of 30" RCP drainage, and 2,500 LF of 48" RCP drainage. As contracted with Ric-Man Construction Florida, CES's scope of work included complete replacement and rehabilitation of all public underground water, sanitary sewer, and storm sewer utilities, within the project's limits. In addition, as the lead civil designer, CES was responsible for the complete street redesign which included raising the existing grade of the roadway by approximately 2 feet, a revised typical section to incorporate a pedestrian/bicyclist friendly corridor, public/private property harmonization, new traffic signals, street lighting, and landscaping.

Program Oversight/Project Manager, Infiltration/Exfiltration/Inflow Improvement Program Management Services, Dade County WASD, Miami-Dade County, Florida Acted as a Project Manager and Technical Support Manager for key program management objectives and components required to meet or exceed the FDEP Settlement Agreement and US EPA 1st & 2nd Consent Decrees related to the reduction in extraneous flows to the wastewater collection and treatment system throughout the entire county. Evaluation of the sanitary sewer system consisted of approximately 2500 miles of gravity sewer pipeline, 56,000 manholes, and 750+ pump stations; with program management services/tasks which included consultant/contractor oversight, issuing work orders for inspection, review of closed circuit television tapes of piping/manholes, detecting leaks, determining, recommending and scheduling of cost-effective or appropriate repairs, and providing construction management for repairs and pipe system rehabilitation.

QA/QC Engineer/Manager, South County Regional Wastewater Treatment Facility, Collier County Utilities, Collier County, Florida Provided QA/QC for the design of an 8.0 MGD regional wastewater treatment facility, including piping, pump stations, hydraulic structures and sludge

dewatering. Construction management overview of evaluation and coordination of contractor schedules, review and processing of pay estimates, preparation of change orders, coordination of testing laboratories, review of equipment drawings and detailed inspection of all facility components. Engineering services included design, preparations of plans and specifications, construction observation, O&M Manual development, and system start-up.

QA/QC Engineer/Manager, North County Regional Wastewater Treatment Facility, Collier County Utilities, Collier County, Florida Provided QA/QC of the sludge holding/thickening tank, piping and equipment. Acted as client liaison for the multifaceted project that included design and construction observation of three effluent pump stations and piping, filtration/treatment and chlorination facilities, and 18 and 24-inch effluent disposal force mains, will all appurtenances to spray fields and golf courses to increase treatment and disposal capacity from 2.5 MGD to 4.5 MGD. Engineering services included design, preparations of plans and specifications, construction observation, O&M Manual development, and system start-up.

Project Manager/Project Engineer, Wastewater Treatment System Expansion, Temple-Eastex Inc., Silsbee, Texas Managed and designed the expansion of and modifications to the wastewater treatment system, piping and black, green and white liqueur lagoons for a large paper/ pulp mill. Responsible for design and layout of earth dikes, weirs, concrete hydraulic channel structures, waste water pump stations and piping, and primary and secondary clarifiers. Field engineering, resident engineer and construction of waste treatment distribution piping and hydraulic structures, two 40-acre aeration ponds, and a 150-acre oxidation pond. Performed environmental evaluation and permitting for system expansion and outfall discharge.

Project Engineer, Wastewater System Modifications, Hammermill Paper Company, Selma, Alabama Lead design for modifications to the wastewater treatment and collection system, including acid sewers and waste liqueur tanks and lagoons. Performed design of water storage tank, raw water clarifiers and intake piping, pump house addition, filters, splitter box, and modified master plans for wastewater and stormwater systems.

Project Engineer, Effluent System Improvements, Continental Forest Industries, Augusta, Georgia Design Engineer for modifications to the mill effluent and wastewater collection and treatment system, including pressure and discharge piping and manholes, effluent weirs and wet wells, earthen dikes, and oxidation/aeration ponds. Design of gravity acid and sanitary sewers, pumping stations and equipment, hydraulic/diversion structures, and primary clarifier and pressure piping. Resident Engineer for the construction engineering and observation of all components of the wastewater, mill effluent and stormwater system improvements.

Project Manager, Dale Mabry Recovered Water System, Hillsborough County Public Utilities, Tampa, Florida Managed the project team and performed as client liaison for the design, plan and specification preparation, and construction administration for the interconnection of three separate reclaimed water pumping and storage facilities. Project consisted of 7.4 miles of 12 to 30- inch reclaimed water force main along major highways, two pump stations and a booster pump station, and two 500,000 gallon steel water storage tanks.

Jafet Torres, PE

Lift Stations

Jafet Torres is an outstanding professional civil engineer with more than 13 years of experience in design, construction inspection, supervision and construction management. Achieving goals, working as team member or self-empowered, Jafet has demonstrated the honor of been the most valuable student of his class. Jafet has developed the ability to analyse and apply engineering fundamentals and principles to solve a variety of situations and client's necessities. Always in search of new challenges and precision.

EDUCATION

1992 – University of Puerto Rico, Mayagüez, PR
Bachelor of Science in Civil Engineering (BSCE)
Magna Cum Laude

1998 – University of Puerto Rico, Mayagüez, PR
Master of Science in Civil Engineering (MSCE) – Water Resources Engineering
GPA: 3.80

REGISTRATIONS

Professional Engineer , Puerto Rico

Professional Engineer, Florida

RELEVANT PROJECTS

Optimization and Water Loss Recovery Program Hydraulic Engineer and Modeler – Evaluation and optimization of various operational issues on potable water pumping systems around the North Region of Puerto Rico, to reduce: service intermittency, system pressure inadequacy, repairs on pump station equipment and mains, power consumption, etc. Hydraulic modeling and balance of water distribution systems to reduce water and energy losses (e.g. Modeling of a complete service area in the north region of Puerto Rico, including 10 pump stations, tanks, and several water mains and hydraulic control devices up to 16"). As a result, several pump stations have shut-down or reduced capacity, reducing energy utilization, water production, and maintenance of infrastructure. Perform engineering analyses to modify (expand or reduce) water distribution systems and/or eliminate water filtration plants and deep wells.

Rehabillitation of Casabella's Pump Station Civil Engineer / Consultant. Performing an assessment of the existing conditions of a sanitary sewer pump station (privately owned), serving a 50-house community, and providing recommendations for the required improvements in order to conform with (PR) State's regulations, and posterior transfer to the lead agency. Some of the duties performed include: review of plans and calculations, preparation of technical specifications, cost estimates, and meetings with regulatory agencies.

New York Rising Community Reconstruction Program Serve as a consultant for the New York Rising Community Reconstruction Program and HGA as the program managers, performing independent cost estimates for various resiliency project designs, and cost reasonableness reviews on design proposals. The program includes design and construction of over 400 independent resiliency projects after the devastation caused by Hurricane Irene and Sandy. The funding for the program is estimated over 2 Billion dollars, and is ruled by Federal and NY State Regulations. The complexity of the program was increased by the strict accomplishment of timelines and target

Hydraulic Manager and Consultan, Civil/Water Discipline Serve as a consultant for the Puerto Rico Aqueduct and Sewer Authority (PRASA) for optimization and troubleshooting of operational issues (analyse and resolve persistent and hidden problems) in potable water systems applying principles and fundamentals of hydraulics.

- Hydraulic modelling and balance of water distribution systems to reduce water and energy losses in the North Region of Puerto Rico, including 20 cities. As a result, PRASA could shut down several pump stations, reduce energy utilization, reduce water production, and reduce maintenance of infrastructure.

- Drinking water quality analysis and modelling to reduce water age and formation of disinfection by-products
(DBPs), to conform EPA's rules and regulations.

- Perform evaluation and engineering analyses in order to modify (expand/reduce) water

distribution systems or eliminate water filtration plants and deep wells.

»Dynamic development and execution of scopes of work, maximizing resources to accomplish target dates.

IGLESIAS-VAZQUEZ & ASSOCIATES Project Coordinator

»Design Management for La Plata River Flood Control. An US ARMY Corp of Engineer Project in collaboration with local and international design firms.

»Detailed review of drawings and technical reports done by designers to ensure a complete an error free construction contract documents.

Project Inspector & Construction Manager

»Generate documentation as RFI's, meeting minutes, change order and change directives, and review contractor's applications for payment for approval.

»Evaluation, negotiation and recommendation of Contractor's change order proposals.

»Office and field decision making based on contract requirements.

»Inspection during construction of improvements to the Supreme Court of Puerto Rico, including architectural, structural, mechanical and electrical inspection for interior improvements, as well as the construction of gravity sewer system, and the restoration of a fountain. Approximate project cost: $2.35M.

»Inspection during construction of a 2 MGD waste water tertiary treatment plant with ultra violet disinfection, also including a force line, a pump station, and reconstruction of streets according with local state's regulations.

Master Scheduler

»Evaluate construction timeline using management concepts and scheduling tools in order to recommend change orders including time extensions on construction contracts, and contractor's payments.

»Schedule updates for capital improvements projects

»Provide support to Program Managers in order to comply with timelines.

Civil Engineer Designer

»Development and concept design of sanitary sewer systems for various communities with the objective to obtain funds for the final design and construction.

»Structural design for Walk-Up Residential Buildings.

»Preparation of Engineering Technical Reports, and cost estimating.

R.B. CONSTRUCTION Civil Engineer Assistance & Safety Inspector

»General supervision and inspection during construction of a twelve story commercial building, involving post tensioned concrete slabs.

»Implementation of OSHA's safety regulations.

»Perform field take-off, terrain levelling, and prepare estimates.

Erik Alcantara, EI

Stormwater / Field Inspections

Erik M. Alcantara, E.I. has over two years of experience in engineering design and construction management. His areas of expertise include stormwater system modeling, water distribution, sanitary sewer collection systems, transportation, work zone traffic control, construction inspections, SWM license renewals, budget/ cost control, estimating, quality assurance, permitting, bidding, and Critical Path Method scheduling.

RELEVANT PROJECTS

Broward County Water and Wastewater Services (BCWWS) Project engineer for the storm drainage design of the West Avenue Neighborhood Improvements – South of 14th Street project. The storm drainage for this design-build project consists of 1,300 LF of 24" RCP drainage, 220 LF of 30" RCP drainage, and 2,500 LF of 48" RCP drainage. As contracted with Ric-Man Construction Florida, CES's scope of work included complete replacement and rehabilitation of all public underground water, sanitary sewer, and storm sewer utilities, within the project's limits. In addition, as the lead civil designer, CES was responsible for the complete street redesign which included raising the existing grade of the roadway by approximately 2 feet, a revised typical section to incorporate a pedestrian/bicyclist friendly corridor, public/private property harmonization, new traffic signals, street lighting, and landscaping.

Stanahan High School Pool Renovation, Broward County Responsible for engineering services concerning demolition and replacement of the existing 14,500 sf pool deck consistent with regulatory codes and owner requirements, to include a built-in pool deck bench approximately 75 linear feet, replacement of pool filtration piping, and stormwater disposal drain system.

Engineering Services for Water and Sanitary Sewer Improvements for the UAZ 110/111 and 113B Project engineer for Design Build Services for the Replacement of Water Main and Service Conversions in the Shenandoah Area, Phase B, City of Miami, FL. Mr. Alcantara assisted in the design-build project upgrade of approximately 46,000 LF of water main. The project consists of upgrading existing 2-inch and 4-inch residential water main to 8-inch DI water main. The project wet tap connections include 8-inch, 16-inch and 24-inch pipes. The project area is bounded by SW 16th Street to the North, SW 22nd Street (Coral Way) to the South, SW 17th Street to the East, and SW 27th Avenue to the West.

West Avenue Neighborhood Improvements – South of 14th Street Project engineer for the storm drainage design of the West Avenue Neighborhood Improvements – South of 14th Street project. The storm drainage for this design-build project consists of 1,300 LF of 24" RCP drainage, 220 LF of 30" RCP drainage, and 2,500 LF of 48" RCP drainage. As contracted with Ric-Man Construction Florida, CES's scope of work included complete replacement and rehabilitation of all public underground water, sanitary sewer, and storm sewer utilities, within the project's limits. In addition, as the lead civil designer, CES was responsible for the complete street redesign which included raising the existing grade of the roadway by approximately 2 feet, a revised typical section to incorporate a pedestrian/bicyclist friendly corridor, public/private property harmonization, new traffic signals, street lighting, and landscaping.

Enterprise Commerce Center #9, Deerfield Beach, Florida A commercial project consisting of commercial tilt-up buildings and parking lots. Conducted Surface Water Management 5-year license re-certification inspection and report for Broward County. The existing surface water management system conveyed stormwater runoff using catch basins; final discharge into the canal was achieved by using an outfall.

Enterprise Commerce Center #11, Deerfield Beach, Florida A commercial project consisting of commercial tilt-up buildings and parking lots. Conducted Surface Water Management 5-year

FIRM
CES Consultants

EDUCATION
Bachelor of Science, Civil Engineering, Instituto Tecnológico de Santo Domingo (2014)
Project Management and Execution Certificate, Quality Global Business (2014)

REGISTRATIONS
Engineer Intern, Florida

FDEP Qualified Stormwater Management Inspector, #36172

FDOT Intermediate Work Zone Traffic Control Certification, #15002

Autodesk AutoCAD Civil 3D, #17428036F5

CTQP, QC Manager

CTQP, Asphalt Paving Technician Level 1

license re-certification inspection and report for Broward County. The existing surface water management system conveyed stormwater runoff using catch basins; final discharge into the canal was achieved by using an outfall.

Hawk's Cay Marina Improvements, Monroe County, Florida A marina improvement project located in Duck Key. The site civil development included improved water main installation for dock service and fire suppression. Water main site inspections were performed for this project.

SW 45th Way Infrastructure Improvement, Deerfield Beach, Florida The purpose of this project was to complete the infrastructure required to serve each undeveloped parcel contained in the LEDDS ADDITION PLAT, through SW 45th Way. Project included the following site civil development: gravity sanitary sewer, potable water main, fire suppression system, surface water management system, grading, pavement, pavement marking and signage, and SWPPP plans.

Oakmonte Davie, Florida Senior Care Facility with 199 units, located on an 9.0-acre parcel on Stirling Road. The amenities for this facility include green areas, gazebos, and a walking path around an onsite pond. Project included the following site civil development: gravity sanitary sewer, potable water main, fire suppression system, surface water management system, grading, pavement, sidewalks, pavement marking and signage, and SWPPP plans. Site inspections performed for this project include the following: water main, sanitary sewer, roadway, and NPDES SWPPP.

Jay's Place, Fort Lauderdale, Florida Private development combining two properties. Project included site civil development: onsite and offsite parking, sidewalks, ADA compliant ramps, potable water system connection, fire suppression system, surface water management system, grading, pavement, pavement marking and signage and SWPPP plans. Site inspections performed for this project include the following: water main, roadway, storm drainage and NPDES SWPPP.

Lyons Road Maintenance of Traffic Plans, Palm Beach County, Florida A 2,435 student private charter school located on a 22-acre parcel property north of Atlantic Avenue and west of Florida's Turnpike in unincorporated Palm Beach County. Developed Maintenance of Traffic (MOT) plans per Florida Department of Transportation Standards. MOT plans included phased designs for the roadway and utility work involved in the project. Offsite roadway improvements required for the development of the school include, widening of Lyons Road from 2 to 4 lanes divided as well as right and left turn lanes and median openings. Intersection improvements are also included at Happy Hollow Road and Lyons. The project consists of full site civil development including 4,300 LF of 4" force main, 4,900 LF of 8" potable water main, 3,400 LF of 16" water main extension and 3,500 LF of 20" reclaimed water main.

Everglades Holiday Park, Broward County, Florida Project included an evaluation of the existing lift station and force main serving the 34.7-acre County Park. As part of the evaluation, the existing gravity sewer system was cleaned and videotaped. The County prepared a Master Plan which outlines the future improvements at the park. The assessment included the following: determining future flow for sizing the new lift station, 30% design plans for the required rehabilitation of the existing lift station, and installation of a new force main.

Luis Miranda, PE

Drainage Systems

Highly resourceful and dedicated Civil & Water Resources Engineer skilled in all phases of engineering solutions with an excellent customer service record. Over 21 years of experience in the areas of analysis, design, construction, supervision and project management. Lead and facilitated multiple projects that required in site design, work plan development, data collection and analysis and preparation of technical memoranda, reports and presentations for practices such as: transportation drainage; bridge and culvert hydraulic analysis; master stormwater management plans; stormwater quality treatment; design of canals, open channels, storm sewers, pumps and detention/retention facilities; sediment control design; floodplain studies; water & sewer facilities modeling and design, and low impact development plans.

EDUCATION

1992 – University of Puerto Rico, Mayagüez, PR
Bachelor of Science in Civil Engineering (BSCE)
Magna Cum Laude

1998 – University of Puerto Rico, Mayagüez, PR
Master of Science in Civil Engineering (MSCE) – Water Resources Engineering
GPA: 3.80

REGISTRATIONS

Professional Engineer, Puerto Rico

Professional Engineer, Florida

RELEVANT PROJECTS

D/B Services for West Avenue North of 14 Street, City of Miami Beach Senior Civil Engineer for conduct the design and quality assurance procedures for storm drainage design. Provide complete design services on storm and drainage design in conflict with proposed water and sanitary sewer improvements including information on design drawings for utility conflict adjustments, prepare specifications for construction of improvements, calculate quantities and prepare cost estimate for design submittals and prepare specifications for construction of improvements. The new storm drainage consists of design of new trunk line between 14th street to Lincoln Road along West Avenue. Also include new storm drainage pipes along targeted side streets (14th, 14th Terrace, 16th, Lincoln Terrace, Lincoln Road, Lincoln Court). Provide QA/QC for water and sanitary sewer systems designs. The project consists of the design, permitting, construction management, and construction of the West Avenue Phase II Improvements North 14th Street, including new storm drainage system, water system, sanitary sewer, driveways, utilities relocation among others.

Seminole Tribe Professional Civil Eng. Ser. Design Drainage Plan for Tamiami Providing QA/QC for drainage plan and design to mitigate flooding at a property owned by the Seminole Tribes of Florida.

Dow AgroSciences Complex, Dow AgroSciences Water Resources Engineer in charge of Hydrologic – Hydraulic study to determine the new bridge configuration over Quebrada Aguas Verdes to provide access for the new proposed facility. In addition, the H-H analyzes alternatives to mitigate the increase in runoff anticipated because of the development of the Project.

Optimization of Water Distribution System Project for Puerto Rico Aqueduct and Sewer Authority (PRASA)

- »In charge of a team of 8 engineers developing major water distribution system models, inspection and
- »improvement of 1,500 pump stations, and developing water system hydraulic schematic diagrams.
- »PM responsibilities: assigning and coordinating tasks, research and personnel training, planning and maintaining project schedule and deliverables, QA/QC, maintaining client satisfaction, and managing a budget of $5 million.

Senior Water Resources Engineer - Hydraulic Modeler

»Design of storm sewer, pumps, and retention/detention facilities for constructions drawing plans.

»Conducted over 30 hydrologic and hydraulic analyses for bridge and culvert hydraulic design, stream restoration, channel and stream bank stability, watershed master planning evaluations,

»floodway encroachment analysis, floodplain and floodway engineering, river and coastal flood studies including no-rise certifications, levees and reservoirs.

»Modeled over 18 storm sewer drainage systems for roads, industrial and residential sites, stormwater management plans, and retention/detention facilities in support of the design process.

»Completed 18 water distribution system optimization or water quality models (Steady State and

»Extended Period Simulations) for PRASA systems.

»Participated as staff engineer for surface water resources projects, including development impact evaluations, watershed management, design of hydraulic structures and natural channel improvements.

»Conducted over 10 bridge-culvert hydraulic and scouring analyses.

»Conducted river low flow estimates, flood frequency analyses, open channel designs, and river channelization designs.

»Quality control of technical reports submissions performed by staff.

»Mentoring junior engineer staff.

»Reviewed construction drawings, specifications and cost estimates.

Construction Project Manager - Puerto Rico Infrastructure Financing Authority (PRIFA)

»In charge of a team of 6 field engineers (inspector) for the construction of 2 Water Filtration Plants, 1 Wastewater Treatment Plant, 1 water distribution pipeline, 1 sanitary sewer pipeline, and improvements to the Puerto Rico Supreme Court.

»PM responsibilities: review construction drawings plans and specifications, review proposals for bids, estimates, scheduling, supervising construction project development, payment certifications, change orders and weekly meeting and coordination efforts with government agencies, maintaining client satisfaction, and managing a budget of $25 million.

Jose Caraballo, PE

Distribution / Collection Systems

Mr. Caraballo has over 14 years of experience in a variety of civil and environmental engineering project delivery and permitting including, approximately 110,000 L.F. of residential water main and 20,000 L.F of water treatment plant yard piping. Mr. Caraballo was the project manager for a single residential water main design totaling approximately 72,000 L.F.

FIRM
CES Consultants

EDUCATION
B.S. Environmental Engineering, Louisiana State University, Baton Rouge, LA, 2002

REGISTRATIONS
Professional Engineer, Florida, New York

RELEVANT PROJECTS

East Miramar Redevelopment Transmission & Distribution Water Main Improvements, Phase 3, City of Miramar, FL Project Manager. Lead the project team in providing engineering analysis and design services for the upgrade of approximately 72,000 L.F. of water main. The project consisted of upgrading existing 2-inch and 4-inch residential water main to a 6-inch water main.

Miramar Roadway Infrastructure Project, City of Miramar, FL Project Manager. Provided services in information gathering and the preliminary design of over 5 miles of water main, 5 miles of sewer, 5 miles of drainage, and sanitary sewer lift station upgrades. Additionally, Mr. Caraballo performed and managed the monitoring efforts for the construction activities throughout the southern half of the City of Miramar.

Design-Build Services for the Replacement of Water Mains and Service Conversions in the Shenandoah Area, Phase B, Miami-Dade County WASD, FL Engineer of Record. Mr. Caraballo is leading the design team in providing engineering analysis, design, and construction phase services for the design-build project to upgrade of approximately 46,000 L.F. of water main. The project area is bounded by SW 16th Street to the North, SW 22nd Street (Coral Way) to the South, SW 17th Street to the East, and SW 27th Avenue to the West. The project consists of upgrading existing 2-inch and 4-inch residential water main to 8-inch DI water main. The project also includes relocating approximately 675 individual water meters and services, which requires installing new copper water services within private property. Mr. Caraballo created a phasing plan to perform multiple engineering, permitting, and construction operations simultaneously. Due to the size of this project, Mr. Caraballo has engaged all permitting agencies at the early stages to discuss specific project issues, including the Miami-Dade County Department of Health, RER, City of Miami Public Works, City of Miami Fire Rescue, and City of Building Department. Ongoing. **Reference:** Lanzo Companies, Michael Green, (954) 826-2382, MichaelG@Lanzo.org.

Design of Pump Station Improvement Program (PSIP) Projects, Miami-Dade County WASD The project consists of existing pump station inspection, coordination of survey and geotechnical services, design of pump station rehabilitation or replacement, design of connecting force mains, permitting, and limited construction services. Ongoing **Reference:** MDWASD Pump Station Improvement Program, Kevin Keane, PE, kkeane@miamidade-psip.com, 786-236-3503.
The engineering work includes:

- »Pump Station 0449
- »Pump Station 0147
- »Pump Station 0331
- »Force Main 0592 (24-inch)
- »Pump Station 0440
- »Pump Station 0336
- »Pump Station 0609
- »Pump Station

»Pump Station 1026

»Pump Station 1065

Doral 48-inch Force Main Improvements Miami-Dade County WASD, FL Project Manager. Design of 48-inch diameter DIP pipeline improvements to increase wastewater transmission capacity within the Doral basin of the County's wastewater collection and transmission system. The project, located in NW 54th Street, includes approximately 4,200 feet of pipe, a micro-tunneling segment under a major highway, is located within a high-density traffic roadway, and intersects numerous utilities. Mr. Caraballo was directly involved in verifying that the design met the standards and requirements of WASD. He also analyzed and provided design solutions for utility conflicts.

72-Inch Raw Water Main BODR, Miami-Dade County WASD, FL Project Engineer for the development of a BODR for 8,800 LF of 72-inch steel raw water main. This project was 1 of 3 segments that WASD was developing to convey raw water from the Northwest Wellfield to Hiahleah-Preston Water Treatment Plants. Mr. Caraballo was responsible for utility coordination, and assisting in developing viable alternative routes.

Hialeah-Preston GWUDI Upgrades WTP and NW Wellfields, Miami-Dade County WASD, FL Project Engineer for design of over 4 miles of yard piping, including 2,900 LF of 96-inch steel raw water main. This design was part of the preparation of a conceptual and preliminary design identifying the scope and extent of the improvements necessary to fully segregate the NWWF flows from the flows of the other WASD source waters that are conveyed to the existing Hialeah and Preston Water Treatment Plants.

Jacksonville Energy Authority NW Regional Water Treatment Plant, Jacksonville FL Project Engineer for the design of approximately 2,200 LF of 24-inch and 36-inch DI water main for the site design of the WTP. The water main design included a large portion of off-site pipeline to connect the new plant to the existing water distribution system. Additionally, Mr. Caraballo assisted in the design of the site drainage and environmental issues regarding wetland preservation.

JEA West Nassau Regional Water Treatment Plant, Nassau County, FL, Project Engineer Project Manager. Design of approximately 2,600 LF of 16-inch PVC water main for the site design of the WTP. The water main design included 300 LF of 20-inch DI raw water. Additionally, Mr. Caraballo assisted in the design of the site drainage and environmental issues regarding wetland preservation.

NW 12th Avenue Force Main Replacement , City of North Miami, FL, Lead Designer Lead Designer. Design, permitting, and construction of 10,500 feet of 12/10-inch replacement force main in NW 12th Avenue extending from NW 95th Street to NW 125th Street. The project, located in Miami-Dade County and within the City, replaces aging asbestos-cement and cast iron force mains with corrosion resistant PVC pipe. A number of private force main connections require relocation and re-connection to the new force main as well as planning for uninterrupted service during construction. Mr. Caraballo was involved in the day to day design of the entire project, including design, production, and deliverable preparation.

E06-WASD-09; Task Order No. 2: Design of 1,800 LF of 8-inch Residential Water Main, Miami-Dade County WASD, FL Project Manager. Lead the project team in providing engineering analysis and design services for the upgrade of approximately 1,800 L.F. of water main. The project consisted of designing several segments of residential 8-inch water main at NE 13 Court and NW 13 Place from NE 199 Street to North Drive within the City of Miami.

E06-WASD-09; Task Order No. 3: Design of 5,800 LF of Residential Water Main, Miami-Dade County WASD, FL Project Manager. Engineering analysis and design services for the upgrade of approximately 5,800 L.F. of water main. The project consisted of designing several long segments of residential 8-inch water main along SW 64 Avenue, SW 63 Court, and SW 63 Avenue from SW 4 Street to stub-outs near SW 8 Street. This project improves neighborhood fire protection and pressures.

Gustavo Silva, EI

Lift stations / Inspection

Mr. Silva has four years of experience in the design of wastewater pump stations and force mains, inspection/testing of sanitary sewer pipes connecting to pump stations, geotechnical design for the public and private sector, foundation, concrete and structural inspection, environmental assessments, utility coordination for design and construction, and material testing.

FIRM
CES Consultants

EDUCATION
Bachelor of Science, Civil Engineering, Florida International University
Florida Registered Engineer Intern, FDOT Temporary Traffic Control

REGISTRATIONS
Florida Registered Engineer

Intern, FDOT Temporary Traffic Control Intermediate Certification , FDOT CTQP, Earthwork

Technician Level 1, FDOT CTQP,

QC Manager, Autodesk AutoCAD Civil 3D

RELEVANT PROJECTS

Design of Pump Station Improvement Program (PSIP) Projects, Miami-Dade County WASD As a project engineer, Mr. Silva is providing cost, engineering analysis, design, coordination, permitting, management for the rehabilitation and replacement of multiple pump stations for the PSIP. The project consists of existing pump station inspection, coordination of survey and geotechnical services, design of pump station rehabilitation or replacement, design of connecting force mains, permitting, and limited construction services. Ongoing **Reference:** MDWASD Pump Station Improvement Program, Kevin Keane, PE, kkeane@miamidade-psip.com, 786-236-3503.

The engineering work includes:

- »Pump Station 0449
- »Pump Station 0147
- »Pump Station 0331
- »Force Main 0592 (24-inch)
- »Pump Station 0440
- »Pump Station 0336
- »Pump Station 0609
- »Pump Station
- »Pump Station 1026
- »Pump Station 1065

FY 17 PC Culvert Project Construction Inspection and Material Testing, South Florida Water Management District As an inspector/engineer, Mr. Silva oversees the replacement/removal of outdated culverts owned by South Florida Water Management District, located on Palm Beach County, Broward County, Miami-Dade County, and Okeechobee County. The projects consist of removing or replacing existing culverts that are corroded, obsolete or outdated, using the current specifications from the United States Army Corps of Engineers. In addition, Mr. Silva develops dewatering plans, Stormwater Pollution Prevention Plans (SWPPP), and Service Life Estimator-Culvert. Ongoing. **Reference:** C-4 Canal, Jesse VanEyk, PE, 561 682 2605, jvaneyk@sfwmd.gov.

Design-Build Services for the Replacement of Water Mains and Service Conversions in the Shenandoah Area, Phase B, City of Miami, FL Project engineer for the design-build project upgrade of approximately 46,000 L.F. of water main. The project area is bounded by SW 16th Street to the North, SW 22nd Street (Coral Way) to the South, SW 17th Street to the East, and SW 27th Avenue to the West. The project consists of upgrading existing 2-inch and 4-inch residential water main to 8-inch DI water main. The project wet tap connections include 8-inch, 16-inch and 24-inch pipes. Ongoing. **Reference:** Lanzo Companies, Michael Green, (954) 826-2382, MichaelG@Lanzo.org.

Sanitary Sewer Evaluation Survey (SSES), Miami-Dade County Public School (MDCPS Project manager for the evaluation of sanitary sewer system(s) of 24 county schools. The schools are required to be in accordance with Chapter 24 of the Miami-Dade County Code (MDCC), that each privately and publicly operated sanitary sewer system needs to be evaluated on periodic basis. Each sanitary system should implement a Sanitary Sewer Evaluation Survey (SSES) and if required a rehabilitation program, as stated by the U.S. EPA's Sewer System. The SSES involves a visual inspection, smoke testing the collection system and a flow test on the wet well pump/lift station.

Ocean Outfall Pump Test, North District WWTP, Miami-Dade County WASD, FL Staff engineer for conducting pump tests on six (6) WWTP effluent pumps for the ocean outfall discharge facility. The 75 MGD (52,000 GPM) pumps were tested for various head and flow conditions to determine the existing capacity of the pumps compared to the manufacturers pump curves.

Pump Station at Indian Creek and 43rd Street, Miami Beach, FL Project manager/geotechnical engineer for the foundation design of a pump station located in an area with problematic soil conditions, high groundwater, and a constrained construction site where ground improvement techniques were evaluated resulting in substantial project savings.

S.R. 907/Alton Road - 43rd Street to Bascule Bridge No. 870613 (2.6 miles), Miami Beach, FL Project manager/geotechnical engineer responsible for improvements along S.R. 907 in Miami Beach. The project includes widening Alton Road in various areas, new traffic signal mast arms, and stormwater drainage improvements that include temporary sheet piles/helical piles for pump stations.

S.R. 997/Krome Avenue - S.W. 296th Street to 232nd Street (4 miles), Miami-Dade, FL Project manager/geotechnical engineer involved widening of S.R. 997. Improvements along Krome Avenue include stormwater drainage, traffic signal mast arms, and a new bridge design.

S.R. 708/Blue Heron Boulevard Improvements (1.7 miles), Palm Beach County, FL Staff engineer involved with improvements along S.R. 708 in Palm Beach County, Florida. The Improvements include widening Blue Heron Boulevard in various areas, improving the southbound off-ramp, and traffic signal mast arms at the intersection of I-95.

I-75 (SR 93) at Griffin Road (SR 818) (2 miles), Broward County, FL Staff engineer involved with improvements to the intersection of I-75 (S.R. 93) and Griffin Road (S.R. 818) in Broward County. The improvements include widening of I-75 in various areas, improving the off-ramp at the intersection and traffic signal mast arms on Griffin Road.

Flagler Memorial Geotechnical Services, Palm Beach County, FL Staff engineer responsible for conducting field explorations with soil borings performed to depths greater than 200 feet. This project was conducted as part of an emergency study, and sampling was performed with day and night operations.

Hector Velez

Field Investigations

Mr. Velez has over 16 years of experience in general, commercial and underground construction. My expertise encompasses management of manpower allocation, material take-off, and procurement, scheduling, quality control, quality assurance; among large-scale projects such as recreational and educational facilities, residential and commercial construction, underground utilities; including tunnels, micro-tunnels and sliplining installation of small and large diameter pipelines. I am also experienced with shafts construction, backfill grouting, dewatering, maintenance of traffic and Miami-Dade County Water and Sewer's construction standards and regulations.

FIRM
CES Consultants

EDUCATION
American Senior High School

RELEVANT PROJECTS

Design-Build for Sliplining of 24,400 feet of 72-inch Forcemain along NW 159th Street Between NW 10th and 17th Avenue Responsible for: organizing, assigning and overseeing of construction tasks. I was in charge of the construction of temporary structures such as shafts, trench supports and formworks, and inspection of sliplining of and backfill grouting. I was also responsible for the development and implementation of the First Response Safety Team.

Design-Build of 54, 48, 36 and 30-inch Gravity Sewer Interceptors for Master Pump Station No. 3 – Package A Duties included, but were not limited to, labor supervision, coordination and support to shafts and micro tunneling sub-contractors, maintenance of traffic, project close-out and safety.

Design-Build of 54, 48, 36 and 30-inch Gravity Sewer Interceptors for Master Pump Station No. 3 – Package Supervision and inspection of the: organization, assigning responsibilities, overseeing construction tasks of laborers. Also responsible for scheduling.

Design Build for the Replacement of an Existing 20inch Water Main from Port Island to Fisher Island under Fisherman's Channel and Replacement of an Existing 54inch Force Main from Fisher Island to South of the City of Miami Beach under Government Cut Responsibilities Construction of 2 to 25 foot and a 16-foot diameter shaft to depths varying from 85 to 107 foot deep with a 4-foot concrete plug that was excavated with a clam shell. I was also in charge of overseeing and working with the pipeline connections installed within the tunnel and shafts. I aided and supervised the grouting and drilling of secand piles including final concrete work and verticality.

Everglades Pump Station Culvert Walls, Compartment C Project and multiple levees Overseeing the construction of 30-foot high wall over 120 feet slab of concrete that was 30 feet wide by 4 feet thick. I supervised the welding of the waterstops.

Toll Plaza Office Building, Pompano, Florida Responsibilities – Responsible for the coordination and manpower allocation, material take-off, equipment and layout for the construction of formwork

Emerald Hills – Bank of America Building Organizing, assigning responsibilities, overseeing construction tasks of laborers. Also responsible for budgeting and scheduling.

Projects

- International Corporate Park – Building H. Warehouse, Doral, Florida
- Commissary Building at Miami International Airport, Miami, Florida
- Dept. of Transportation Generator Building, Ft. Lauderdale, Florida

»Glass Aluminum- Demolition and construction of vertical wall and roofing restoration, Miami, Florida

»Shops at Midtown Miami-South Block-North Garage and Retail, Miami, Florida

»Heron Bay Clubhouse, Parkland, Florida

»Hallandale Elementary Replacement School, Hallandale Beach, Florida

»Stock Island Fire Station, Monroe County, Florida

»Nelson English / Willie Ward Park Enhancement, Key West, Florida

Overseeing and responsible coordination of manpower allocation, material take-off, equipment and layout for the construction of form-work.

ivan lara

Cost Estimator

Primarily, prepared bids for highway construction, bridge replacements, tunnels, mass excavation, pump station retrofits, and flood control structures. Also bid municipal and county wide right-of-way (R.O.W.) improvements, total site development, recreational parks & playgrounds (5 - 300 acres), embankment stabilizations, and storm culvert improvements. Duties consisted of preparing MLE estimates for the installation of UG utilities, asphalt paving, site grading, aggregate placement, erosion control, retaining wall systems, landscaping, guardrail, fencing, traffic signals, lighting, and MOT. I also prepared estimates for the installation of water mains, sewer mains, force mains, and storm drainage. Moreover, my duties also consisted of deriving quantities for concrete and steel bridge construction such as: sheet piling, concrete pilings, pier caps, columns, abutments, sloped pavement, PC girders, and CIP decks. Finally, I also prepared concrete takeoff s and bids for water & waste water treatment plants, fl ood control structures (pump stations, locks, weirs, & spillways), seaports, and airport taxiways for various government entities such as for FDOT, SFWMD, USACE, WASD, Miami Port of Authority & US Coast Guard.

FIRM
CES Consultants

EDUCATION
Florida International University
B.S. in Civil Engineering, June 2001

REGISTRATIONS
Professional Estimators Society
OSHA 10-Hour Trained

RELEVANT PROJECTS

I-75 Segment-E FDOT E4N44, Ft. Lauderdale, FL $74.5M. New express lanes (2) lanes SB and (2) lanes NB in existing I-75 median (a well as express lanes connection to the I-595 corridor). Construction begins just North of Griffi n Rd to the I-595 Corridor and just west of Flamingo Rd. Improvements include bridge widenings, drainage work, lighting, signage, toll gantry, signalization, fencing, pavement marking, landscaping, and asphalt works.This project consist of approx. 138,400TN of super pave asphalt and 42,300TN of friction course.

SR-23 Segment-1 FDOT E2Q19, Jacksonville, FL $77.6M. Reconstruction & widen-ing improvements along SR -23 (a well as an extesion of SR-23 to go through N. Cecil Commerce Center alignment) from 103rd St to the I-10 Corridor. Improvements include (2) lanes to (4) lanes divided highway with 6 new bridges, and 6 bridge widenings, drainage work, lighting, signage, toll gantry, signalization, fencing, pavement marking, landscaping, and asphalt works. This project consist of approx. 156,500TN of super pave asphalt and 58,900TN of friction course.

NW 25th Street Viaduct & SR-836, Miami, FL $58.5M. Widening of NW 25 St from (4) lanes to (6) lanes. Also calls for construction of a new viaduct bridge from the Palmetto (SR 826) to 89 Ct. The viaduct is to be (2) lane (one EB & one WB) elevated bridge situated over the north side of NW 25. Viaduct length 7100 LF with over 60 spans, 36,200 LF AASHTO Girders, 9,300 CY Concrete, 39,600 TN of SP structural asphalt, and 10,300TN of friction course. The work also includes new signals, lighting, signs, striping, landscaping, drainage, water & sewer mains, and pedestrian features.Emerald Hills – Bank of America Building yOrganizing, assigning responsibilities, overseeing construction tasks of laborers. Also responsible for budgeting and scheduling.

- »Bid land clearing, mass excavation, site development, underground utilities, storm culverts, and highway infrastructures mass excavation, site development, underground utilities, storm culverts, and highway infrastructures.
- »Bid subdivisions, commercial developments, right-of-way, parks, golf courses, sport complexes, and municipal facilities.
- »Prepare take-offs: paving, grading, drainage, water mains, sanitary sewer, gas mains, force mains, lift stations, & conduits.

»Prepare take-offs: utility relocation, fiber optic, lighting, communication, bridge mounted conduits, and mast arm lighting.

»Prepare take-offs: striping, signage, pavers, driveways, sidewalks, curbs, fencing, guardrail, landscaping, and irrigation.

»Prepare take-offs: embankment, stabilization, optional base, spoil removal, dry retention, and canal & lake excavation.

»Earthwork take-offs: cut, fill, site balance, hauling, soil testing & mixing, rock blasting patterns, and contaminated soil.

»Bid highway and bridges design built projects in eastern hemisphere of US with budgets of $150Mâ€“ $4 Billion dollars. Tunnels, seaports, water control, STA retrofits, and electrical transfer stations.

»Derive: scopes, bid items, quantities, compassion sheets, and final items and quantity reconciliation with JV partners.

»Delegate tasks and appropriate personnel needed in estimating team to complete assignments and meet bid deadlines.

»Draft preliminary budget proposals and recommend alternate value engineering costs savings during the proposal stage.

»Deliver daily/weekly/monthly progress reports to insure personnel tasks and assignments are completed as required.

»Scheduled meetings with chief estimators and PMâ€™s daily/weekly/monthly to review progress and receive new assignments.

»ÂBid FDOT, USACE, SFWMD, WASD, municipal, and government projects with budgets of $50Mâ€“ $150 Million dollars.

»Foundation: caissons, drill shafts, concrete piles, sheet piles, bulkheads, soil anchors, & marine tressel configuration.

»Substructure: tower & column erection, pier caps, abutment walls, MSE walls, sloped pavement, and retaining walls.

»Superstructure: FIB, steel girders, CIP deck, diaphragms, PCCP, false-work, SIP forms, joints, and bridge bearings.

»Traffic walls: rigid shoulders, median barrier, variable walls, sound barrier walls, moment, coping, and approach slabs.

»Highway: signalization, lighting, electrical, overhead signs, striping, ITS, Toll gantry, SCADA, mechanical, and MOT.

»Bid water treatment plants, municipal facilities, laboratories, flood control, seawalls, taxiways, and roadway structures.

»WTP: degasify chambers, chlorination tanks, anti-coagulation, oxygenation trains, chemical storage, and sedimentary.

»STA: pump stations, culverts, canals, spill ways, locks & weirs, sluice gate systems, underground vaults, and dry docks.

»Perform take-offs: box culverts, geo-textiles, articulated mats, rip-rap, stone armoring, metal grates, and sluice gates.

»Prepare take-offs for reinforced concrete, rebar, rod busting, pouring sequences, CMU walls, and structural pre-cast.

»Qualify scopes: site-development, structural steel, precast, metal grates, roofi ng, telemetry, power generation, & MEP’s

FIRM
CES Consultants

EDUCATION
Specialization in Geotechnical Engineering (Master of

Science in Geotechnical Engineering – US Equivalent),

Universidad Simón Bolívar, Caracas, Venezuela

Bachelor Degree, Geological Engineering, Universidad Central de Venezuela, Caracas, Venezuela

REGISTRATIONS
Autodesk Certified Professional for AutoCAD and AutoCAD Civil 3D, Autodesk. Inc., 2008
Autodesk Partner Service Certified for AutoCAD, AutoCAD Civil 3D, and AutoCAD Map 3D, Autodesk. Inc., 2008
Autodesk Implementation Expert Certified, Autodesk. Inc., 2008
Autodesk Certified BIM Specialist, Road and Highway Solution, Autodesk. Inc., 2015
Autodesk Authorized Instructor, Autodesk. Inc., 2008
Autodesk Certified Instructor, Autodesk. Inc., 2016
AEC Civil Infrastructure Specialization Certification for Technical, Autodesk. Inc., 2014
Autodesk Expert Elite, Autodesk. Inc., 2017

Tatiana C. Machado

Infrastructure Technology

Accomplished Infrastructure Manager with over 10 years' experience delivering training and providing consulting services. Expert AutoCAD Civil 3D user with five+ certifications. Instrumental in providing technical support, training, and implementations for Autodesk Infrastructure applications and CAD professionals.

RELEVANT PROJECTS

DIGITAL DRAFTING SYSTEMS, Miami Lakes, FL

»Deliver training and consulting services, for Digital Drafting Systems and Down To Earth Technologies including completing software implementation and adopting improved workflow.

»Work with and provide technical support for AutoCAD, AutoCAD Civil 3D, InfraWorks, and AutoCAD Map 3D.

»Complete implementations, configure and troubleshoot network installations and deployments.

AUTODESK, INC., San Francisco, CA Provided technical support for all infrastructure software's worldwide in English and Spanish.

DIGITAL DRAFTING SYSTEMS, , Miami Lakes, FL Delivered training and followed up with client as needed. Completed implementations, conducted deployments, configured and troubleshot network installations for Digital Drafting Systems and Down To Earth Technologies.

Blake Guillory, PE, D.WRE
Compliance / Permitting

Mr. Blake Guillory has a diverse blend of public and private sector senior management and executive experience providing creative and strategic solutions to his clients and projects throughout his 29-year career.

FIRM
CES Consultants

EDUCATION
MBA, Business Administration, University of South Florida
M.E., Civil Engineering, University of South Florida
B.S., Petroleum Engineering, Texas A&M University

REGISTRATIONS
Professional, Florida,

Diplomate of Water Resources Engineering (D.WRE

RELEVANT PROJECTS

As President of CES Consultants he is responsible for the overall performance of the firm and is engaged every day with clients and projects. He has worked at all levels of project leadership including Principal-in Charge, Project Director, Project Manager, and Project Engineer on hundreds civil and water resources infrastructure projects. His experience encompasses master planning and design for water, wastewater and stormwater utilities, civil site engineering, surface water hydrology and hydraulic modeling, water quality, permitting, specifications and construction services.

He recently served as Executive Director of the Southwest Florida Water Management District where he doubled the budget for cooperative funding projects for local government from $33M to $70M per year. As Executive Director for the South Florida Water Management he oversaw the District's efforts to receive approval of the $3B Central Everglades Planning Project (CEPP) Chief's Report. He re-established the cooperative funding program and led the creation of a $1B master list of needed public water projects in the 16-county area. He promoted an updated vision of operations and maintenance for the $13B Central and Southern Flood Control Project and the ongoing life cycle analysis its infrastructure, most of it constructed 50 years ago. He also saw the completion of the A-1 and L-8 Flow Equalization Basins, and started construction of the C-44 and C-43 reservoir projects and also restarted the modeling and evaluation of South Dade operations to address flooding. But he will be most remembered for creatively negotiating a package deal with the US Army Corps of Engineers to complete the Kissimmee River Restoration, Ten Mile Creek and the C-111 South Dade Projects.

Prior to his public sector experience, he was Vice President and Area Manager for Brown and Caldwell leading 6 offices providing water, wastewater, stormwater, solid waste, environmental sciences and business consulting expertise. For PBS&J/Atkins his experience progressed from Practice Leader to Vice President/Sr. Division Manager leading water resources teams and projects from Virginia to Florida. At CDM he provided Practice Leader and Project Manager/Engineer services on a wide variety of water resources projects throughout Florida.

REPRESENTATIVE PROJECTS:

- »Canal Restoration Projects-$24M, Opa-locka, FL
- »Broadmoor Neighborhood Redevelopment, Palm Beach County, FL
- »C-4, C-6 and C-9 Basin Master Plans, Miami-Dade County, FL
- »Ten Mile Creek Reservoir and Stormwater Treatment Area, USACE, St. Lucie County, FL
- »Little Manatee River Watershed Plan, Hillsborough County, FL
- »Stormwater Treatment Area, Compartment B Buildout, SFWMD
- »Stormwater Master Plans, Escambia, Pasco, Bay, and Brevard County, FL

Ranthus Fouch, PE

Water/ Wastewater Engineering

Mr. Fouch has over 44 years of experience with responsibilities including client service, engineering, planning, and construction services, project delivery, and quality assurance. His professional engineer experience and areas of responsibility have focused on water supply and wastewater facilities and infrastructure for municipal and private clients. Mr. Fouch has served as principal engineer in projects for Hollywood, Broward County Water and Wastewater Services, Sunrise, Miramar, SFWMD, West Palm Beach, Palm Beach County Water Utilities, North Miami Beach, North Miami, and MDWASD.

FIRM
CES Consultants

EDUCATION
BS Civil Engineering,
University of Connecticut

REGISTRATIONS
Professional Engineer, Florida,
New York

RELEVANT PROJECTS

District 2 Well Replacement, Broward County Water and Wastewater Services Design/ permitting for rehabilitation, Well Nos. 8 and No. 9 to improve water quality, and well field efficiency.

Broadview Estates Neighborhood Sewer Improvement Project, Broward County Water and Wastewater Services Project Manager. Design of 20,000 LF of replacement gravity sanitary sewer including a cost saving assessment of gravity sewer layout within three sub-basins.

Alternative Water Supply (AWS) Master Plan, Broward County Water and Wastewater Services QA/QC and Technical Advisor for development of a comprehensive assessment of the County's future water supply needs, together with the available sources of supply that may be developed to meet future needs.

2A Water Treatment Plant Interim Disinfection Solution, Broward County Water and Wastewater Services Evaluation of disinfection infrastructure improvement options for WTP 2A to provide 4-log virus reduction required by FAC 62-555.320(12)(b) ("Bird Rule").

Distribution System Operational Practices Manual Update, Miami-Dade WASD Project/ Technical Manager. Update of the Water Distribution Division's Operations and Maintenance Manual for the Water Distribution System.

2011 Annual Water Loss Reduction Report, Miami-Dade WASD Project/Technical Manager. Annual update for MDWASD's 20-Year Water Loss Reduction plan as required by the SFWMD.

City of Hollywood Deep Injection Wells Project Manager/Technical Advisor. Site planning, design, and permitting for two (2) DIWs and one dual zone monitoring well (DZMW), and construction services for one DIW and DZMW, for disposal of water treatment residuals, and redundancy for wastewater treatment effluent disposal.

City of Hollywood Deep Injection Well Pump Station Preliminary planning, site layout, and design for the two deep injection wells.

City of Hollywood Water Treatment Plant Raw Water Meter Design, permitting, and construction services for new raw water meters for Biscayne wells.

City of Hollywood Water Treatment Plant Expansion Design, permitting, and construction services for new reverse osmosis treatment units for new Floridan Wells.

City of Hollywood Raw Water Main and Acid Piping Replacement Technical advice concerning critical situations of a large diameter pipe bursting incident due to construction contractor error, and acid feed system failures.

City of Hollywood 2012 Lower East Coast Water Supply Plan Update of the water supply plan for revised water demand projections for the City.

Water Treatment Plants 1A and 1A-2 New Water Storage Tanks, Broward County Water and Wastewater Services Basis of design reports for siting and design criteria for two (2) water storage tanks (1.0 and 1.5 MG).

Floridan Test Wells, City of Sunrise Project/Technical Manager. Site planning and design, hydrogeologic aquifer modeling, well design, and construction services for two (2) Floridan wells for drinking water supply.

Raw Water Pipeline for Floridan Wells and Reuse Pipeline, 7,000 LF, City of Sunrise Routing analysis, basis of design and hydraulic criteria, final design and permitting.

Demolition of Park City Water Treatment Plant, City of Sunrise Planning, design, permitting, and construction services for demolition and site restoration.

Springtree Biscayne Aquifer Wellfield Rehabilitation, City of Sunrise Basis of design, final design, permitting and construction services for sixteen (16) wells.

Springtree Biscayne Replacement Wells and Wellheads, City of Sunrise Basis of design, final design, permitting, planning for construction in active golf course, and construction services for eight (8) wells.

Southwest Water Treatment Plant Biscayne Well Rehabilitation, City of Sunrise Evaluation and performance testing of three (3) wells.

Springtree Deep Injection Wells, City of Sunrise Site planning, design, and permitting for two (2) DIWs and one dual zone monitoring well for disposal of water treatment residuals, and redundancy for wastewater treatment effluent disposal.

Assistance During Boil Water Event, City of Sunrise Technical advice concerning Springtree Well failure.

Norwood WTP VOC Removal (Phases 1 and 2), North Miami Beach Project/Technical Manager. Planning, basis of design, final design, and permitting for Phases 1and 2, construction services and startup for Phase 1, of a VOC removal system for treatment of water from sixteen (16) Biscayne wells, prior to the lime softening WTP.

Automated Meter Reading Pilot Study, Miami-Dade WASD Project/Technical Manager. Technical advisor for study of application of AMR technology, and field application planning.

Consent Decree Pump Station Improvement Program Miami-Dade WASD Project/QA Manager for design and construction for improvements to and replacement of wastewater pump stations, and associated force mains, to bring the facilities into compliance with the EPA Consent Decree, and within DERM operational parameters.

Doral 48-inch Force Main Improvements Project, Miami-Dade WASD Design of 48-inch diameter PCCP pipeline improvements to increase wastewater transmission capacity within the Doral basin, located in NW 54th Street, includes approximately 4,200 feet of pipe, a jack-and-bore segment under a major highway, and located within a high-density traffic roadway, and intersects numerous utilities.

Chang Jin, PE, PHD

Modeler

FIRM
CES Consultants

EDUCATION
Ph.D. in Civil Engineering with degree area: Hydrology, hydraulics, and Water Resources. 1991. Jointly Xi'an University of Technology and National University Ireland, Galway, Ireland.

M. S. in Computer Engineering. 2003. University of Minnesota.

M. S. in Civil Engineering with degree area: Hydrology, hydraulics, and Water Resources. 1986. Xi'an University of Technology.

B. S. in Civil Engineering, 1983. Xi'an University of Technology.

REGISTRATIONS
Professional, Florida

Mr. Jin has twelve years of experience in hydrology, hydraulics, water resources, watershed modeling, watershed delineation, stormwater retrofit design, drainage study, FEMA Digital Flood Insurance Rate Map (DFIRM), CIP development, water quality monitoring, Quality Assurance Program Plan (QAPP), hydrological and hydraulic data analysis, and data QA/QC, etc. Solid experience in TMDL, ERP application, BMAP planning and design, ArcGIS, ArcHydro, LiDAR data application, and and Geo-database development.. Model experience: ICPR, PONDS, HEC-RAS, HEC-GMS, SWMM, BASINS, SWAT, HSPF, DRAINMOD, etc.

RELEVANT PROJECTS

Project Manager/Senior Engineer

»Project manager/project engineer and program manager of SFWMD's Hydrology and Hydraulics contract. Managed projects in data QA/QC for Stormwater Treatment Areas (STAs), H&H data collection and measurement, flow data rating analysis, database update, technical writing, proposal writing, client relations and team up with other companies.

»Lead engineer/project engineer in numerous projects of watershed delineation, watershed master plan development, watershed modeling, FEMA's DFIRM development TMDL, BMPs, CIP, water quality monitoring, flow data collection, ArcGIS in water resources analysis, ArcHydro application in water resources, database development, report review and result QA/QC.

»Technical writer for proposals and reports.

ZFI Engineering & Construction, Inc

»Managed the daily work of engineer team

»Developed over $1.5 million worth of project

»Developed the team from five to eleven

»Proposal and report writing.

Oklahoma State University. Stillwater, OK Research on sediment TMDL, watershed modeling applications of SWAT (Soil and Water Assessment Tools), and grant proposal and publication writing.

University of Minnesota, St. Paul, MN

»Research on water quantity and quality of subsurface drainage and its effect on surface water hydrology and water environment.

»Assisted in establishment of field experimental stations, data collection/processes, model development (DRAINMOD), grant proposal and publication writing, and result presentation.

National Sedimentation Laboratory, USDA, Oxford, MS Lead researcher on vegetative filter strips (VFS) in erosion and sediment control, including flow hydraulics, sediment movement, and deposit mechanics in VFS. Work included equipment design and set up, experiment, data collection/processes, student supervision, and report writing and result presentation.

Representative Publications

»J.J. Wiersma, G.R. Sands, H.J. Kandel, A.K. Rendahl, C.X. Jin, and B.J. Hansen, 2010. Responses of Spring Wheat and Soybean to Subsurface Drainage in Northwest Minnesota. Agronomy. Journal. 102:1399-1406.

»Jin C.X., G.R. Sands, J. Wiersma, and H. Kandel. 2008. The Influence of Subsurface Drainage on Soil Temperature in a Cold Climate. J. of Irrigation and Drainage Engineering (ASCE). 134(1):83-88.

»Jin C.X., G.O. Brown, and D.E. Storm. 2005. Habitat Comparison Between Impaired and Reference Streams. ASAE Publication No. 701P0105.

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»Jin C.X. and G.R. Sands. 2003. The Long-Term Field-Scale Hydrology of Subsurface Drainage Systems in a Cold Climate. Transactions of the ASAE 46(4):1011-1021.

»Sands, G.R., C.X. Jin, A. Mendez, B. Basin, P. Wotska, and P. Gowda. 2003. Comparing the Drainage Flow Prediction of the DRAINMOD and ADAPT Models in a Cold Climate. Transactions of the ASAE 46(3):635-656.

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»Jin C.X. and M.J.M. Romkems. 2001. Experimental Studies of Factors in Determining Sediment Trapping in Vegetative Filter Strips. Transactions of the ASAE 44(2):277-288.

»Jin C.X., M.J.M. Romkens, and F. Griffioen. 2000. Estimating Manning's Roughness Coefficient for Shallow Overland Flow in Non-Submerged Vegetative Filter Strips. Transactions of the ASAE 43 (6): 1459-1466.

»Jin C.X. and M.J.M. Romkens. 2000. Modeling Deposition Process in Vegetative Filter Strips. International Journal of Sediment Research 15(1).

»Jin C.X. and M.J.M. Romkens. 2000. Sediment Trapping by Vegetative Filter Strips. International Journal of Sediment Research 15(2).

»Jin C.X. and M.J.M. Romkens. 2000. Performance of a Modified Syntron Vibra-Flow Sediment Feeder

CARTAYA & ASSOCIATES ARCHITECTS P.A.

PROFESSIONAL RESUME

MARIO CARTAYA

AIA

CEO/Principal Architect

Licenses and Certifications

American Institute of Architects #38290318
Florida Registered Architect & Planner #AR0007787
NCARB Registration #34447
Uniform Building Code Inspector's License

Mario Cartaya is the Founder and Principal Owner of Cartaya and Associates Architects.

He has built one of the area's most stable and successful Architectural Firms. His work has been recognized in several magazine and newspaper articles and covers. He has received numerous local and national awards including five (5) Broward County Proclamations and national AIA awards.

Mario has also dedicated himself to giving back to the community. He served eight years as a member and chair of the Broward College Board of Trustees, sixteen years on Senator Bob Graham's Air Force and Naval Academy Selection Committees, and four years on the Broward County Cultural Arts Council. Mr. Cartaya was, furthermore, an Adjunct Professor at the School of Architecture, Florida Atlantic University from 1995 to 2007.

His life has been dedicated to the pursuit of excellence in his professional career and the improvement of the community in which he lives.

Educational Background

- Bachelor of Architecture - Magna Cum Laude University of Florida - 1974
- Masters in Building Construction - High Honors University of Florida - 1975

Academia

- Adjunct Professor at Florida Atlantic University School of Architecture - 1995 to 2007
- Chair of the Department of Architecture,
- Civil Engineering, and Interior Design
- Broward Community College - 1979 to 1981
- Instructor at Broward Community College 1979 to 1990

Appointments

- Gubernatorial Appointment: Member, Board of Trustees Broward Community College, 1991-1999 Chair, Board of Trustees Broward Community College 1994 and 1998
- Senatorial Appointment: Service Academy Nominating Committee For U. S. Senator Bob Graham, 1986 to 2005
- Broward County Commissioners Appointments: Broward County Construction Management Process Blue Ribbon Committee, 1992 – 1993
- Broward County Cultural Arts Council
- Chair of the Broward County Image Committee 1997 – 2000
- North Broward Hospital District Appointment:
- Imperial Point Hospital Community Relations Council, 1988 – 1990
- School Board of Broward County Appointments:
  - Blue Ribbon Committee, 1990 – 1991
  - Equity Committee, 1990-1991

Past Professional Affiliations

- Tocqueville Society (United Way)
- American Cancer Society - Hispanic Outreach
- American Institute of Planners
- Board of the Institute of International Studies
- Broward County International Task Force Committee
- Broward County School Board - Principal for a Day
- Broward County School Board - Mentorship Program
- City of Sea Ranch Lakes - Beach Board of Directors
- The Florida Association of Community Colleges
- Fort Lauderdale - Youth Athletic Programs
- Family Services Agency
- Hispanic American Democratic Club President 1988 through 1990
- Holy Cross Institutional Review Committee
- Host Family, Family Services Agency - Sponsor
- Nova University Enterprise Ambassador (Mentorship Program)
- City of Fort Lauderdale PUD Zoning Advisory Committee
- Miramar Cultural Trust

Present Professional Affiliations

- American Institute of Architects
- AV Med Health Plans Board of Directors
- Broward Workshop
- National Council of Architectural Registration Boards

CERTIFIED ARCHITECT CORPORATION BY THE STATE OF FLORIDA #AAC001388

2400 E COMMERCIAL BOULEVARD | SUITE 201
FORT LAUDERDALE | FLORIDA | 33308

PHONE (954) 771-2724
WWW.CARTAYAANDASSOCIATES.COM

CARTAYA & ASSOCIATES
ARCHITECTS P.A.

AWARDS & RECOGNITIONS

TODAY

- Proclamation by the Broward County Commission; "Broward Means Business – Cartaya & Associates Architects Day," May 23rd 2017
- Award, Best Civic/Public Project Pembroke Pines City Center
- 2016 Associated Builders & Contractors Excellence in Construction, Community/ Public Services for the Jean & David Colker Center - United Way of Broward
- "Mario Cartaya Scholar Award" Broward College Annual Scholarship for Architectural Students
- "Certificate of Merit" by the American Institute of Architects - Academy of Architecture for Justice for the Broward County Civil/Family Courthouse, 2011
- 2011 Hispanic Unity Entrepreneurial Award "Hybrid" Innovative Leadership
- Proclamation by the Broward County Commission; "30th Anniversary of Cartaya and Associates Architects Day," May 29th 2009
- Proclamation by the Miramar City Commission; "30th Anniversary of Cartaya and Associates Architects Day," May 29th 2009
- "Project of the year Award in Structures" by the American Public Works Association for the City of Hallandale Beach Water Treatment Plant, November 7th 2008
- "Delivering Service Excellence Award" by Balfour Beatty Construction, 2008
- "Award of Excellence" by the American Institute of Architects for the Fort Lauderdale / Hollywood Airport Consolidated Car Rental Facility, 2006
- "Excellence In Construction" by ABC/ Tarmac for the City of Miramar Town Center, 2006
- Proclamation by the Broward County Commission; "25th Anniversary of Cartaya and Associates Architects Day," August 27th 2004
- "Lifestyle Design Achievement Award" by the City of Miramar, 2002
- "Top 500 Florida Construction Projects" by REED Construction Data for the Fort Lauderdale-Hollywood Airport Consolidated Car Rental Facility, 2002
- Proclamation by the Broward County Commission; "Mario Cartaya Appreciation Day," March 29, 2001
- "1st Place Institutional $15-30 Million" by Associated Builders and Contractors for the City of Miramar Town Center, 2000
- "1st Place National Tilt-Up Achievement Award" for the ABC Distributing Center, 2000
- "Honors Mario Cartaya" Award, Miramar Community School, 2000

1990s

- Winner; Second Annual Community Appearance Board Award, City of Miramar Florida, 1999
- Proclamation by the Commissioners of Broward County; "Cartaya and Associates, Architects, P.A. Appreciation Day", August 27, 1999
- Plaque, "In Recognition of Outstanding Service and Quality Architecture for the City", City of Miramar, 1999
- "Honors Mario Cartaya" Award, Miramar High School, 1999
- "Project of the year Award" by the American Public Works Association for the City of Miramar Wastewater Treatment Plant & EOC, 1998
- "In Recognition of Outstanding Achievement and Excellence" Award, Kendall Lakes Homeowner's Association Award, 1992
- "Certificate of Appreciation" Award, United Way of Broward County, 1991
- Appointment to the Broward Community College Board of Trustees by Governor Lawton Chiles, 1990

1980s

- L. Clayton Nance Memorial Award – for Contributions to the Preservation of the Heritage of Broward County, Broward County Commission, 1981
- "Community Appreciation" Award, Board of County Commissioners and the Historical Commission, 1981

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CARTAYA & ASSOCIATES
ARCHITECTS P.A.

PROFESSIONAL RESUME

JUAN JUSTINIANO

AIA, AICP, LEED AP BD+C
Vice President

Licenses and Certifications

American Institute of Architects # 30063757
Florida Registered Architect #94371 NCARB
Registration #112046
American Institute of Certified Planners #141945
LEED AP BD+C #10476514

Juan Justiniano has been with Cartaya and Associates since 1999. He has been practicing Architecture and Planning for over 30 years, and thus brings significant experience in private and public projects to our Company.

His private endeavors entail a notable amount of architectural work in single family and multifamily residential developments.

Juan's managerial experience with planning public entities and participation in the development of master and comprehensive plans also bring critical expertise to our firm. He has complemented his professional practice with an active involvement in teaching architecture and urban planning.

Educational Background

- Bachelor of Architecture - Specialization in Structures Texas Tech University - 1986
- Masters in City Planning - Fulbright Scholar Georgia Institute of Technology - 1992

Academia

- Instructor at University of Santa Cruz – Bolivia Department of Architecture, 1992-2000
- Instructor at the Catholic University of Bolivia Department of Architecture, 1997-1998

Appointments

- Public Arts Committee Member, City of Coral Springs -2016
- University of Santa Cruz, School of Architecture, Faculty Coordinator, Area of Urbanism.
- University of Santa Cruz, School of Architecture Faculty Advisory Committee.
- University of Santa Cruz, School of Architecture, Master Degree Faculty Advisory Committee. Member American Institute of Architects

Professional Affiliations

- Member, American Institute of Architects Member, American Institute of Certified Planners
- Member, Bolivian College of Architects
- Competent Toastmasters, Toastmasters Int'l
- Member, Palm Beach County Planning Congress
- Member, Smart Growth Partnership
- Member, 1,000 Friends of Florida

Cartaya & Associates Architects

- City of Pembroke Pines Civic Center
- City of Miramar Police Headquarters
- Broward College Bailey Concert Hall
- FLL/Hollywood International Airport Life Safety Building
- City of Miramar Continuing Services Contract
- City of Pompano Beach Continuing Services Contract
- Broward County Courthouse Parking Garages
- FLL/Hollywood International Airport RAC Facility
- FLL/Hollywood International Vision 2020
- FLL/Hollywood International Airport Taxi Apron
- FLL/Hollywood International Airport Duty Free Shops
- Broward College & FAU Parking Garage & Extension
- Broward College Fine Arts Building No. 6
- Broward College Marine Technology Center
- City of Miramar Cultural Arts Center
- City of Miramar City Hall
- City of Miramar Branch Library
- City of Miramar 3C Potable Water Treatment Plant
- City of Miramar East Water Treatment Plant
- City of Plantation Energy Efficiency Team Center
- City of Coconut Creek Water Treatment Plant
- City of Pompano Airpark Maintenance Building
- City of Islamorada Administration/Security Building
- City of Marathon Fire Station No. 14
- City of Fort Lauderdale – Building Department
- City of Tamarac Branch Library
- City of Weston Branch Library

Prior Professional Experience

- Cartaya & Associates Architects - 2001 to present
- Justiniano & Associates, Architects and Planners - 1996 to 2001
- City of Santa Cruz, Bolivia, Bureau of Planning 1992 to 1996
- City of Atlanta, Bureau of Planning - 1990 to 1991
- Alvarez & Saldana Architects 1987 to 1990
- Darrell Jackson & Associates Architects 1986 to 1987

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Chang Du, RLA, ASLA & LEEDAP
Partner & Design Director

WORK EXPERIENCE
DULAND DESIGN
(DUMON DESIGN)
2010 - current

EDSA
2001-2009

EDUCATION
Master of Landscape Architecture
University of Minnesota 2000

Bachelor of Architecture
Zhejiang University
Hangzhou, China
1995

REGISTRATION
Registered Landscape Architect, Florida

LEED Accredited Professional BD+C

AFFILIATIONS
American Society of Landscape Architects

Vice President of China Council Florida

AWARDS
American Society of Landscape Architects Florida Chapter (FASLA)
2015 Award of Merit
2013 Award of Merit
2012 Award of Merit

10th China Internation Garden Exposition (Wuhan)
2015 Award of Excellence

BACKGROUND

Ms. Du started professional career as an architect at Zhejiang South Architecture Inc. in China. She then came to the US to receive Master's Degree in Land Planning & Landscape Architecture from University of Minnesota. After many years of global practice at EDSA Inc., she co-founded DUMON DESIGN in 2010, which later became DULAND DESIGN. She has been involved in designing high-end hotels, resorts and communities around the world for more than a decade, focusing on sustainable planning and design. Ms. Du has been involved in all aspects of landscape architecture, ranging from large scale planning to detail design and has participated in numerous projects, many of which are located in United States, the Caribbean and China.

She has been invited to speak at the Green-build Conference in China in 2010, Asia Pacific Landscape Architecture Summit in 2015, and several universities in China. She was also invited to speak at 2015 Governor's trade mission lecture series.

Ms. Du believes in community building and culture diversity. With her global experience and cultural background, she has worked extensively in China leading design teams from US and with Chinese clients on projects in the US. In 2015, she co-founded China Council Florida to actively promote Florida to Chinese investors, bridging investment opportunities and bringing cultural awareness into local communities.

- Deerfield Fire Department and Fire Station #102 (Deerfield Beach, Florida) - Site Planning and Landscape Design services provided for the new construction from Conceptual Design to Construction Observation. This state of art facility was completed in 2005.
- Hillsboro Boulevard Streetscape (Deerfield Beach, Florida) - The Streetscape Improvement Plan along Deerfield Beach's gateway to its beachfront included spacious sidewalks with apecial paving, landscape, decorative pedestrian and vehicular lights, bus stops, site forniture, a bike lane and on-streest parking.
- Deerfield Beach Ocean Way (Deerfield Beach, Florida) – The improvements at this $3 million redesign project of the Deerfield's Ocean Way beachfront included drainage, paving, sidewalk pavers, landscape, decorative pedestrian and vehicular lights, special paving at the street intersections, beach gateways with columns and sitting walls, new outdoor showers, a bike lane and parking.
- Pionner Park (Deerfield Beach, Florida) – The master plan for the renovation of a 16 acre active park at the City of Deerfield Beach, located at Dixie Hwy and Hillsboro Canal includes a community center, two major league baseball fields, basketball courts, playground, tennis center, concession building, outdoor plazas, boat ramps and trails along Hillsboro Canal to be connected to a regional trail system.
- Sheridan Street Transit Village (Hollywood, Florida) – The 38-acre site includes 18 acres at the Sheridan Street Rail Station and an additional 20-acre property adjacent to the south which is currently a mobile home park with significant existing oak hammocks. The vision for the site is to develop a mixed-use transit village which could include workforce rental housing product, neighborhood retail and possibly office space. A Publix grocery store, a K-8 charter school and some type of government office facilities are considerations.
- SummerCamp Resort Community (Panhandle of Florida) – Summercamp is an innovative residential resort community situated on the Gulf of Mexico just south of Tallahassee, Florida. Within the approximately 750-acre SummerCamp site, the St. Joe/Arvida development team is creating a low-key community that preserves and enhances the fragile ecosystems of this coastal area through the implementation of a sensitive master plan and the use of prescriptive development guidelines.
- Coconut Creek PMDD (Coconut Creek, Florida) – The 19-acre project located within the City's new Planned MainStreet Development District promotes the development of a pedestrian oriented, mixed-use community organized around substantial, centralized and contiguous recreational open space. The efficient development of land resources, compact development of a variety of housing choices, flexibility in use and design, and green building and planning techniques are fundamental criteria of the district development.
- Gu'an New Town Master Planning (Gu'an, China) – The master plan for this first phase includes approximately 3,500 hectares on the eastern side of a 11,000 hectare land holding. Gu'an will be a new town, or city, for 300,000 residents and 150,000 workers. The new city will be built around a framework of open space and transit. Downtown will have high densities focused on a central park and boulevard.

C. DouglasCoolman, RLA & Chairman & Design Director

WORK EXPERIENCE

DULAND DESIGN
(DUMON DESIGN)
2012 - current

EDSA Inc.
1968-2010

EDUCATION

Bachelor of Science in
Landscape Architecture
Michigan State University
1963

REGISTRATION

Registered Landscape Architect,
Florida

AFFILIATIONS

American Society of Landscape Architects Class of 2002 Fellow (Top Honor)

Asia Society of Landscape Architects, Honorary President

Greater Fort Lauderdale Chamber of Commerce, Downtown council Steering Committee member 1989-1996, Chair in 1994

Greater Fort Lauderdale Chamber of Commerce, Board of Governors1996-2005

Urban Core Committee, Chair 2000-2007, 2011-current

Broward Workshop member since 1997

The Waterfront Center, Board of Advisors and Correspondents from 1996-1999

YMCA, Metropolitan Board member 1998-2001

BACKGROUND

Prior to joining DULAND DESIGN, Mr. Coolman was appointed a Principal/Partner at EDSA in 1974 and was a key member of the firm for over 42 years, until his retirement in January of 2010. Mr. Coolman employs team approach to master planning, a process which draws on the expertise of the multidisciplinary team and is based on the careful analysis of each site/project. He is also expertly skilled in the consensus-building process for both public and private sector projects, is committed to the community in which he lives; and continues to practice as an independent Registered Landscape Architect.

Locally, Mr. Coolman was notably involved in the direction of two of the City of Fort Lauderdale's most significant and award-winning projects, each of which required extensive permitting and approval processes. The Beach Revitalization project, a major public improvement program, has transformed the City's renowned two-mile State Road A1A "Strip" into a world-class beachfront which has generated over $500 million in private-sector development. The Riverwalk project, a mile-long linear park on the New River in downtown Fort Lauderdale, serves as a pedestrian linkage between downtown attractions and businesses and has functioned as a catalyst in the City's downtown redevelopment.

Additionally, Mr. Coolman was the Partner-in-Charge of the site design for the Museum of Discovery and Science/Blockbuster IMAX Theater, an 80,000 square-foot museum located at the center of Fort Lauderdale's new Arts, Science and Education District. He was also Partner-in-Charge for the master planning and detailed design for Holiday Park, the City's largest green space.

Internationally, Mr. Coolman continues to be heavily involved with projects throughout the Caribbean from the Northern Bahamas, through the Dominican Republic and Trinidad and Tobago and east to the ABC's, Aruba, Bonaire, and Curacao. Further south into South America from Venezuela to Chile, Mr. Coolman has provided planning services in over thirty countries on a wide range of projects. He has overseen projects throughout Europe and Asia from China, Vietnam, Spain, Romania, Moscow, Cypress and Kazakhstan, designing new resorts and residential communities.

- Fort Lauderdale Beach Revitalization (Florida, USA) – a major public improvement program which transformed the City's renowned two-mile SR A1A "Strip" into a model beachfront.
- Fort Lauderdale Riverwalk (Florida, USA) – a mile-long linear park on the New River in downtown Fort Lauderdale, Florida, which serves as a pedestrian linkage between downtown attractions and businesses.
- Blockbuster Park (Florida, USA) - master planning through detailed landscape design for this proposed 3,000-acre, mixed-use sports & entertainment complex located in the southwest of Broward County and northern portions of Miami-Dade County.
- Sea Horse Ranch (Sosua, Dominican Republic) – Planning and design services for Sea Horse Ranch in Sosua on the northern coast of the Dominican Republic. The project includes single-family residences, villas, and condominiums, seven private beaches, a beach club, equestrian center, tennis complex, and an on-site convenience/commercial center.
- Marbella Resort (Marbella, Chile) – a 276-hectare site located on the western coast of Chile, 150 kilometers north of Santiago. Approximately one half of the site w a s developed with an 18-hole golf course, hotel, conference center, condominiums and single-family homes. Mr. Coolman conducted a week-long Charrette to explore land uses consistent with the existing facilities for the remaining undeveloped property on site.
- Oxford Golf and Country Club (Pune City, India) – nestled among the Sahyadri Hills, is located on the outskirts of Pune City, India. The proposed Master Plan consists of an 18-hole, par 72 championship course, Golf Club House and Academy, 250 single-family villas, a Hotel and Conference Center, Spa and Fitness Center.
- Marriot Harbor Beach Resort Hotel (Florida, USA) – exterior plaza renovation and new meeting meeting/exhibition space including design documents, permitting and construction observation services.
- Real Madrid Ciudad Deportiva (Madrid, Spain) – This 120-hectare Master Plan for the Real Madrid Ciudad Deportiva is organized around an entertainment and retail village which includes the Real Madrid future 100,000 seat stadium, Real Madrid Club 10-field training facility, a museum, an arena, an amphitheatre, a hotel with a wellness center and conference center, a movie theatre complex, a themed water park, retail space and restaurants. The main central plaza is the gathering space where Real Madrid's fans can enjoy fantastic sport displays in the interactive plasma displays around the plaza.
- Tropicalia (Miches, Dominican Republic) – Tropicalia is set on 6,000 acres along the southern coastline of the Samaná Bay in Dominican Republic. With a long-term vision and an emphasis on harmony with nature, Tropicalia is an emblem of sustainable luxury tourism throughout the world. The program for this development includes a combination of high-end single family villa lots, resort hotels (Four Seasons), a mix-use residential village, a signature Tom Doak golf course and beach club. welcomes more than five million visitors each year and is set on creating a new benchmark for tourism.

Gregory J. Stelmack, P.E.
RADISE International, L.C.
Vice President
Principal Geotechnical Engineer
Principal Project Manager

Professional Registration and Certifications:

- Registered Professional Engineer, Florida #70556

Education:

- BS in Civil Engineering - University of Wisconsin, Madison

Capabilities:

- Project Management
- Geotechnical Engineering
- Construction Materials Testing
- Construction Engineering Inspection
- Structural Engineering
- Quality Control
- Design Recommendation and Review

Gregory Stelmack has 28 years of experience with geotechnical engineering, construction engineering and inspection, and construction materials/laboratory testing. He has worked on major projects throughout Florida, and served as Project Manager and Senior Geotechnical Engineer for numerous projects for private and public clients including the Florida Department of Transportation (FDOT), United States Army Corps of Engineers (USACE) and South Florida Water Management District (SFWMD). In addition, he has worked on engineering projects in Wisconsin, Illinois, Minnesota, Michigan, Kansas, Missouri, and Ohio, providing design recommendations on more than 2,500 public, private and governmental projects.

Mr. Stelmack is skilled in providing geotechnical engineering; materials, testing and inspection; and CEI services for roadway, bridge structures and interchange projects. He has also provided quality assurance/quality control for a wide variety of transportation, commercial, water resources, industrial, retail and institutional projects.

He is experienced with both standard and specialty field and laboratory testing equipment including procedures to determine the physical properties of soil, aggregate makeup, asphalt and concrete components and strength determination. Specialty testing and equipment include vibration monitoring, infrared thermography on masonry walls and flat roofs, ground penetrating radar, and non-destructive testing of in-situ hardened concrete.

He specializes in providing design recommendations for deep and shallow foundation systems for a variety of project types (i.e. commercial structures, bridge structures, transmission and communication towers, substations, water and wastewater treatment plants, dams, highways, road development and design, embankments and retaining structures).

Mr. Stelmack prepares and reviews geotechnical and materials engineering inspection reports, coordinates and supervises engineering staff and drilling personnel, and conducts foundation observations, foundation design reviews and geotechnical instrumentation monitoring.

Mr. Stelmack is a skilled Professional Engineer who provides reliable project management that consistently meets clients' requirements.

REPRESENTATIVE EXPERIENCE

Broward County Mast Arms, Broward Co., FL. Project Manager/Principal Geotechnical Engineer -- Field exploration/testing and laboratory testing for 20 planned intersections for mast arm traffic signal conversions and pavement improvements. Provided laboratory testing, asphalt core services and pavement evaluation. (2013-2015). *Calvin Giordano & Assoc., Mr. Chris Giordano, (954) 921-7781. 1800 Eller Dr. #600, Fort Lauderdale, FL 33316. cgirodano@cgasolutions.com.*

S-842 (Broward Boulevard) - Structure Investigation for Bridge Replacement, Broward County, FL. Project Manager/Principal Geotechnical Engineer -– Oversight including field exploration/testing and laboratory testing. Construction of two replacement bridges, resurfacing, restoration and rehabilitation, and the replacement of the

Gregory J. Stelmack, P.E.
RADISE International, L.C.
Vice President
Principal Geotechnical Engineer
Principal Project Manager

substandard barrier wall. (2013). *Infrastructure Engineers, Inc., Mr. Frank Hickson, P.E., President, (888) 451-6822. 400 West State Road 434, Suite 1016. Oviedo, Florida 32765. fhickson @infrastructureengineers.com.*

SR-817(University Drive) from Nova Drive to I-595 Ramp, Broward County, FL. Project Manager/Principal Geotechnical Engineer –– Provided roadway soil survey and structures investigation, testing for drainage features and mast arm design. (2012-2014). *Scalar Consulting Group, Inc., Mr. Aniruddha Gotmare, P.E., Principal/Senior Project Manager, (561) 318-7284. 4152 W Blue Heron Blvd #119, Riviera Beach, FL 33404. agotmare@scalarinc.net.*

I-75 Express Lanes – Segment E, Broward County, FL. Project Manager/Principal Geotechnical Engineer –– Provided geotechnical engineering services for the improvements along the I-75 (SR9) corridor. The length of the project was about 12 miles from the Miami-Dade County/Broward County line to North of I-595 Interchange in Broward County. (2013). *Terracon Consultants, Mr. Andrew Petric, P.G. (305) 820-1997. 1225 Omar Rd, West Palm Beach, FL 33405. Andrew.petric@terracon.com).*

SR-9/I-95 PD&E, south of High Meadows Road to North of Becker Road, Martin and St. Lucie Counties, FL. Project Manager/Principal Geotechnical Engineer –– Project included approximately 13 miles of roadway soil survey and testing for drainage features. (2012). *Stanley Consultants, Inc., Mr. Bill Evans, P.E., AICP, (561) 352-5662. 1641 Worthington Rd #400, West Palm Beach, FL 33409. evansbill@stanleygroup.com.*

I-95/SR-9 PD&E Study, North of Becker Road to south of SR-70, St. Lucie County, FL. Project Manager/Principal Geotechnical Engineer –– Project included approximately 13½ miles of roadway soil survey and testing for drainage features. (2012–2012*). HDR Engineering, Inc., Mr. Will Suero, P.E, (305) 728-7400. 5310 NW 33rd Avenue, Suite 212, Ft. Lauderdale, FL 33309. will.suero@hdrinc.com.*

I-95 Additional Auxiliary Lanes from S. of Glades Road to N. of Yamato Road, **Palm Beach County, FL.** Project Manager/Principal Geotechnical Engineer –– Project consists of approximately 6 miles addition of 2 auxiliary lanes, 2 new interchanges, 25 bridge expansions and new bridges. (2009- 2012*) Jacobs Engineering, Scott Edgar, P.E., (954) 246-1221. 800 Fairway Dr, Ste 190 Deerfield Beach, FL 33441. sedgar@jacobs.com.*

82nd Avenue from South of 26th Avenue to CR 510 (Wabasso Road), Indian River County, FL. Project Manager/Principal Geotechnical Engineer –design and construction of four new bridges with drainage improvements and a new roadway along 82nd Avenue in Indian River County. The length of the roadway is approximately 7.5 miles through citrus groves and pasture land. (2011-2012). *HDR Engineering, Mr. Rohan Hameed, P.E., (305) 728-7413. 5310 NW 33rd Avenue, Suite 212, Ft. Lauderdale, FL 33309. Rohan.Hameed@hdrinc.com.*

Kingfisher Bridge and Bulkhead Walls Replacement. Project Manager/Principal Geotechnical Engineer –– Field investigation and geotechnical recommendations for replacing the existing bridge and bulkhead walls (designed as king-post pile and panel system). The replacement foundation system involved pre-stressed square concrete driven piles. (2011-2012). *HDR Engineering, Erik Suarez, P.E., (305) 728-7400. 5310 NW 33rd Avenue, Suite 212, Ft. Lauderdale, FL 33309. Erik.Suarez@hdrinc.com.*

SR 848 (Stirling Road) Safety Improvements, Broward County, FL. Project Manager/Principal Geotechnical Engineer –project consisted of installing two mast arm sign structures at the opposite corners of SR 848 and N 68th Avenue Intersection in the Town of Davie. (2010- 2011) *HDR Engineering, Mr. Rohan Hameed, P.E., (305) 728-7413. 5310 NW 33rd Avenue, Suite 212, Ft. Lauderdale, FL 33309. Rohan.Hameed@hdrinc.com.*

Tom Mullin, P.E.
RADISE International, L.C.
Vice President
Chief Engineer
Geotechnical Services Group Consultant

Professional Registration and Certifications:

- Professional Engineer, #43366 (Florida), 1990

Education:

- M.S., Geotechnical Engineering, 1976, University of Illinois
- B.S.C.E., 1974, University of Illinois

Capabilities:

- Soils and Foundation Design
- Dynamic Load Testing
- Static Load Testing
- Civil and Major Earthworks Design
- Civil Construction Admin. & Management
- Groundwater Hydrogeology
- Quality Control Testing and Inspection

Mr. Mullin has 40+ years of experience including on FDOT transportation projects, water resources projects, major high-rise towers, ports and harbors, commercial buildings, dams and water reservoir projects, power generating facilities, industrial facilities and landfill projects in Florida, Puerto Rico and the Caribbean. Mr. Mullin has extensive experience pertaining to foundation design and construction with drilled shafts and augered cast-in-place and driven piling systems. Mr. Mullin has developed and written QC inspection and testing procedures for foundation construction including the documentation, installation and evaluation of geotechnical monitoring instrumentation. Mr. Mullin has extensive experience with pile load testing using PDA, static, Osterberg Cell and Statnamic load testing procedures.

- RADISE International Inc. (11/13 - Present), Riviera Beach, FL
- URS Corporation Southern (6/89 – 10/13), Boca Raton, FL
- Bechtel Corporation (6/82 – 5/89), Houston, Texas
- Brown and Root Inc. (5/80 – 5/82), Houston, Texas
- Shilstone Engineering and Testing (1/77 – 3/80), Houston, Texas

REPRESENTATIVE EXPERIENCE

Experience Overview: Served as Principal Geotechnical Consultant for foundation Design and Construction Engineering Inspection (CEI), testing and analysis and Quality verification services on several FDOT Florida bridges, roadway and rail transportation projects. Directed and managed the performance of Pile Driving Analysis (PDA) testing of driven test piles and overviewed drilled shaft testing and capacity analysis and installation for both redundant and non-redundant drilled shafts.

Representative Projects;

Design Services for SR25/US-27, Broward PBC Line to MP12.6 -
Served as Principal Geotechnical Consultant for the resurfacing, restoration, and rehabilitation (3R) and safety project on SR-25/US-27 featuring milling, resurfacing, shoulder widening, replacing the existing guardrail and modifying the existing stormwater management systems. *Scalar Consulting Group, Julio C. Delgado, P.E., Sr. Project Manager (954)415-8632. 4152 W Blue Heron Blvd #119, Riviera Beach, FL 33404. jdelgado@scalarinc.net.*

MDX/SR836 General Engineering Consulting Services OIC Improvements Dade County FL
Served as the geotechnical design PEER reviewer for the geotechnical investigations and designs of numerous new bridge crossings and widenings for the major D/B project. *EAC, Reynaldo Cortez, P.E. Program Director 305 265-5490. 815 NW 57th Avenue, Suite 402, Miami, FL, 33126. rcortez@eacconsult.com.*

SFRTA Northern Layover & Light Maintenance Facility – Preliminary Geotechnical Engineering Report, Palm Beach County, FL. Principal Geotechnical Engineer – Provided design geotechnical engineering recommendations for the construction of a Maintenance Facility. Site preparation, foundation, retaining walls, pavement and seasonal high groundwater recommendations. (2017). *Jacobs Engineering Group, Inc., Mr. Scott Edgar, P.E., Senior Project Manager, (954) 246-1221. 800 Fairway Dr, Ste 190 Deerfield*

Tom Mullin, P.E.
RADISE International, L.C.
Vice President
Chief Engineer
Geotechnical Services Group Consultant

Beach, FL 33441. sedgar@jacobs.com.

SW Gatlin Blvd & I-95 Park and Ride – Soil Survey for Park and Ride Lot Lot, St. Lucie County, FL. Principal Geotechnical Engineer – Provided design geotechnical engineering recommendations for the construction of a Park and Ride Facility. Site preparation, pavement and seasonal high groundwater recommendations. (2015). *HDR Engineering, Inc., Mr. Will Suero, P.E., Vice President, (954) 233-4934. 5310 NW 33rd Avenue, Suite 212, Ft. Lauderdale, FL 33309. will.suero@hdrinc.com.*

I-95 at Linton Blvd – Roadway Soil Survey, Pavement Coring and Evaluation Report, Structures Report, Palm Beach County, FL. Principal Geotechnical Engineer – Provided design geotechnical engineering recommendations for the construction of improvements at the I-95 and Linton Blvd interchange. (2014). *Jacobs Engineering Group, Inc., Mr. Scott Edgar, P.E., Senior Project Manager, (954) 246-1221. 800 Fairway Dr, Ste 190 Deerfield Beach, FL 33441. sedgar@jacobs.com.*

SFRTA The Wave Modern Streetcar Design – Geotechnical Engineering Services Report, Broward County, FL. Principal Geotechnical Engineer – Provided design geotechnical engineering recommendations for the construction of a light rail system. Site preparation, foundation, catenary pole, pavement and seasonal high groundwater recommendations. (2014). *Parsons Transportation Group, Inc., Mr. Mark Pistiner, P.E., South Florida Area Manager, (305) 507-5590. 1300 Riverplace Boulevard, Suite 200, Jacksonville, FL, 32207. mark.pistiner@parsons.com.*

S-842 (Broward Boulevard) - Structure Investigation for Bridge Replacement, Broward County, FL. Principal Geotechnical Engineer – Provided design geotechnical engineering recommendations for the construction of two replacement bridges, resurfacing, restoration and rehabilitation, and the replacement of the substandard barrier wall. (2013). *Infrastructure Engineers, Inc., Mr. Frank Hickson, P.E., President, (888) 451-6822. 400 West State Road 434, Suite 1016. Oviedo, Florida 32765. fhickson@infrastructureengineers.com.*

Principal Geotechnical Engineer for the Lake Alfred Pedestrian Bridge - Structure Investigation, Polk County, FL, (FM No.: 429883-1-32-01). Principal reviewing Geotechnical Engineer for bridge foundation and MSE wall recommendations, field exploration/testing and *laboratory testing. The project involved the construction of a pedestrian bridges and associated MSE Walls. Scalar Consulting Group Inc., Aniruddha Gotmare, P.E., Principal / Sr. Project Manager, (954) 263-3243. 4152 W Blue Heron Blvd #119, Riviera Beach, FL 33404. agotmare@scalarinc.net.*

Mario A. Gamboa, PE

Education

BS Electrical Engineering, Florida International University, 1981

Engineering Management Graduate Level Studies, Florida International University, 2004.

Licenses

Electrical Engineer, Florida

Electrical Engineer, California

Electrical Contractor, California

Master Electrician, Various Counties in Florida

Professional Affiliations

Institute of Electrical and Electronics Engineers

Mr. Gamboa's professional experience spans 33 years in design; value engineering; engineering management, construction management of numerous municipal, industrial and commercial projects. These include expertise focus with electric energy and automation for water treatment, wastewater treatment and pumping stations. Provided electrical design and instrumentation with construction specifications for 115 kV substations, medium voltage class (5-kV through 38-kV) and low-voltage power distribution systems; including prime and standby power generations systems, power for large pumps-motors with 5 kV variable speed controls systems; lighting systems; life safety systems; grounding; lightning protection; and SCADA automation systems.

Engineering Management duties included Client Oriented Services, leadership and mentoring of engineering and support staff, project and quality control management, achievement of Team Goals.

Representative assignments include:

Wastewater Projects

• Electrical engineer for the Central County Water Reclamation Facility Phase 2 Expansion and Main Lift Station Upgrade, Sarasota County Utilities Department, Florida. Project included design of an upgrade to the 480 volts power distribution and SCADA system that included FP&L utility transformers, 480 volts-4000 A switchgear with provisions to synchronize two generators; motor control centers, underground ductbanks, pumps with variable frequency (speed) controllers, and new programmable controllers. Mr. Gamboa provided design and construction support services.

• Electrical engineer for the City of Plantation Regional Wastewater Plant and Central Water Plant Pump Speed Controller Upgrade project, City of Plantation Utilities Department, Florida. Design included new 480 volts MCCs, VFDs, underground ductbanks, electric manholes, new programmable automation controllers, and temporary power provisions to maintain the existing plant in continuous operation. Wastewater processes included modifications to the existing deep well pumps, RAS pumps, and water storage transfer pumps.

Water Projects

• Electrical engineer for the City of Pompano Beach Water Treatment Lime Softening Plant, Electrical Improvements Master Plan project. This project included separate phases for the design and construction to replace 5 kV power distribution switchgear, synchronizing switchgear and controls of two 900 kW – 5 kV standby power generators, 5 kV motor control centers, 600 volts switchgear, 5 kV /480 volts transformers, supervision for design of 600 hp pump's speed controls with 5 kV VFDs and addition of programmable logic controllers.

• Electrical engineer for the City of Pompano Beach Water Treatment Lime Softening Plant, Phase I Electrical Improvements project, including 5 kV motor control centers with redundant power provisions for 5 kV 600 HP VFDs for high service pumps.

• Electrical engineer for the City of Plantation East Water Treatment Plant, SCADA Upgrade and speed control of high service pumps project, City of Plantation Utilities Department, Florida. Project included VFDs for pump control and replacement of two programmable logic controllers. Mr. Gamboa assisted with the coordination for the replacement of PLC hardware and software for the control of existing RO membranes and water pumping equipment.

• Electrical engineer for Sarasota County Venice Gardens Water Treatment Plant Upgrades Pre-Design project. Task included pre-design evaluation of electrical 480 volts power distribution system capacity, standby generator

17433 SW 65 CT, Southwest Ranches, FL 33331 (954)-533-1121

Mario A. Gamboa, PE

capacity and PLC configuration for improvements to the existing water treatment membranes.

▪ *Infrastructure Water Projects*

• Electrical /Instrumentation engineer for the Tampa Bay Water, Florida Cross Ranch Wellfield Pumps (and Motor Control Center) Replacement Project in seventeen (17) well sites.

• Engineer for Electrical Assessment of three (3) Water Reuse Pumping Stations, Manatee County Water Utilities. Project included Power System Analysis of utility power, motor control center, 200 HP VFDs and standby power generator, for compliance with NFPA-72E for installing equipment arc flash labels.

• Electrical Engineer for Odessa and US 41 Booster Pumping Stations – Pressure Modifications Projects, Tampa Bay Water. Project includes Analysis of utility power, switchboard, 250 HP VFDs, 75 HP VFDs and standby power generator, to comply with NFPA-72E and electrical system modifications.

• Lead Electrical Engineer for Lift Station No. 1 Rehabilitation Project, City of Saint Petersburg, Florida. Provided design services for construction of wet well with three pumps, variable speed controls, standby power generator and remote telemetry controls

• Lead electrical engineer for the Peace River Manasota Regional Water Supply Authority Regional Integrated Loop System- Phase 3A Interconnect project. Provided electrical design and bid-phase services for construction of a high service pumping station; and a 5 MG water storage tank.

▪ *Energy Conservation*

• Electrical engineer for the City of Chico, California Solar Power Generation System at the Water Pollution Control Plant Provided design services for electrical interconnection of the solar panels to the plant power distribution equipment, and provided coordination services to meet the requirements for the solar power system interconnection with Pacific Gas & Electric (PG&E) power grid. The solar electric system is a ground mounted photovoltaic tracking system, increasing efficiency by up to 25% by following the track of the sun from early morning to late afternoon. The system uses high efficiency photovoltaic modules to generate maximum output per square foot. The solar electric system included 5,824 solar electric tiles in a 5 acre area, with a system capacity of 1,100 kW. The DC output from the photovoltaic modules is converted to (AC) electricity by inverters, and the AC power is synchronized with the utility power grid.

• Performed design review of the Fuel Cell Cogeneration project at the Moreno Valley Regional Water Reclamation Facility, Eastern Municipal Water District, California. Project included design of 1.5 MW fuel cell cogeneration system.

• Lead electrical engineer for design of co-generator controls to synchronize two methane gas cogeneration units with six standby diesel generator units. This work included retrofit of existing 480-volt generators to synchronize 3 MW of on-site generators with the utility 12-kV service at Union Sanitary District, Alvarado Wastewater Treatment Facility, Union City, California.

▪ *Expertise with Power Topics*

- Load Flow Studies
- Short Circuit and Protective Device Coordination Studies
- Arc Flash Studies
- Energy Management

▪ *Expertise with Building Codes*

- Florida Building Code
- International Building Code
- Key NFPA Guidelines and Standards
  - NFPA - 1 Fire Code
  - NFPA-70 National Electrical Code
  - NFPA-70-E Standards for Electrical Safety in the Workplace
  - NFPA-101 Life Safety Code
  - NFPA-110 Standards for Emergency and Standby Power Systems
  - NFPA-820 Fire Protection in Wastewater Treatment and Collection Facilities.
- NEMA Standards; ANSI Standards; UL standards
- IEEE Standards; ISA Standards

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STONER & ASSOCIATES, Inc.
SURVEYORS - MAPPERS

4341 S.W. 62nd Avenue, Davie, Florida 33314
T: (954) 585-0997 • F: (954) 585-3927 • www.stonersurveyors.com

James D. Stoner, P.S.M.
President

Education

Land Surveying Program
Palm Beach Community College, 1979

Professional Registrations

State of Florida Professional Surveyor and Mapper
License Number LS4039, 1983

Professional Affiliations

Former Vice President Florida Surveying and Mapping Society – State Level
Former President Florida Surveying and Mapping Society – Broward Chapter
Former Florida Surveying and Mapping Society – Area 6
American Congress on Surveying and Mapping
Leadership Broward

Professional Experience

- **South Florida Water Management District**
  - STA 3/4 – Topographic Survey
  - East Coast Buffer Cells 28 & 29 – Boundary Survey
  - C-4 Canal Conveyance – Topographic Survey
  - Lake Hicpochee – Boundary and Topographic Surveys

- **Broward County Aviation**
  - Annual Runway Approach Surface Surveys
  - Numerous Lease Parcel Surveys
  - Design Surveys for Expansion of Airport Terminals

- **Broward College Continuing Contract for Surveying Services**
  - North Campus – Boundary survey overall Campus
  - Central Campus - Boundary survey overall Campus
  - South Campus - Boundary survey overall Campus
  - Numerous Topographic and As-built Surveys for expansion of Facilities

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- **City of Sunrise Continuing Contract for Surveying Services**
  - Southwest Water Treatment Plant – As-Built Survey
  - Sunrise Road Improvements – Various Topographic Surveys
  - Five Vacant Parcels – Boundary Surveys
  - Park City Water Treatment Plant – Updated Boundary Survey
  - Passive Park – Topographic and Utility Surveys
  - City Hall Parking Lot – Topographic Survey
  - N.W. 44th Street – Topographic Survey
  - Lutheran Church Site Acquisition – Boundary Survey

- **Town of Davie Continuing Contract for Surveying Services**
  - Oakes Road Fire Station – Boundary Survey
  - Lift Station Number 11 Improvement Project – Topographic Survey
  - Silver Lakes Park – Construction Layout Survey
  - Wachovia Bank Parcels – Boundary, Topographic, & Tree Surveys
  - Parks & Recreation Building at Pine Island Park – Topographic Survey
  - Orange Drive – Topographic & Tree Surveys
  - Eastside Community Hall – Topographic & Tree Surveys
  - N-20 Canal – Topographic Survey
  - Public Works Gas Pump Station – Topographic Survey
  - S.W. 130th Avenue Canal – Topographic Survey
  - Sunny Lake Expansion – Boundary Survey

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Richard G. Crawford, Jr., P.S.M.
Senior Project Manager

Professional Profile

Mr. Crawford has been with Stoner & Associates, Inc. for over twenty-seven years, and has over thirty-four years of experience within our industry. During this time, his experience has grown to include all of the types of surveys performed by our firm.

Mr. Crawford is well trained and proficient in the processing of survey data collection from a variety of data collection devices, such as GPS, Digital Leveling, and Conventional Total Stations. He is also proficient in the preparation of survey drawings using AutoCAD, MicroStation, and Carlson Survey.

Mr. Crawford is responsible for the day to day management and operations of the Field Crews and Office Support Staff. He is also responsible for preparing estimates for both Construction and Engineering Design Surveys.

Education

Associates of Science in Land Surveying
Palm Beach Community College in 1994

Associates of Arts in Architecture
Broward College in 1986

Professional Registrations

State of Florida Professional Surveyor and Mapper
License Number LS5371

Professional Affiliations

Florida Surveying and Mapping Society
Florida Surveying and Mapping Society – Broward Chapter
American Congress on Surveying and Mapping
Leadership Broward

ARCADIS Design & Consultancy for natural and built assets

BROWARD COUNTY FLORIDA

Professional Engineering Services for Studies and Reports
Bid Number: PNC2115559P1

APPENDIX B: PROJECTS

APPENDIX B PROJECT EXPERIENCE

Arcadis brings a team of local and national expertise with extensive experience, knowledge and proven technical skills in the areas required by the County, We are showcasing in the following pages a few recent project descriptions for each corresponding discipline.

CITY OF HOLLYWOOD, FL: GENERAL CONSULTING SERVICES

CLIENT:
Steve Joseph, PE
Utilities Director
City of Hollywood
Public Utilities | ECSD
954.967.4455

YEAR PROJECT COMPLETED:
See specific project

TOTAL FEES / COST:
See specific project

CRITERIA:

Water Treatment Plants (Greater than 5 MGD in Florida Within the last 10 years) Design, Permitting and Construction Management

Lift Stations / Master Pump Stations

By-Product Disposal

Regulatory Experience for Wastewater Treatment and Disposal (SE Florida)

Our Role

Arcadis has assisted the City of Hollywood for almost 14 years. Under our Professional Engineering Services Agreement, Arcadis has successfully provided basis of designs, preliminary and final designs, permitting, bidding and construction-phase services for various projects. Most recent work authorizations completed to-date include:

Water Treatment Plant Service Pump Station Upgrade
Arcadis was selected by the City of Hollywood to evaluate the high-service pumping system at the water treatment plant and provide design improvement to replace the various sizes of pumps, with new pumps and upgrades to the control system that will provide a constant discharge pressure. Replacement of the existing water pumps is necessary to maintain water delivery reliability and improve energy efficiency by installing variable speed pumps. The rehabilitation of the pump station includes the replacement of the pump check valves and isolation valves. **April 2015 - October 2017; Fee: $299,600.**

Water Distribution System Model Update and Calibration
Arcadis assisted the City with updating and calibrating the water system hydraulic model. The work included the evaluation of pressure data, system demand flows, population projections, future improvements and extended period simulations. **May 2015 - October 2017; Fee: $28,420.**

Deep Injection Well 5-Year Mechanical Integrity Testing
Arcadis was the project manager for the 5-year mechanical integrity test (MIT) update for the Class I Injection Well (IW1) at the City of Hollywood Water Treatment Plant. Arcadis was the engineer of record and hydrogeological consultant for the construction of the injection well system 5 years earlier. Services also included design and CMS for piping, valving, electrical, instrumentation, water-surge protection and other associated appurtenances to provide a fully functional injection well system with a capacity of 13.6 million gallons per day. Arcadis prepared a test MIT program submitted the MIT Plan to the Florida Department of Environmental Protection (FDEP) for approval.

Arcadis provided oversight services during the MIT procedure to ensure proper implementation of the tests by the Contractor. Arcadis assembled the test data, compiled and interpreted historical operational and water quality data, provided conclusions as to the mechanical integrity of the well, and incorporated all findings into a MIT Report. **May 2017 - February 2018; Fee: $26,230.**

TAMPA BAY WATER, FL: AS-NEEDED ENGINEERING SERVICES

CLIENT:
Brian Scott
Tampa Bay Water
27.796.2355

YEAR PROJECT COMPLETED:
April 2012 - Ongoing

TOTAL FEES / COST:
$189,418 To-Date

CRITERIA:

Water Treatment Plants (Greater than 5 MGD in Florida Within the last 10 years) Design, Permitting and Construction Management

Lift Stations / Master Pump Stations

Our Role

Arcadis is assisting Tampa Bay Water with improvements to its emergency power systems at its Regional Surface Water Treatment Plant (RSWTP) and Cypress Creek Facility (CCF). Tampa Bay Water's Cypress Creek facility has two generators and three (12,000 gal) fuel storage tanks. Each generator has a dedicated (12,000 gal) fuel tank and the third fuel tank is designed to provide fuel to either of the two other (12,000 gal) storage tanks. The current piping configuration for the tanks at Cypress Creek allow them to lose their prime. The tanks at RSWTP require manual operation of the transfer pump to move fuel between tanks, which are not the same size and not at the same elevation and consequently not on a common header. Due to the frequency of use, fuel age and quality is an issue at this facility. The RSWTP high-service pump station has three generators of varying size, each connected to their own fuel storage tank.

The existing fuel storage and supply piping configurations result in less than optimal operations at the facilities, which include limited ability to balance and transfer fuel between tanks. Piping improvements to manifold the fuel storage tanks and generators have been recommended to improve operational flexibility. This included automating fuel transfer/fuel system balance with the ability to monitor through SCADA. Additionally, Tampa Bay Water wished to install a fuel maintenance system at the Cypress Creek facility.

Arcadis acted as Design Criteria Professional to prepare the technical portion of a Request for Proposal for Design-Build for Tampa Bay Water to procure services for the work. Our responsibilities included:

- Complete the Basis of Design Technical Memorandum (TM) for the recommended modifications at each facility.
- Prepare the design criteria package (DCP) for the Request for Proposals for design-build of the recommended fuel system improvements.
- Provide bidding services including RFI's and a conformed set of drawings
- Provide Construction Administration including site visits, construction meetings and respond to RFI's. Provide record drawings upon completion and conduct a lessons learned meeting for Tampa Bay Water.

CITY OF VENICE, FL: ENGINEERING AND PROFESSIONAL CONSULTING SERVICES

CLIENT:
Tony Wierzbicki
Project Manager
City of Venice
941.486.2788

YEAR PROJECT COMPLETED:
See specific project

TOTAL FEES / COST:
See specific project

CRITERIA:

Water Treatment Plants (Greater than 5 MGD in Florida Within the last 10 years) Design, Permitting and Construction Management

Our Role

Arcadis has maintained an engineering and professional consulting services contract with the City of Venice since 2005, under which it has successfully completed a number of services at both the 4.32 million gallon per day (mgd) Reverse Osmosis (RO) water treatment plant (WTP) and 6 mgd Eastside Advanced Wastewater Treatment Facility (AWWTF). To date, we have received approximately 19 task orders under this contract. Some of our tasks include:

Reverse Osmosis Water Treatment Plant Feasibility Study

Arcadis conducted an assessment of the WTP to identify RO and WTP rehabilitation and renewal (R&R) project needs, including determination of the best approach for delivering the identified projects (e.g., design-build, design-bid-build, etc.). The evaluation included the pumps, electrical and controls systems, treatment process, standby power, chemical feed systems and odor control system. **October 2011 - January 2013, Fee: $148,200.**

Structural Assessment

Arcadis completed a structural condition assessment of the clearwells at the RO WTP to identify areas of concern in the exterior and interior of the clearwell, as well as the membrane roofing system to be repaired. Arcadis developed the repair recommendations and will develop bid documents for implementation of recommended repair work. **April 2016 - September 2017** - **Fee: 23,180.**

Hydrogen Sulfide Odor Control System

Designed a dual two-stage scrubber to control hydrogen sulfide odor at the RO WTP. Provided design, bid and construction-phase services for the upgrades. **June 2013 - Ongoing - Fee: $401,450.**

SARASOTA COUNTY, FL: CARLTON WATER TREATMENT PLANT UPGRADE / EXPANSION

CLIENT:
Glenn Richter
Sarasota County
941.861.0566

YEAR PROJECT COMPLETED:
January 2010 - Ongoing

TOTAL FEES / COST:
$1,600,758

CRITERIA:

Water Treatment Plants (Greater than 5 MGD in Florida Within the last 10 years) Design, Permitting and Construction Management

Our Role

The T. Mabry Carlton Water Treatment Facility (WTF) began production in 1995 to treat brackish groundwater from the T. Mabry Carlton Wellfield for delivery to the County's potable water system. In addition to the Carlton WTF, the County operates two additional water treatment facilities (Venice Gardens WTF and University WTF) and purchases water from both Manatee County and the Peace River/Manasota Regional Water Supply Authority (PR/MRWSA). The County is also currently investigating a future brackish surface water supply at Dona Bay/Cow Pen Slough.

The Carlton WTF is currently the County's largest water producer with a rated capacity of 12 mgd. The facility includes degasification, pressure filtration, electrodialysis reversal (EDR), disinfection, and pH adjustment. Treated water from the Carlton WTF is stored in two onsite ground storage tanks and is pumped to the southern and central portions of the County. The Carlton facility was once the largest EDR facility in the U.S. Most of the original EDR equipment, including the EDR stacks and major electrical systems, remains in place. As a result, much of the equipment has reached or is nearing the end of its effective useful life and is in need of replacement. In addition, projected future water needs require the County to evaluate the need/ability to expand future production of the Carlton WTF.

Arcadis is completing detailed design for the replacement of five existing EDR units with two new higher capacity units as part of a phased implementation plan. The design also includes implementing several pre- and post-treatment improvements required to ensure continued reliable operation.

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CITY OF SUNRISE, FL: GENERAL CONSULTING SERVICES CONTRACT

CLIENT:
TImothy Welch, PE
Utilities Director
City of Sunrise
954.888.6055

YEAR PROJECT COMPLETED:
See specific project

TOTAL FEES / COST:
See specific project

CRITERIA:

Water Distribution and Sewer Collection Systems (In Florida within last 5 years) Design, Permitting and Construction Management

Ocean Outfall, Reclaimed Water, Class I Deep Injection Well

Regulatory Experience for Water Supply and Treatment (SE Florida)

Regulatory Experience for Wastewater Treatment and Disposal (SE Florida)

Ocean Outfall, Reclaimed Water, Class I Deep Injection Wells

Lift Stations / Master Pump Stations

By-Product Disposal

Our Role

East Sunrise Neighborhood Water Distribution Improvements

Arcadis was selected to perform design, permitting, bidding and construction services for the replacement of aging potable water mains in the area known as East Sunrise. The project will include installing new 4-inch (approx. 200 LF), 6-inch (approx. 19,000 LF), 8-inch (approx. 10,000 LF) and 12-inch (approx. 2,400 LF) ductile iron pipe water mains along with two segments installed using pipe bursting (totaling approximately 1,000 LF), valves, hydrants and services in the area described above, along with abandonment of the existing water distribution system and appurtenances, site restoration and roadway milling and overlay. The project also includes roadway construction. **December 2015 - October 2017; Fee: $202,467.**

Golf Village Water Distribution System Improvements

Arcadis was selected by the City of Sunrise to prepare construction documents and associated permits for the replacement of over 44,000 lf of water main ranging in size from 6-inch to 12-inch in the community of Golf Village. The project consisted of replacing existing aging water mains constructed in the early 1970's. Replacement of the existing water mains resulted in improved water supply reliability and reducing service interruptions caused by water main breaks.
As part of the project, existing water services and meter boxes were replaced to the property lines; gate valves and fire hydrants were replaced; and the pavement was milled, resurfaced and re-striped throughout the community. **January 2014 - December 2016; Fee: $360,120.**

Escape and Valencia Force Main Replacement Via Pipe Bursting

Arcadis was selected to prepare construction documents and associated permits for the replacement of over 25,000 lf of water main in the adjoining communities of Escape and Valencia. The project will consist of pipe bursting existing aging water mains and replacing with size on size pre-chlorinated and pressure tested HDPE water main..Post Design Services will include Construction Observation Assistance, Assistance with Certi? cate of Completion and Assistance with Requests for Information during construction.The work is being planned to minimize disruption to residents in the Communities during construction. **June 2017 - Ongoing; Fee: $20,745.**

Sawgrass Aquifer Storage and Recovery Well System Design

The City retained Arcadis to prepare a feasibility study for the conversion of the test wells to ASR use. The City can utilize raw groundwater recharge during the low-demand rainy season and recovery during the high-demand dry season to balance maximum-month or daily raw water use below the wellfields' limitations in the City's District permit. The City of Sunrise has retained Arcadis for the conversion of an existing Floridan Aquifer test well near the Sawgrass Utility Complex to an aquifer storage and recovery (ASR) well. The project involves permitting through FDEP UIC Section and Broward County and design ofwellhead appurtenances; pressure, flow and water quality monitoring equipment; monitor wells; recharge and recovery pipeline, connection of wellfield raw water pipeline with a booster pump station and recovery well pipeline; bi-directional conveyance facilities and, provisions for future expansion of the ASR system (conversion of a second existing Floridan Aquifer test well to ASR use). The UIC permit is in review and 90-percent designs are complete. **August 2016 - Ongoing; Fees: $405,183.00 To-Date.**

CITY OF CASSELBERRY, FL: GRAVITY SANITARY SEWER COLLECTION AND WATER DISTRIBUTION SYSTEM IMPROVEMENTS

CLIENT:
Tara Lamoureux
City of Casselberry
Water Resources Engineer
407.262.7725 extension 1228

YEAR PROJECT COMPLETED:
December 2013 - Ongoing

TOTAL FEES / COST:
$218,723.00 To-Date

CRITERIA:

Water Distribution and Sewer Collection Systems (In Florida within last 5 years) Design, Permitting and Construction Management

Our Role

Arcadis was selected to provide design, permitting, bidding assistance and construction services associated with the conversion of residential septic tank systems to gravity sanitary sewers in the residential areas of Lake Katheryn Circle, Queens Mirror, Crystal Bowl and Spicewood.

The project includes over 8,000 linear feet of gravity sewer, manholes and sewer laterals. Work involves coordinating with the City and Home Owners for location of sewer laterals. In addition, the project involves directional drilling over 1,100 feet of 12-inch HDPE water m ain under sensitive wetlands to provide increased fire flow and looping of the water distribution system.

The professional services included surveying, civil engineering design, permitting, coordination with utility providers for adjustments and or relocations, preparing quantity calculations, engineers estimates of probable costs and bidding assistance.
Post Design Services will include Construction Observation Assistance, Assistance with Certificate of Completion and Assistance with Requests for Information during construction.

The work is being planned to minimize disruption to residents in the Community during construction.

CITY OF TAVARES, FL: DOWNTOWN CRA

CLIENT:
Brad Hayes
Utilities Director
City of Tavares
352.742.6485

YEAR PROJECT COMPLETED:
See Specific Project

TOTAL FEES / COST:
See Specific Project

CRITERIA:

Water Distribution and Sewer Collection Systems (In Florida within last 5 years) Design, Permitting and Construction Management

IT Solutions (Florida within the last 5 years)

Our Role

Downtown CRA

In 2007, the City updated its existing Downtown Redevelopment Master Plan for the downtown CRA. Improvements must be made to the potable water distribution and wastewater collection systems in order to support these re-configurations and reliably serve the additional demands the resulting growth will generate. Arcadis identified and worked to secure funding through the United States Department of Agriculture (USDA) Rural Utilities Service Grant/Loan program and prepared the application submittal package, resulting in grant funding in the amount of $1.2 million, and an approved loan for $15.8 million.

The City of Tavares required a multi-phase apprach to upgrade and maintain the library of As-Build drawings and the coresponding GIS system to ensure a single point source for all pipe asset information. Arcadis was retained to develop the phased approach and begin the process to ensure the City's short and long term objectives were meet. **October 2011 - Ongoing; Fee: $2,903,507.00 To-Date**

Water and Wastewater Improvements

Phase I (Completed 2017)

- Develop a catologue of As-bulits consistiong of over 2,300 individual line diagrams depicting pipe location information.
- Build a GIS based index of drawings with a hyper link to each of the +2,300 drawings.
- Interview staff and document existing GIS data collection, storage, digitizing, management and map production.
- Provide hardware and software recomendations

Phase II (2018)

- Digitize water and wastewater GIS data with As-built information and Sr. Staff input.
- 75 miles of wastewater pipes and appurtanances
- 140 miles of water pipes and apprutanances
- Development of map books for printed use.

Arcadis is currently conducting Phase II with an expected completion by Q4 2018. **March 2017 - Ongoing; $105,260.00 To-Date**

HILLSBOROUGH COUNTY, FL: MISCELLANEOUS WATER AND WASTEWATER CONSULTING SERVICES CONTRACT

CLIENT:
Jim Hunsberger, PE
Hillsborough County
813.209.3050

YEAR PROJECT COMPLETED:
See specific project

TOTAL FEES / COST:
See specific project

CRITERIA:

Water Distribution and Sewer Collection Systems (In Florida within last 5 years) Design, Permitting and Construction Management

Ocean Outfall, Reclaimed Water, Class I Deep Injection Wells

Our Role

North Rome Avenue Water Main Interconnection
The Lake Magdalene for Restoration, Magdalene North, and Magdalene Grove neighborhoods are single source-fed with respect to drinking water. Lake Magdalene for Restoration is supplied from the north by an 8-inch water main (WM) on North Rome Avenue, and both Magdalene North and Magdalene Grove are supplied by a separate 8-inch WM routed to Terra Mar Drive through side and backyard easements. In the event that either of these water mains fails, customers will be out of service until repairs are completed. In addition to the lack of redundancy, the single source for these neighborhoods contributes to water quality issues.

The proposed solution to address these issues is to construct water main extensions in order to interconnect the systems. This interconnection improves water quality, provides increased fire protection coverage, provides system redundancy and also increases system capacity. In addition, the proposed improvements facilitate the potential for adding approximately 50 new water customers. **July 2014 - Ongoing; Fee: $284,557 To-Date**

Northdale Reclaimed Water Transmission Main
Hillsborough County operates approximately 350 miles of reclaimed water mains supplying an average of 20 million gallons per day of reclaimed water to over 15,000 customers consisting of single family homes, golf courses, commercial properties and industry.
The system supplies reclaimed water to the Northdale Golf Course and a few community irrigations systems along the route. Due to the numerous breaks in recent years, the County determined the line should be replaced.

Arcadis' professional engineering services include preliminary and final design, permitting, bidding and construction phase services. These services include civil engineering, traffic control, environmental assessments, survey, utility location, geotechnical, permitting, bidding assistance and construction contract administration. We will also provide full-time resident project representation services during construction.

The Northdale reclaimed water transmission main replacement project consists of replacing approximately 11,600 linear feet of 12-inch and 8-inch reclaimed water main.
The project also includes replacing approximately 4,000 linear feet of 12-inch sanitary sewer force main extending from the County's Dawnview Pump Station southward to Ehrlich Road. This force main was constructed in the late 1970s utilizing thin-wall PVC and has exhibited numerous breaks in recent years. The pipe is at the end of its useful life and the County has chosen to replace it. **October 2013 - Ongoing; Fee: $542,509 To-Date.**

JEA, JACKSONVILLE, FL: LARGE DIAMETER PIPE EVALUATION & REPLACEMENT

CLIENT:
Bob Cadle
JEA
904.665.4498

YEAR PROJECT COMPLETED:
February 2016 - Ongoing

TOTAL FEES / COST:
$10,533,628.00 To-Date

CRITERIA:

Water Distribution and Sewer Collection Systems (In Florida within last 5 years)
Design, Permitting and Construction Management

Our Role

Arcadis is acting as Program Manager for the Large Diameter Pipe Evaluation and Replacement Program – a five-year Program to develop a comprehensive plan to maintain, rehabilitate, and, if necessary, replace JEA's most critical assets in a manner that maintains a high level of service to their customers and at the same time most efficiently utilizes their funding. The program includes over 800 miles of gravity sewers, force mains and water transmission mains from 16-inch to 72-inch diameter.

To develop the Program, Arcadis conducted a desktop risk assessment of all available information to prioritize pipelines for a representative field condition assessment program to develop rehabilitation and/or replacement projects. The non-destructive technologies involved in the condition assessment include: Closed-circuit television (CCTV), sonar, ultrasonic, electromagnetic and acoustic approaches. Arcadis is evaluating and selecting the technologies, developing scopes of work, executing contracts and providing field oversight for the complete pipeline condition assessment. Arcadis is also providing geographic information system (GIS) data management to coordinate and review all the data from the various assessment technologies.

Force Main Assessment

Involves the targeted condition assessment of 82,000 LF of 14-in to 36-in Cast Iron and Ductile Iron pipe installed between 1950 and 1990. Review of system configurations utilizing as-builts and GIS and review of past failure history allowed Arcadis to identify the most likely places for corrosion to occur on these assets.

The identified locations are tested using Broadband Electromagnetic (BEM) wall scanning and Ultrasonic (UT) wall scanning to further assess pipe condition. Soil corrosivity testing evaluates external conditions impacting deterioration rate.

Water Main Assessment

Involves a two-stage testing procedure to identify the condition of a representative sample of the riskiest water pipes in the system. The initial phase consists of conducting accoustic wall integrity testing on approximately 50,000 LF of 16- to 30-inch cast iron and ductile Iron pipe installed between 1950 and 1990. In the second phase of assessment, pipes where accoustic testing indicated potential deterioration, condition was further refined utilizing wall scanning to assess pipe condition. Similar to the force mains, soil corrosivity testing is conducted to evaluate external risk factors.

Gravity Main Assessment

Involves the in-line inspection of approximately 140,000 LF of 16- to 72-inch pipes of a variety of materials installed between 1950 and 1990. Arcadis is conducting a standard CCTV inspection of pipes up to 24-inch and CCTV combined with sonar inspection for larger diameter pipes utilizing track and floating platforms. A light cleaning program is also provided as necessary to complete the in-line assessments.

SFWMD, FL: PROGRAM MANAGEMENT AND ENGINEERING SUPPORT

CLIENT:
Rich Virgil, PE
Section Lead
O&M Infrastructure Management Bureau
South Florida Water Management District
561.682.6759

YEAR PROJECT COMPLETED:
See specific project

TOTAL FEES / COST:
See specific project

CRITERIA:

Drainage, Canal and Surface Water Management (SE Florida within last 5 years)

Lift Stations / Master Pump Stations

Our Role

C-41A Canal Bank Stabilization

The South Florida Water Management District's C-41A Canal was constructed by the USACE in the early 1960's. Our design approach started with a model of the canal's historical DBHydro data to determine the range of high and low water surface elevations and establish the top and bottom elevations of bank stabilization treatments. A slope stability analysis was also performed to ensure that the new design section of the cana l would be capable of withstanding both the steady state and rapid drawdown conditions. High performance turf reinforcement mat (TRM) was selected for the proposed bank stabilization treatment. The anchor design and distribution pattern for the TRM was selected based on the soil types available for backfill, the new design slopes of the re-graded canal banks and the expected flow velocities in the canal during peak flow conditions.

Challenges presented to the design team included: coordinating the survey and geotechnical pre-design work to ensure that bid documents for the first segment could be delivered in a time frame of twelve months; developing a design solution to address the bank stability issues associated with the existing soil conditions and canal operating stages; and providing the District with maximum flexibility for the budgeting and award of the contracts for construction. **July 2009 - June 2013; Fee: $1,872,650.00.**

Lake Okeechobee North Shore Pump Station Trash Rake Upgrades and Site Improvements

The South Florida Water Management District maintains and operates a number of pump stations located between Lake Okeechobee and the Herbert Hoover Dike. They were originally constructed by the U.S. Army Corps of Engineers (USACE/Corps) to discharge excess storm water from the rim canal into Lake Okeechobee. In order to improve flood control during hurricane events, the District decided to upgrade pump stations located on the north shore of Lake Okeechobee so that they could be remotely operated from a new Command and Control Center at Pump Station S-127 and their headquarters in West Palm Beach. Four pump stations (S-129, S-131, S-133 and S-135) did not have a trash removal system, and because accumulated vegetation and debris can hinder or prevent the flood control operation of these facilities, Arcadis was tasked with the design of an automated trash removal system for each of the pump stations to support the remote operation capability desired by the District. **January 2010 - May 2017; Fee: $1,181,432.00.**

S-193 Navigation Lock Refurbishment

The existing South Florida Water Management District's S-193 Navigational Lock structure was originally constructed in the 1930's as a hurricane surge protection sector gate with only one set of sector gates. The second set of sector gates and expanded structure were constructed in the 1970's to create a navigational lock. Inspections of the original facility indicated that major structural, mechanical, electrical and site refurbishments were required to maintain the serviceability and extend the life-cycle of the structure. The ARCADIS design team review these findings, performed our own additional site inspections and compiled a comprehensive list of refurbishment items that would ensure the structure would not require any major maintenance for the next 50 years. **April 2010 - August 2013; Fee: $1,872,650.00.**

SFWMD, FL: PROGRAM MANAGEMENT AND ENGINEERING SUPPORT

CLIENT:
Rich Virgil, PE
Section Lead
O&M Infrastructure Management Bureau
South Florida Water Management District
561.682.6759

YEAR PROJECT COMPLETED:
November 2016 - December 2017

TOTAL FEES / COST:
$910,347.00

CRITERIA:

Drainage, Canal and Surface Water Management (SE Florida within last 5 years)

Lift Stations / Master Pump Stations

Our Role

Mecca Impoundment Project

Arcadis was contracted by the SFWMD to perform the preliminary analysis and development of the design for a proposed above-ground water storage reservoir to benefit the Loxahatchee River, a national Wild and Scenic River in northern Palm Beach County. The project site is a 1,900 acre former orange grove adjacent to the west leg of the SFWMD C-18 Canal, that was identified and included as an above-ground storage component in the USACE Loxahatchee River Watershed Restoration Project. The Mecca Impoundment is proposed to be a 7,200-acre-foot above-ground reservoir that will provide pumped diversion and storage of excess flows from the adjacent C-18W Canal and release water back to the canal, as needed and available during low-flow periods for delivery to the Loxahatchee River to support target flows for river restoration and reduce exceedances and violations of the minimum flows levels criteria.

Arcadis' responsibilities included project scope definition, coordination of multi-disciplinary design teams for the preparation of a detailed Design Documentation Report, internal quality control and coordination of technical review and approval through the District's multi-agency technical review process. The project scope also included evaluation of multiple conceptual layout options; boundary and topographic survey of the site; geotechnical investigations including field exploration, hydraulic conductivity testing and laboratory testing; geotechnical evaluation of field and lab data to develop design criteria for the embankments, seepage canal, water control structures, and erosion control; monitoring of groundwater elevations on the site and adjacent areas; groundwater modeling to assess the effects of the impoundment on groundwater elevations adjacent to the project site; and hydraulic design analyses and modeling of the inflow and outflow canals, pump station and control structures, and design of the internal works of the impoundment.

Arcadis completed the Design Documentation Report (DDR) which defined the goals, objectives, and design criteria that will be used for design of the project features. The DDR presented the work performed in the areas of survey, geotechnical investigations, and hydrology and hydraulic modeling tasked under the work order, and documents the decisions made by the SFWMD that evolved out of the design process. This effort provided a framework with the level of detail sufficient to garner specific design directions to proceed from preliminary to final design of the project.

Some of the key construction features of the Mecca Impoundment include:

- Construction of 5.7 miles of perimeter embankment with interior bank riprap protection
- Construction of 5.8 miles of perimeter seepage canal
- Construction of 5.4 miles of borrow canal
- Construction of 0.4 mile of inflow canal from the C-18W Canal to the impoundment pump station
- Modification of 3.3 miles of the C-18W Canal
- Construction of two gated culvert discharge structures
- Construction of an inflow/seepage pump station

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HCPUD, TAMPA, FL: PUMP STATION SCADA IMPROVEMENTS

CLIENT:
Ed Fox
Project Manager
Hillsborough County Public Utilities Department
813.272.5977

YEAR PROJECT COMPLETED:
October 2011 - Ongoing

TOTAL FEES / COST:
$8,102,231.00 To-Date

CRITERIA:

IT Solutions (Florida within the last 5 years)

Lift Stations / Master Pump Stations

Our Role

The Hillsborough County Public Utilities Department owns, maintains and operates approximately 700 pump stations split across three main regions: North, Central and South. Arcadis implemented supervisory control and data acquisition (SCADA) improvements in the second phase of the County's SCADA program for the pump stations.

During Phase I, the County established three central monitoring locations within each region. At the central locations, the County installed redundant Citect human-machine interface (HMI) servers and a master radio base station to monitor and control the pump stations in the respective region. In addition, the County installed remote telemetry units (RTUs) / programmable logic controllers (PLCs) at 159 pump stations across the three regions. Each RTU panel was interconnected with the existing pump station control panel and is used to control the pump station. The RTU panels report to the master radio base station via a licensed 220-MHz radio network.

In Phase II, the County desired to replace the existing control panels with a single combination RTU / motor control center (MCC) control panel at 290 pump stations. The control panels were manufactured per UL508 and have standard manufacturer's labeling for arc flash. In addition to the motor controllers, the panel has a PLC and was integrated into the existing 220-MHz radio network and SCADA system.

The Arcadis team used a portable tablet personal computer to gather field data for each of the Phase II pump stations. The tablet and application was customized to perform the required data collection. The fields for the tablet were customized to collect the necessary information for the installation contracts and subsequent asset management tasks. In addition, the tablet was configured to allow the information collected in the field to be viewed in near real-time on a web-based extranet site.

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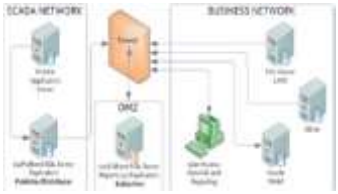
Arcadis is currently providing construction phase engineering and inspection services for approximately 270 pump stations.

ST. PETERSBURG, FL: AUTOMATED REPORTING



CLIENT:
Robert Labrie
City of St. Petersburg
727.892.5621

YEAR PROJECT COMPLETED:
April 2013 - February 2016

TOTAL FEES / COST:
$117,032

CRITERIA:

IT Solutions (Florida within the last 5 years)

Our Role

The City of St. Petersburg's Water Resources Department (WRD) desired to strengthen its existing organization and processes by implementing an enterprise reporting solution that can be used to share data generated from their major information systems. This project established a reporting framework to ensure regulatory compliance and enable better business decisions throughout the organization. The reporting solution pushes data from the secure and segregated Supervisory, Control and Data Acquisition (SCADA) network, though a firewall and DMZ and onto the business network. This data is stored in a central database along with data collected from the Laboratory Information Management System (LIMS) and potentially other sources to support automated report generation. This is accomplished using SQL Server replication and reporting services. Quality control and data change tracking is also established to provide historic records of the source of information used by all reports. The framework has been used to create Discharge Monitoring Report for three water reclamation facilities.

Management and reporting solution:

- Integrates disparate data sources
- Supports improved data quality through consistent review procedures
- Enhances reporting capabilities and extends the accessibility of compliance data
- Achieves a high-level of user acceptance and in-house support

ST. PETERSBURG, FL: WATER, WASTEWATER & STORMWATER GIS DATA MIGRATION

CLIENT:
Brejesh Prayman
City of St. Petersburg
727.892.5383

YEAR PROJECT COMPLETED:
October 2014 - February 2016

TOTAL FEES / COST:
$94,150.00

CRITERIA:

IT Solutions (Florida within the last 5 years)

Our Role

The City of Saint Petersburg used a CAD based GIS software to manage the water and wastewater pipe asset data information. The stormwater infrastructure was managed exclusivly in a CAD environment. The City wished to migrate the data to a Local Government Information Model (LGIM) geodatabase based on software developed by Environmental Systems Research Institued (ESRI).

Arcadis evaluated the existing data and collaborated with City staff to determine the the appropriate GIS layers to house migrated data into. Migration routines/scripts were developed to ensure all data layers and attributes were accounted for in the migration using Extract Transform and Load (ETL) software. Once scripts were developed, data was quickly migrated and posted to the City's database within a week.

Original Data To Migrate (CAD)
- 88 CAD data layers
- 69 Linked Tables
- 4.9 Million Attributes

Migrated Database (GIS)
- 52 GIS Data Layers
- 3.5 Million Attributes

The City required a rigid scheduled to ensure access to the data was maintained since multiple divisions rely on the information to performe various buisness processess. Once "go live" was complete the resulting information became the database of record for the distributed water, wastewater and stormwater.

CITY OF MIRAMAR, FL: PROGRESSIVE DESIGN-BUILD INJECTION WELL SYSTEM: EAST WATER TREATMENT PLANT IMPROVEMENTS DESIGN AND PERMITTING

CLIENT:
Jody Kirkman
Utility Director
City of Miramar
954.883.5065

YEAR PROJECT COMPLETED:
November 2016 - May 2017

TOTAL FEES / COST:
$9,000

CRITERIA:

Regulatory Experience for Wastewater Treatment and Disposal (SE Florida)

By-Product Disposal

Our Role

Arcadis was retained the preparation of the design and permitting for the construction of a new Class I Injection well for the disposal of membrane-softening concentrate.
A construction permit application for the new IW-1 system was prepared and submitted to the FDEP UIC Section that included the following work elements:

- An area-of-review (AOR) evaluation which included an estimate of the size of the AOR based on anticipated effluent discharge data, including a review of Florida Geological Survey (FGS), South Florida Water Management District (SFWMD), United States Geological Survey (USGS), County well permit records, and FDEP well records to determine the number, location, type, and depths of wells drilled within the area of review;
- A geologic and hydrogeologic data review of intercepted aquifer, confining units, water quality and aquifer hydraulics;
- Design of the new Class I Injection well and its associated dual-zone monitor well.
- Groundwater monitoring and testing program, which included water-quality and operational monitoring requirements, during construction and operational testing; and
- A plugging and abandonment plan and cost estimate.

Construction of the injection well and associated dual-zone monitor well began in October 2017 and is ongoing. Arcadis is the client's resident project representative for the well constructions.

CITY OF SUNRISE, FL: SPRINGTREE WELL IMPROVEMENTS

CLIENT:
Allan Miller
City of Sunrise
954.888.6050

YEAR PROJECT COMPLETED:
August 2016 - Ongoing

TOTAL FEES / COST:
$405,183.00 To-Date

CRITERIA:

Ocean Outfall, Reclaimed Water, Class I Deep Injection Wells

Regulatory Experience for Water Supply and Treatment (SE Florida)

Our Role

Arcadis provided services in design and is assisting with construction for the equipping of four new well heads and modifications to eight (8) existing wells adjacent the City of Sunrise Springtree Water and Waste Water Treatment Plant Facility. The wellheads will generally include slab on grade wellhead assemblies, well pumps, motors, water level transducers, concrete well pads, pressure gauges, flow meters, bypasses, valves, discharge piping, piping connections, instrumentation and controls (I&C), electrical, control panels meter calibration manholes, fencing, landscaping and other appurtenances along with general site restoration. The existing well modifications will include miscellaneous electrical, instrumentation and control improvements, along with complete wellhead piping replacement, fencing and general site restoration. Services during construction include but are not limited to Administration of the Contract for Construction, conducting construction progress meetings, review of requests for information, pay requests, Owner requested change orders and construction schedules. Work will also include construction observation of the work to be performed by the Contractor, review of as-builts, generating punch lists and closing out of project to permitting agencies having authority over the project.
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MIAMI-DADE COUNTY, FL: RESOURCE RECOVERY FACILITY & BOND ENGINEERING SERVICES

CLIENT:
Paul Mauriello
Deputy Director for Operations
Miami-Dade County
Department of Solid Waste Management
305.375.2960

YEAR PROJECT COMPLETED:
July 2008 - Ongoing

TOTAL FEES / COST:
$315,077 To-Date

CRITERIA:

Ocean Outfall, Reclaimed Water, Class I Deep Injection Wells

Business Advisory – Finance and Administrative Rates and Fees, Bond Feasibility and Annual Engineering Reports required for Bond Covenants

Our Role

Since 2007, Arcadis has served as the bond engineer for the Miami-Dade County Department of Solid Waste Management (DSWM) 3,000 ton per day (tpd) Refuse Derived Fuel (RDF) Resources Recovery Facility and has provided other general solid waste management services. Recent projects completed for the County include Arcadis provides independent solid waste consulting services and act on the County's behalf in accordance with Bond Covenants, ordinances, and service agreements for the County's solid waste disposal and resource recovery program. As the Bond Engineer, Arcadis provides daily oversight of the 3,000-tpd Resource Recovery Facility (RRF) including monthly, quarterly, and annual inspections and reports on the maintenance, performance, repair, and operation of the RRF. A running punch list of issues are prepared and discussed with the County and Contract Operator during the monthly operations meetings. Regulatory compliance for the RRF is monitored and annual compliance with air quality stack testing is monitored, verified, and reported to the County.

Arcadis also provides a comprehensive annual inspection and report for the overall solid waste management system including three transfer stations with combined capacity of approximately 3,500-tpd. The overall condition of each transfer station is reported to the County including operating and maintenance performance, repairs completed, and recommended renewal and replacement based on equipment conditional assessment and the potential impact of failure. The annual report provided by Arcadis for the entire solid waste management system includes a financial compliance review of the bond covenants. In addition, Arcadisprovides services related to unplanned RRF emergencies, landfill closure and long-term care cost reporting, performance and financial audits for private hauling companies, annual landfill capacity report, and landfill closure grant oversight.

Overall, services provided include:

- Project Management Services
- Engineering Consultation for Resource Recovery Operational Issues
- Engineering Studies and Reports
- Facility Inspections and Reports
- Regulatory Coordination and Permitting
- Monitor and verify the Annual Air Quality Testing of the Facility required in the PSD permit Prepare report evaluating the financial ability of the Solid Waste System to meet Bond Covenants
- Review and monitor the Renewal, Replacement and Improvement Account and Annual Budget
- Provide updates to the physical plant inventory.

MIAMI-DADE COUNTY, FL: BOND COMPLIANCE & FINANCIALS ANALYSIS

CLIENT:
Maria Sanchez
Miami-Dade County
305.514.6741

YEAR PROJECT COMPLETED:
April 2008 - June 2017

TOTAL FEES / COST:
$60,000 (Annually)

CRITERIA:

Business Advisory – Finance and Administrative Rates and Fees, Bond Feasibility and Annual Engineering Reports required for Bond Covenants

Our Role

Arcadis conducted an assessment of the Miami-Dade County Department of Solid Waste Management's (DSWM) Solid Waste System revenues and expenses in the Proposed Budget for County Fiscal Years (FY) 2012-13 through FY 2016-17. This assessment was conducted to comply with the requirements of Section 607 of the Department's Bond Ordinance, which requires the Department's bond consultant to annually analyze the adequacy of the solid waste collection and disposal fees and resulting revenue estimates in the Proposed Budget to meet operating expenses and bond covenants, and the adequacy of the amount budgeted to fund the Solid Waste System's renewal and replacement (R&R) needs to adequately maintain the System. This assessment must be completed by June 30th of each year.

Specific tasks related to this project included the following:

- Facilitated a kickoff meeting to review and identify data and information to be provided by DSWM.
- Performed an assessment of the rates and charges as required by Section 508 of the Bond Ordinance. This activity included obtaining and reviewing all backup material and assumptions in the proposed budget.
- Updated and confirmed FY 2015-16 financial results in the financial model with the values in the Fiscal Year 2016-17 Comprehensive Annual Financial Report.
- Collected data and updated the financial model with FY 2016-17 six-month projections, reviewed changes in the projections from budgeted amounts, and provided comments as appropriate on changed financial conditions, trends, and impacts.
- Evaluated the adequacy of DSWM's budgeted FY 2017-18 renewal and replacement program, including heavy equipment, maintenance facilities, trash and recycling centers, disposal facilities, and transfer facilities to ensure that the program addressed the needs identified in the most recent annual systems report and that it will allow the DSWM to continue providing the level of service it has established for its customers.
- Reviewed and assessed the DSWM FY 2017-2021 Capital Improvements Program and FY 2017-18 Capital Budget to ensure consistency with applicable official statements and the identified needs of the solid waste system.
- Updated the financial model to include the DSWM FY 2017-18 proposed budget, including proposed expenses for renewal and replacement and the DSWM's capital program. The Project Team evaluated the proposed budget to ensure that it is sufficient to meet the DSWM's renewal and replacement needs and that revenues will be sufficient to meet the DSWM's debt service coverage, cash flow, and balance requirements. The Project Team will assess the validity of assumptions in the Proposed Budget to ensure that they reflect appropriate market, operational, and financial conditions.
- Completed the assessment, prepared and submitted the draft report, reviewed and addressed DSWM comments, and issued the final report to the DSWM on budget and ahead of schedule.

SOLID WASTE AUTHORITY OF PALM BEACH COUNTY, FL: OWNER'S AGENT

CLIENT:
Ray Schauer
Solid Waste Authority of Palm Beach County
561.640.4000 extension 4603

YEAR PROJECT COMPLETED:
1998 - Ongoing

TOTAL FEES / COST:
$25,000,000 To-Date

CRITERIA:

Business Advisory – Finance and Administrative Rates and Fees, Bond Feasibility and Annual Engineering Reports required for Bond Covenants

Our Role

Arcadis has served as the Solid Waste Authority's Consulting Engineer for 20 years. During this time, we provided annual and quarterly monitoring of the Palm Beach Renewable Energy Facility No. 1 (PBREF No. 1), assisted with the vendor negotiation with the Operator for the continued operation of the Facility for an additional 20-year term, provided construction monitoring, as well as provided warranty administration. In addition, the Arcadis Team assisted the Authority with the implementation of a new mass burn waste-to-energy facility, the Palm Beach Renewable Energy Facility No. 2 (PBREF No. 2), with a processing capacity up to 3,000 tpd, the first of its kind in the United States in more than 15-years. PBREF No. 2 reached commercial operation in July 2015 and we are currently assisting the Authority in construction punch list and warranty administration and operations and maintenance monitoring. The following presents a summary of our key activities:

- PBREF No. 1 Architectural Enhancements,
- MPF Relocation Design and Procurement
- FPF Relocation Procurement
- Ferrous Processing Procurement
- Electrical Distribution System Analysis
- Alternative Technology Review
- GHG Reporting Support

Pump Station Improvement Program Design

Miami-Dade, FL

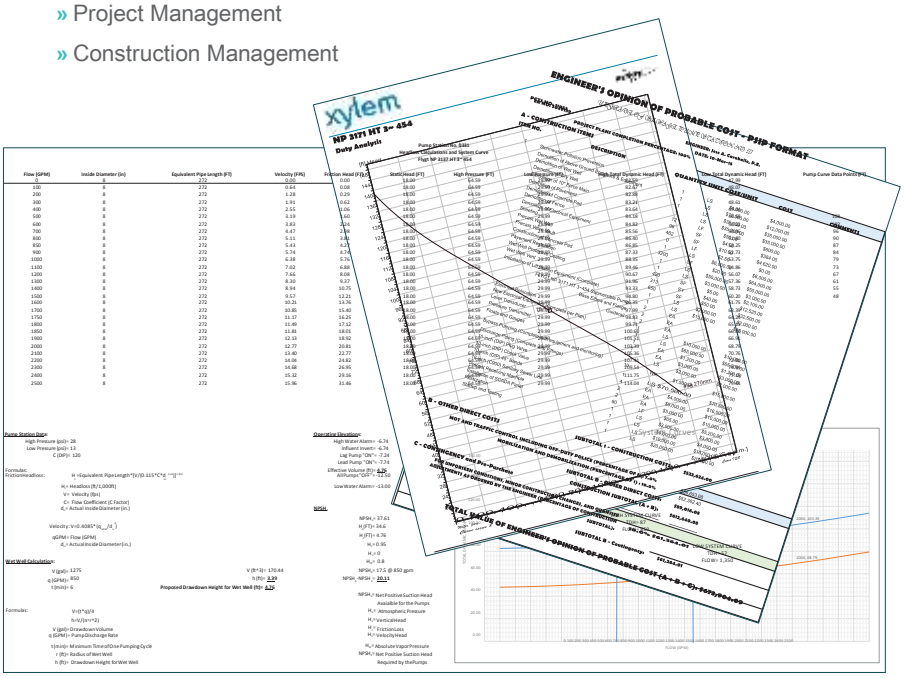
The Miami-Dade County Water and Sewer Department (WASD), in an effort to comply with the 2013 Consent Decree and improve operation of its wastewater collection system, established the Pump Station Improvement Program (PSIP). Under this program, WASD will repair or replace over 140 existing and non-compliant wastewater pump stations. The improvements vary from pump upgrades to complete pump station and force main upgrades.

PROJECT SCOPE

CES is one of the design consultants selected to analyze and design the improvements to the non-compliant pump stations. CES is designing improvements for over twenty (20) pump stations and associated force mains. Our team provides full design services, which includes surveying, geotechnical engineering, civil engineering, mechanical engineering, structural engineering, and electrical engineering. The main complexities of these projects and designs are the accelerated schedules required to meet the Consent Decree schedules. The aggressive schedule requires efficient project management and effective project controls.

CES is providing the following services:

- Topographic and Utility Survey
- Geotechnical Investigations
- Utility Coordination
- Design Services – pump sizing, electrical, structural
- Permitting
- Project Management
- Construction Management



FIRM

CES Consultants

CLIENT

Miami-Dade WASD - PSIP Team
3850 Bird Road, Suite 502
Miami, FL 33146
(305) 446-7454

PROJECT FEES

$3M

PERIOD OF SERVICE

Start: 2014
End: Ongoing

SERVICES PROVIDED

Utility Coordination
Design Services
Permitting
Project Management
Construction Management

WASD PS 147 Upgrades
Miami, FL

WASD in an effort to comply with the 2013 Consent Decree and improve operations of its wastewater collection system, established the Pump Station Improvement Program. Under this program, WASD will repair or replace over 140 existing and non-compliant wastewater pump stations. The improvements vary from pump upgrades to complete pump station and force main upgrades.

PROJECT SCOPE

CES, as one of the design consultants, was tasked to analyze and design the improvements for PS 147. This station required a complete overhaul to convert the existing wet well / dry well to a new submersible pump station. The design included demolition plans, civil site plans, mechanical plans, structural plans, and electrical plans. The original design included a new 8-foot diameter wet well and valve vault, new 56 HP pumps, 10-inch diameter discharge piping, a new electrical control panel, and a 175 KW emergency generator. Since the pump station design included an emergency generator, all assets within the project boundary needed to be set at the Base Flood Elevation plus 2 feet. This made the civil site design on such a small property extremely challenging. Due to the aggressive schedule, CES designed and permitted the pump station with the emergency generator, and negotiated the removal of the generator with DERM. CES redesigned the pump station to remove the emergency generator, reduce the final elevation to the Base Flood Elevation plus 1 foot, and reorganize the pump station layout to better fit within the small property. Our team provides full design services, which includes surveying, geotechnical engineering, civil engineering, mechanical engineering, structural engineering, and electrical engineering.

FIRM
CES Consultants

CLIENT
Miami-Dade WASD -
PSIP Team
3850 Bird Road, Suite 502
Miami, FL 33146
(305) 446-7454

PROJECT FEES
$110,000

PERIOD OF SERVICE
Start:10/2014
End: 03/2016

SERVICES PROVIDED
Civil
Mechanical
Structural

WASD PS 449 Upgrades
Miami Gardens, FL

The Miami-Dade County Water and Sewer Department (WASD), in an effort to comply with the 2013 Consent Decree and improve operations of its wastewater collection system, established the Pump Station Improvement Program. Under this program, WASD will repair or replace over 140 existing and non-compliant wastewater pump stations. The improvements vary from pump upgrades to complete pump station and force main upgrades.

PROJECT SCOPE

CES, as one of the design consultants, was tasked to analyze and design the improvements for PS 449. This station was a submersible station, but the wet well was undersized in both diameter and depth. The new design included a new 8-foot diameter wet well and valve vault, new 21.5 HP pumps, 10-inch diameter discharge piping, approximately 250 feet of 10-inch force main, modifications to the two existing receiving manholes, and a new electrical control panel. The design included demolition plans, civil site plans, mechanical plans, structural plans, and electrical plans. The new layout allows for a better use of the site, which includes the installation of the upgraded pump station and a parking pad for WASD maintenance vehicles or a temporary generator. Our team provides full design services, which includes surveying, geotechnical engineering, civil engineering, mechanical engineering, structural engineering, and electrical engineering.

The main complexities of these projects and designs are the accelerated schedules required to meet the Consent Decree schedules. The aggressive schedule requires efficient project management and effective project controls.

FIRM
CES Consultants

CLIENT
Miami-Dade WASD -
PSIP Team
3850 Bird Road, Suite 502
Miami, FL 33146
(305) 446-7454

PROJECT FEES
$100,000

PERIOD OF SERVICE
Start: 04/2015
End:04/2016

SERVICES PROVIDED
Civil
Mechanical
Structural

ARCADIS Design & Consultancy for natural and built assets

Arcadis

8201 Peters Road
Suite 2400
Plantation, Florida
33324
Tel: 954 761 3460

www.arcadis.com

Supplier: **ARCADIS**

Standard Instructions to Vendors
Request for Proposals, Request for Qualifications, or Request for Letters of Interest

Vendors are instructed to read and follow the instructions carefully, as any misinterpretation or failure to comply with instructions may lead to a Vendor's submittal being rejected.

Vendor MUST submit its solicitation response electronically and MUST confirm its submittal in order for the County to receive a valid response through BidSync. Refer to the Purchasing Division website or contact BidSync for submittal instructions.

A. Responsiveness Criteria:

In accordance with Broward County Procurement Code Section 21.8.b.65, a Responsive Bidder [Vendor] means a person who has submitted a proposal which conforms in all material respects to a solicitation. The solicitation submittal of a responsive Vendor must be submitted on the required forms, which contain all required information, signatures, notarizations, insurance, bonding, security, or other mandated requirements required by the solicitation documents to be submitted at the time of proposal opening.

Failure to provide the information required below at the time of submittal opening may result in a recommendation Vendor is non-responsive by the Director of Purchasing. The Selection or Evaluation Committee will determine whether the firm is responsive to the requirements specified herein. The County reserves the right to waive minor technicalities or irregularities as is in the best interest of the County in accordance with Section 21.30.f.1(c) of the Broward County Procurement Code.

Below are standard responsiveness criteria; refer to **Special Instructions to Vendors**, for Additional Responsiveness Criteria requirement(s).

1. **Lobbyist Registration Requirement Certification**
   Refer to **Lobbyist Registration Requirement Certification** . The completed form should be submitted with the solicitation response but must be submitted within three business days of County's request. Vendor may be deemed non-responsive for failure to fully comply within stated timeframes.

2. **Addenda**
   The County reserves the right to amend this solicitation prior to the due date. Any change(s) to this solicitation will be conveyed through the written addenda process. Only written addenda will be binding. If a "must" addendum is issued, Vendor must follow instructions and submit required information, forms, or acknowledge addendum, as instructed therein. It is the responsibility of all potential Vendors to monitor the solicitation for any changing information, prior to submitting their response.

B. Responsibility Criteria:

Definition of a Responsible Vendor: In accordance with Section 21.8.b.64 of the Broward County Procurement Code, a Responsible Vendor means a Vendor who has the capability in all respects to perform the contract requirements, and the integrity and reliability which will assure good faith performance.

The Selection or Evaluation Committee will recommend to the awarding authority a determination of a Vendor's responsibility. At any time prior to award, the awarding authority may find that a Vendor is

not responsible to receive a particular award.

Failure to provide any of this required information and in the manner required may result in a recommendation by the Director of Purchasing that the Vendor is non-responsive.

Below are standard responsibility criteria; refer to **Special Instructions to Vendors**, for Additional Responsibility Criteria requirement(s).

1. **Litigation History**

   a. All Vendors are required to disclose to the County all "material" cases filed, pending, or resolved during the last three (3) years prior to the solicitation response due date, whether such cases were brought by or against the Vendor, any parent or subsidiary of the Vendor, or any predecessor organization. A case is considered to be "material" if it relates, in whole or in part, to any of the following:

      i. A similar type of work that the vendor is seeking to perform for the County under the current solicitation;
      ii. An allegation of negligence, error or omissions, or malpractice against the vendor or any of its principals or agents who would be performing work under the current solicitation;
      iii. A vendor's default, termination, suspension, failure to perform, or improper performance in connection with any contract;
      iv. The financial condition of the vendor, including any bankruptcy petition (voluntary and involuntary) or receivership; or
      v. A criminal proceeding or hearing concerning business-related offenses in which the vendor or its principals (including officers) were/are defendants.

   b. For each material case, the Vendor is required to provide all information identified on the **Litigation History Form**.

   c. The County will consider a Vendor's litigation history information in its review and determination of responsibility.

   d. If the Vendor is a joint venture, the information provided should encompass the joint venture and each of the entities forming the joint venture.

   e. A Vendor is also required to disclose to the County any and all case(s) that exist between the County and any of the Vendor's subcontractors/subconsultants proposed to work on this project.

   f. Failure to disclose any material case, or to provide all requested information in connection with each such case, may result in the Vendor being deemed non-responsive.

2. **Financial Information**

   a. All Vendors are required to provide the Vendor's financial statements at the time of submittal in order to demonstrate the Vendor's financial capabilities.

   b. Each Vendor shall submit its most recent two years of financial statements for review. The financial statements are not required to be audited financial statements. The annual financial statements will be in the form of:

      i. Balance sheets, income statements and annual reports; or
      ii. Tax returns; or
      iii. SEC filings.

If tax returns are submitted, ensure it does not include any personal information (as defined under Florida Statutes Section 501.171, Florida Statutes), such as social security numbers, bank account or credit card numbers, or any personal pin numbers. If any personal information data is part of financial statements, redact information prior to submitting a response the County.

c. If a Vendor has been in business for less than the number of years of required financial statements, then the Vendor must disclose all years that the Vendor has been in business, including any partial year-to-date financial statements.

d. The County may consider the unavailability of the most recent year's financial statements and whether the Vendor acted in good faith in disclosing the financial documents in its evaluation.

e. Any claim of confidentiality on financial statements should be asserted at the time of submittal. Refer to **Standard Instructions to Vendors**, Confidential Material/ Public Records and Exemptions for instructions on submitting confidential financial statements. The Vendor's failure to provide the information as instructed may lead to the information becoming public.

f. Although the review of a Vendor's financial information is an issue of responsibility, the failure to either provide the financial documentation or correctly assert a confidentiality claim pursuant the Florida Public Records Law and the solicitation requirements (Confidential Material/ Public Records and Exemptions section) may result in a recommendation of non-responsiveness by the Director of Purchasing.

3. **Authority to Conduct Business in Florida**

a. A Vendor must have the authority to transact business in the State of Florida and be in good standing with the Florida Secretary of State. For further information, contact the Florida Department of State, Division of Corporations.

b. The County will review the Vendor's business status based on the information provided in response to this solicitation.

c. It is the Vendor's responsibility to comply with all state and local business requirements.

d. Vendor should list its active Florida Department of State Division of Corporations Document Number (or Registration No. for fictitious names) in the **Vendor Questionnaire**, Question No. 10.

e. If a Vendor is an out-of-state or foreign corporation or partnership, the Vendor must obtain the authority to transact business in the State of Florida or show evidence of application for the authority to transact business in the State of Florida, upon request of the County.

f. A Vendor that is not in good standing with the Florida Secretary of State at the time of a submission to this solicitation may be deemed non-responsible.

g. If successful in obtaining a contract award under this solicitation, the Vendor must remain in good standing throughout the contractual period of performance.

4. **Affiliated Entities of the Principal(s)**

a. All Vendors are required to disclose the names and addresses of "affiliated entities" of the Vendor's principal(s) over the last five (5) years (from the solicitation opening deadline) that have acted as a prime Vendor with the County. The Vendor is required to provide all

information required on the **Affiliated Entities of the Principal(s) Certification Form**.

b. The County will review all affiliated entities of the Vendor's principal(s) for contract performance evaluations and the compliance history with the County's Small Business Program, including CBE, DBE and SBE goal attainment requirements. "Affiliated entities" of the principal(s) are those entities related to the Vendor by the sharing of stock or other means of control, including but not limited to a subsidiary, parent or sibling entity.

c. The County will consider the contract performance evaluations and the compliance history of the affiliated entities of the Vendor's principals in its review and determination of responsibility.

5. Insurance Requirements

The **Insurance Requirement Form** reflects the insurance requirements deemed necessary for this project. It is not necessary to have this level of insurance in effect at the time of submittal, but it is necessary to submit certificates indicating that the Vendor currently carries the insurance or to submit a letter from the carrier indicating it can provide insurance coverages.

C. Additional Information and Certifications

The following forms and supporting information (if applicable) should be returned with Vendor's submittal. If not provided with submittal, the Vendor must submit within three business days of County's request. Failure to timely submit may affect Vendor's evaluation.

1. Vendor Questionnaire

Vendor is required to submit detailed information on their firm. Refer to the **Vendor Questionnaire** and submit as instructed.

2. Standard Certifications

Vendor is required to certify to the below requirements. Refer to the **Standard Certifications** and submit as instructed.

a. **Cone of Silence Requirement Certification**
b. **Drug-Free Workplace Certification**
c. **Non-Collusion Certification**
d. **Public Entities Crimes Certification**
e. **Scrutinized Companies List Certification**

3. Subcontractors/Subconsultants/Suppliers Requirement

The Vendor shall submit a listing of all subcontractors, subconsultants, and major material suppliers, if any, and the portion of the contract they will perform. Vendors must follow the instructions included on the **Subcontractors/Subconsultants/Suppliers Information Form** and submit as instructed.

D. Standard Agreement Language Requirements

1. The acceptance of or any exceptions taken to the terms and conditions of the County's Agreement shall be considered a part of a Vendor's submittal and will be considered by the Selection or Evaluation Committee.

2. The applicable Agreement terms and conditions for this solicitation are indicated in the **Special Instructions to Vendors.**

3. Vendors are required to review the applicable terms and conditions and submit the **Agreement Exception Form**. If the **Agreement Exception Form** is not provided with the submittal, it shall

be deemed an affirmation by the Vendor that it accepts the Agreement terms and conditions as disclosed in the solicitation.

4. If exceptions are taken, the Vendor must specifically identify each term and condition with which it is taking an exception. Any exception not specifically listed is deemed waived. Simply identifying a section or article number is not sufficient to state an exception. Provide either a redlined version of the specific change(s) or specific proposed alternative language. Additionally, a brief justification specifically addressing each provision to which an exception is taken should be provided.

5. Submission of any exceptions to the Agreement does not denote acceptance by the County. Furthermore, taking exceptions to the County's terms and conditions may be viewed unfavorably by the Selection or Evaluation Committee and ultimately may impact the overall evaluation of a Vendor's submittal.

E. Evaluation Criteria

1. The Selection or Evaluation Committee will evaluate Vendors as per the **Evaluation Criteria.** The County reserves the right to obtain additional information from a Vendor.

2. Vendor has a continuing obligation to inform the County in writing of any material changes to the information it has previously submitted. The County reserves the right to request additional information from Vendor at any time.

3. For Request for Proposals, the following shall apply:

   a. The Director of Purchasing may recommend to the Evaluation Committee to short list the most qualified firms prior to the Final Evaluation.

   b. The Evaluation Criteria identifies points available; a total of 100 points is available.

   c. If the Evaluation Criteria includes a request for pricing, the total points awarded for price is determined by applying the following formula:

      (Lowest Proposed Price/Vendor's Price) x (Maximum Number of Points for Price) = Price Score

   d. After completion of scoring, the County may negotiate pricing as in its best interest.

4. For Requests for Letters of Interest or Request for Qualifications, the following shall apply:

   a. The Selection or Evaluation Committee will create a short list of the most qualified firms.

   b. The Selection or Evaluation Committee will either:

      i. Rank shortlisted firms; or
      ii. If the solicitation is part of a two-step procurement, shortlisted firms will be requested to submit a response to the Step Two procurement.

F. Demonstrations

If applicable, as indicated in **Special Instructions to Vendors**, Vendors will be required to demonstrate the nature of their offered solution. After receipt of submittals, all Vendors will receive a description of, and arrangements for, the desired demonstration. A copy of the demonstration (hard copy, DVD, CD, flash drive or a combination of both) should be given to the Purchasing Agent at the demonstration meeting to retain in the Purchasing files.

G. Presentations

Vendors that are found to be both responsive and responsible to the requirements of the solicitation and/or shortlisted (if applicable) will have an opportunity to make an oral presentation to the Selection or Evaluation Committee on the Vendor's approach to this project and the Vendor's ability to perform. The committee may provide a list of subject matter for the discussion. All Vendor's will have equal time to present but the question-and-answer time may vary.

H. Public Art and Design Program

If indicated in **Special Instructions to Vendors,** Public Art and Design Program, Section 1-88, Broward County Code of Ordinances, applies to this project. It is the intent of the County to functionally integrate art, when applicable, into capital projects and integrate artists' design concepts into this improvement project. The Vendor may be required to collaborate with the artist(s) on design development within the scope of this request. Artist(s) shall be selected by Broward County through an independent process. For additional information, contact the Broward County Cultural Division.

I. Committee Appointment

The Cone of Silence shall be in effect for County staff at the time of the Selection or Evaluation Committee appointment and for County Commissioners and Commission staff at the time of the Shortlist Meeting of the Selection Committee or the Initial Evaluation Meeting of the Evaluation Committee. The committee members appointed for this solicitation are available on the Purchasing Division's website under Committee Appointment.

J. Committee Questions, Request for Clarifications, Additional Information

At any committee meeting, the Selection or Evaluation Committee members may ask questions, request clarification, or require additional information of any Vendor's submittal or proposal. It is highly recommended Vendors attend to answer any committee questions (if requested), including a Vendor representative that has the authority to bind.

Vendor's answers may impact evaluation (and scoring, if applicable). Upon written request to the Purchasing Agent prior to the meeting, a conference call number will be made available for Vendor participation via teleconference. Only Vendors that are found to be both responsive and responsible to the requirements of the solicitation and/or shortlisted (if applicable) are requested to participate in a final (or presentation) Selection or Evaluation committee meeting.

K. Vendor Questions

The County provides a specified time for Vendors to ask questions and seek clarification regarding solicitation requirements. All questions or clarification inquiries must be submitted through BidSync by the date and time referenced in the solicitation document (including any addenda). The County will respond to questions via Bid Sync.

L. Confidential Material/ Public Records and Exemptions

1. Broward County is a public agency subject to Chapter 119, Florida Statutes. Upon receipt, all submittals become "public records" and shall be subject to public disclosure consistent with Chapter 119, Florida Statutes. Submittals may be posted on the County's public website or included in a public records request response, unless there is a declaration of "confidentiality" pursuant to the public records law and in accordance with the procedures in this section.

2. Any confidential material(s) the Vendor asserts is exempt from public disclosure under Florida Statutes must be labeled as "Confidential", and marked with the specific statute and subsection

asserting exemption from Public Records.

3. To submit confidential material, three hardcopies must be submitted in a sealed envelope, labeled with the solicitation number, title, date and the time of solicitation opening to:

   Broward County Purchasing Division
   115 South Andrews Avenue, Room 212
   Fort Lauderdale, FL 33301

4. Material will not be treated as confidential if the Vendor does not cite the applicable Florida Statute (s) allowing the document to be treated as confidential.

5. Any materials that the Vendor claims to be confidential and exempt from public records must be marked and separated from the submittal. If the Vendor does not comply with these instructions, the Vendor's claim for confidentiality will be deemed as waived.

6. Submitting confidential material may impact full discussion of your submittal by the Selection or Evaluation Committee because the Committee will be unable to discuss the details contained in the documents cloaked as confidential at the publicly noticed Committee meeting.

M. Copyrighted Materials

Copyrighted material is not exempt from the Public Records Law, Chapter 119, Florida Statutes. Submission of copyrighted material in response to any solicitation will constitute a license and permission for the County to make copies (including electronic copies) as reasonably necessary for the use by County staff and agents, as well as to make the materials available for inspection or production pursuant to Public Records Law, Chapter 119, Florida Statutes.

N. State and Local Preferences

If the solicitation involves a federally funded project where the fund requirements prohibit the use of state and/or local preferences, such preferences contained in the Local Preference Ordinance and Broward County Procurement Code will not be applied in the procurement process.

O. Local Preference

Except where otherwise prohibited by federal or state law or other funding source restrictions, a local Vendor whose submittal is within 5% of the highest total ranked Vendor outside of the preference area will become the Vendor with whom the County will proceed with negotiations for a final contract. Refer to **Local Vendor Certification Form (Preference and Tiebreaker)** for further information.

P. Tiebreaker Criteria

In accordance with Section 21.31.d of the Broward County Procurement Code, the tiebreaker criteria shall be applied based upon the information provided in the Vendor's response to the solicitation. In order to receive credit for any tiebreaker criterion, complete and accurate information must be contained in the Vendor's submittal.

1. **Local Vendor Certification Form (Preference and Tiebreaker);**
2. **Domestic Partnership Act Certification (Requirement and Tiebreaker);**
3. **Tiebreaker Criteria Form: Volume of Work Over Five Years**

Q. Posting of Solicitation Results and Recommendations

The Broward County Purchasing Division's website is the location for the County's posting of all

solicitations and contract award results. It is the obligation of each Vendor to monitor the website in order to obtain complete and timely information.

R. Review and Evaluation of Responses

A Selection or Evaluation Committee is responsible for recommending the most qualified Vendor(s). The process for this procurement may proceed in the following manner:

1. The Purchasing Division delivers the solicitation submittals to agency staff for summarization for the committee members. Agency staff prepares a report, including a matrix of responses submitted by the Vendors. This may include a technical review, if applicable.

2. Staff identifies any incomplete responses. The Director of Purchasing reviews the information and makes a recommendation to the Selection or Evaluation Committee as to each Vendor's responsiveness to the requirements of the solicitation. The final determination of responsiveness rests solely on the decision of the committee.

3. At any time prior to award, the awarding authority may find that a Vendor is not responsible to receive a particular award. The awarding authority may consider the following factors, without limitation: debarment or removal from the authorized Vendors list or a final decree, declaration or order by a court or administrative hearing officer or tribunal of competent jurisdiction that the Vendor has breached or failed to perform a contract, claims history of the Vendor, performance history on a County contract(s), an unresolved concern, or any other cause under this code and Florida law for evaluating the responsibility of a Vendor.

S. Vendor Protest

Sections 21.118 and 21.120 of the Broward County Procurement Code set forth procedural requirements that apply if a Vendor intends to protest a solicitation or proposed award of a contract and state in part the following:

1. Any protest concerning the solicitation or other solicitation specifications or requirements must be made and received by the County within seven business days from the posting of the solicitation or addendum on the Purchasing Division's website. Such protest must be made in writing to the Director of Purchasing. Failure to timely protest solicitation specifications or requirements is a waiver of the ability to protest the specifications or requirements.

2. Any protest concerning a solicitation or proposed award above the award authority of the Director of Purchasing, after the RLI or RFP opening, shall be submitted in writing and received by the Director of Purchasing within five business days from the posting of the recommendation of award for Invitation to Bids or the final recommendation of ranking for Request for Letters of Interest and Request for Proposals on the Purchasing Division's website.

3. Any actual or prospective Vendor who has a substantial interest in and is aggrieved in connection with the proposed award of a contract which does not exceed the amount of the award authority of the Director of Purchasing, may protest to the Director of Purchasing. The protest shall be submitted in writing and received within three (3) business days from the posting of the recommendation of award for Invitation to Bids or the final recommendation of ranking for Request for Letters of Interest and Request for Proposals on the Purchasing Division's website.

4. For purposes of this section, a business day is defined as Monday through Friday between 8:30 a.m. and 5:00 p.m. Failure to timely file a protest within the time prescribed for a proposed contract award shall be a waiver of the Vendor's right to protest.

5. Protests arising from the decisions and votes of a Selection or Evaluation Committee shall be limited to protests based upon the alleged deviations from established committee procedures set forth in the Broward County Procurement Code and existing written guidelines. Any allegations of misconduct or misrepresentation on the part of a competing Vendor shall not be considered a protest.

6. As a condition of initiating any protest, the protestor shall present the Director of Purchasing a nonrefundable filing fee in accordance with the table below.

Estimated Contract Amount	Filing Fee
$30,000 - $250,000	$ 500
$250,001 - $500,000	$1,000
$500,001 - $5 million	$3,000
Over $5 million	$5,000

If no contract proposal amount was submitted, the estimated contract amount shall be the County's estimated contract price for the project. The County may accept cash, money order, certified check, or cashier's check, payable to Broward County Board of Commissioners.

T. Right of Appeal

Pursuant to Section 21.83.d of the Broward County Procurement Code, any Vendor that has a substantial interest in the matter and is dissatisfied or aggrieved in connection with the Selection or Evaluation Committee's determination of responsiveness may appeal the determination pursuant to Section 21.120 of the Broward County Procurement Code.

1. The appeal must be in writing and sent to the Director of Purchasing within ten (10) calendar days of the determination by the Selection or Evaluation Committee to be deemed timely.

2. As required by Section 21.120, the appeal must be accompanied by an appeal bond by a Vendor having standing to protest and must comply with all other requirements of this section.

3. The institution and filing of an appeal is an administrative remedy to be employed prior to the institution and filing of any civil action against the County concerning the subject matter of the appeal.

U. Rejection of Responses

The Selection or Evaluation Committee may recommend rejecting all submittals as in the best interests of the County. The rejection shall be made by the Director of Purchasing, except when a solicitation was approved by the Board, in which case the rejection shall be made by the Board.

V. Negotiations

The County intends to conduct the first negotiation meeting no later than two weeks after approval of the final ranking as recommended by the Selection or Evaluation Committee. At least one of the representatives for the Vendor participating in negotiations with the County must be authorized to bind the Vendor. In the event that the negotiations are not successful within a reasonable timeframe (notification will be provided to the Vendor) an impasse will be declared and negotiations with the first-ranked Vendor will cease. Negotiations will begin with the next ranked Vendor, etc. until such time that all requirements of Broward County Procurement Code have been met.

W. Submittal Instructions:

1. Broward County does not require any personal information (as defined under Section 501.171, Florida Statutes), such as social security numbers, driver license numbers, passport, military ID, bank account or credit card numbers, or any personal pin numbers, in order to submit a response for ANY Broward County solicitation. DO NOT INCLUDE any personal information data in any document submitted to the County. If any personal information data is part of a submittal, this information must be redacted prior to submitting a response to the County.

2. **Vendor MUST submit its solicitation response electronically and MUST confirm its submittal in order for the County to receive a valid response through BidSync.** It is the Vendor's sole responsibility to assure its response is submitted and received through BidSync by the date and time specified in the solicitation.

3. The County will not consider solicitation responses received by other means. Vendors are encouraged to submit their responses in advance of the due date and time specified in the solicitation document. In the event that the Vendor is having difficulty submitting the solicitation document through Bid Sync, immediately notify the Purchasing Agent and then contact BidSync for technical assistance.

4. Vendor must view, submit, and/or accept each of the documents in BidSync. Web-fillable forms can be filled out and submitted through BidSync.

5. After all documents are viewed, submitted, and/or accepted in BidSync, the Vendor must upload additional information requested by the solicitation (i.e. Evaluation Criteria and Financials Statements) in the Item Response Form in BidSync, under line one (regardless if pricing requested).

6. Vendor should upload responses to Evaluation Criteria in Microsoft Word or Excel format.

7. If the Vendor is declaring any material confidential and exempt from Public Records, refer to Confidential Material/ Public Records and Exemptions for instructions on submitting confidential material.

8. After all files are uploaded, Vendor must submit and **CONFIRM** its offer (by entering password) for offer to be received through BidSync.

9. If a solicitation requires an original Proposal Bond (per Special Instructions to Vendors), Vendor must submit in a sealed envelope, labeled with the solicitation number, title, date and the time of solicitation opening to:

   Broward County Purchasing Division
   115 South Andrews Avenue, Room 212
   Fort Lauderdale, FL 33301

   A copy of the Proposal Bond should also be uploaded into Bid Sync; this does not replace the requirement to have an original proposal bond. Vendors must submit the original Proposal Bond, by the solicitation due date and time.

Supplier: **ARCADIS**

VENDOR QUESTIONNAIRE AND STANDARD CERTIFICATIONS
Request for Proposals, Request for Qualifications, or Request for Letters of Interest

Vendor should complete questionnaire and complete and acknowledge the standard certifications and submit with the solicitation response. If not submitted with solicitation response, it must be submitted within three business days of County's request. Failure to timely submit may affect Vendor's evaluation.

If a response requires additional information, the Vendor should upload a written detailed response with submittal; each response should be numbered to match the question number. The completed questionnaire and attached responses will become part of the procurement record. It is imperative that the person completing the Vendor Questionnaire be knowledgeable about the proposing Vendor's business and operations.

1. Legal business name:**Arcadis U.S., Inc.**
2. Doing Business As/ Fictitious Name (if applicable):
3. Federal Employer I.D. no. (FEIN):**57-0373224**
4. Dun and Bradstreet No.:**08-150-9838**
5. Website address (if applicable): **www.arcadis.com**
6. Principal place of business address: **630 Plaza Drive, Suite 10**
   Highlands Ranch, CO 80129
7. Office location responsible for this project: **8201 Peters Road, Suite 2400**
   Plantation, FL 33324
8. Telephone no.:**954-761-3460** Fax no.:**954-761-7939**
9. Type of business (check appropriate box):
   - ☑ Corporation (specify the state of incorporation):**Delaware**
   - ☐ Sole Proprietor
   - ☐ Limited Liability Company (LLC)
   - ☐ Limited Partnership
   - ☐ General Partnership (State and County Filed In)
   - ☐ Other - Specify
10. List Florida Department of State, Division of Corporations document number (or registration number if fictitious name): **F98000001104**
11. List name and title of each principal, owner, officer, and major shareholder:
    a) **N/A**
    b)
    c)
    d)
12. AUTHORIZED CONTACT(S) FOR YOUR FIRM:

Name: **Leah Torres, PE**

Title: **Associate Vice President**

E-mail: **leah.torres@arcadis.com**

Telephone No.: **954-525-2499**

Name:

Title:

E-mail:

Telephone No.:

13.	Has your firm, its principals, officers or predecessor organization(s) been debarred or suspended by any government entity within the last three years? If yes, specify details in an attached written response.	☐ Yes ☑ No
14.	Has your firm, its principals, officers or predecessor organization(s) ever been debarred or suspended by any government entity? If yes, specify details in an attached written response, including the reinstatement date, if granted.	☐ Yes ☑ No
15.	Has your firm ever failed to complete any services and/or delivery of products during the last three (3) years? If yes, specify details in an attached written response.	☐ Yes ☑ No
16.	Is your firm or any of its principals or officers currently principals or officers of another organization? If yes, specify details in an attached written response.	☐ Yes ☑ No
17.	Have any voluntary or involuntary bankruptcy petitions been filed by or against your firm, its parent or subsidiaries or predecessor organizations during the last three years? If yes, specify details in an attached written response.	☐ Yes ☑ No
18.	Has your firm's surety ever intervened to assist in the completion of a contract or have Performance and/or Payment Bond claims been made to your firm or its predecessor's sureties during the last three years? If yes, specify details in an attached written response, including contact information for owner and surety.	☐ Yes ☑ No
19.	Has your firm ever failed to complete any work awarded to you, services and/or delivery of products during the last three (3) years? If yes, specify details in an attached written response.	☐ Yes ☑ No
20.	Has your firm ever been terminated from a contract within the last three years? If yes, specify details in an attached written response.	☐ Yes ☑ No
21.	Living Wage solicitations only: In determining what, if any, fiscal impacts(s) are a result of the Ordinance for this solicitation, provide the following for informational purposes only. Response is not considered in determining the award of this contract. Living Wage had an effect on the pricing. If yes, Living Wage increased the pricing by% or decreased the pricing by%.	☐ Yes ☐ No ☑ N/A

Cone of Silence Requirement Certification:

The Cone of Silence Ordinance, Section 1-266, Broward County Code of Ordinances prohibits certain communications among Vendors, Commissioners, County staff, and Selection or Evaluation Committee members. Identify on a separate sheet any violations of this Ordinance by any members of the responding firm or its joint ventures. After the application of the Cone of Silence, inquiries regarding this solicitation should be directed to the Director of Purchasing or designee. The Cone of Silence terminates when the County Commission or other awarding authority takes action which ends the solicitation.

The Vendor hereby certifies that: (check each box)

☑ The Vendor has read Cone of Silence Ordinance, Section 1-266, Broward County Code of Ordinances; and

☑ The Vendor understands that the Cone of Silence for this competitive solicitation shall be in effect beginning

upon the appointment of the Selection or Evaluation Committee, for communication regarding this solicitation with the County Administrator, Deputy County Administrator, Assistant County Administrators, and Assistants to the County Administrator and their respective support staff or any person, including Evaluation or Selection Committee members, appointed to evaluate or recommend selection in this RFP/RLI process. For Communication with County Commissioners and Commission staff, the Cone of Silence allows communication until the initial Evaluation or Selection Committee Meeting.

☑ The Vendor agrees to comply with the requirements of the Cone of Silence Ordinance.

Drug-Free Workplace Requirements Certification:
Section 21.31.a. of the Broward County Procurement Code requires awards of all competitive solicitations requiring Board award be made only to firms certifying the establishment of a drug free workplace program. The program must consist of:

1. Publishing a statement notifying its employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the offeror's workplace, and specifying the actions that will be taken against employees for violations of such prohibition;

2. Establishing a continuing drug-free awareness program to inform its employees about:
   a. The dangers of drug abuse in the workplace;
   b. The offeror's policy of maintaining a drug-free workplace;
   c. Any available drug counseling, rehabilitation, and employee assistance programs; and
   d. The penalties that may be imposed upon employees for drug abuse violations occurring in the workplace;

3. Giving all employees engaged in performance of the contract a copy of the statement required by subparagraph 1;

4. Notifying all employees, in writing, of the statement required by subparagraph 1, that as a condition of employment on a covered contract, the employee shall:
   a. Abide by the terms of the statement; and
   b. Notify the employer in writing of the employee's conviction of, or plea of guilty or nolo contendere to, any violation of Chapter 893 or of any controlled substance law of the United States or of any state, for a violation occurring in the workplace NO later than five days after such conviction.

5. Notifying Broward County government in writing within 10 calendar days after receiving notice under subdivision 4.b above, from an employee or otherwise receiving actual notice of such conviction. The notice shall include the position title of the employee;

6. Within 30 calendar days after receiving notice under subparagraph 4 of a conviction, taking one of the following actions with respect to an employee who is convicted of a drug abuse violation occurring in the workplace:
   a. Taking appropriate personnel action against such employee, up to and including termination; or
   b. Requiring such employee to participate satisfactorily in a drug abuse assistance or rehabilitation program approved for such purposes by a federal, state, or local health, law enforcement, or other appropriate agency; and

7. Making a good faith effort to maintain a drug-free workplace program through implementation of subparagraphs 1 through 6.

The Vendor hereby certifies that: (check box)

☑ The Vendor certifies that it has established a drug free workplace program in accordance with the above requirements.

Non-Collusion Certification:
Vendor shall disclose, to their best knowledge, any Broward County officer or employee, or any relative of any such officer or employee as defined in Section 112.3135 (1) (c), Florida Statutes, who is an officer or director of, or has a material interest in, the Vendor's business, who is in a position to influence this procurement. Any Broward

County officer or employee who has any input into the writing of specifications or requirements, solicitation of offers, decision to award, evaluation of offers, or any other activity pertinent to this procurement is presumed, for purposes hereof, to be in a position to influence this procurement. Failure of a Vendor to disclose any relationship described herein shall be reason for debarment in accordance with the provisions of the Broward County Procurement Code.

The Vendor hereby certifies that: (select one)

☑ The Vendor certifies that this offer is made independently and free from collusion; or

☐ The Vendor is disclosing names of officers or employees who have a material interest in this procurement and is in a position to influence this procurement. Vendor must include a list of name(s), and relationship(s) with its submittal.

Public Entities Crimes Certification:
In accordance with Public Entity Crimes, Section 287.133, Florida Statutes, a person or affiliate placed on the convicted vendor list following a conviction for a public entity crime may not submit on a contract: to provide any goods or services; for construction or repair of a public building or public work; for leases of real property to a public entity; and may not be awarded or perform work as a contractor, supplier, subcontractor, or consultant under a contract with any public entity; and may not transact business with any public entity in excess of the threshold amount provided in s. 287.017 for Category Two for a period of 36 months following the date of being placed on the convicted vendor list.

The Vendor hereby certifies that: (check box)

☑ The Vendor certifies that no person or affiliates of the Vendor are currently on the convicted vendor list and/or has not been found to commit a public entity crime, as described in the statutes.

Scrutinized Companies List Certification:
Any company, principals, or owners on the Scrutinized Companies with Activities in Sudan List, the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, or the Scrutinized Companies that Boycott Israel List is prohibited from submitting a response to a solicitation for goods or services in an amount equal to or greater than $1 million.

The Vendor hereby certifies that: (check each box)

☑ The Vendor, owners, or principals are aware of the requirements of Sections 287.135, 215.473, and 215.4275, Florida Statutes, regarding Companies on the Scrutinized Companies with Activities in Sudan List the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, or the Scrutinized Companies that Boycott Israel List; and

☐ The Vendor, owners, or principals, are eligible to participate in this solicitation and are not listed on either the Scrutinized Companies with Activities in Sudan List, the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, or the Scrutinized Companies that Boycott Israel List; and

☐ If awarded the Contract, the Vendor, owners, or principals will immediately notify the County in writing if any of its principals are placed on the Scrutinized Companies with Activities in Sudan List, the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, or the Scrutinized Companies that Boycott Israel List.

I hereby certify the information provided in the Vendor Questionnaire and Standard Certifications:

Leah Torres, PE	**Associate Vice President**	**5/14/2018**
*AUTHORIZED SIGNATURE/NAME	TITLE	DATE

Vendor Name: **Arcadis, U.S., INc.**

* I certify that I am authorized to sign this solicitation response on behalf of the Vendor as indicated in Certificate as to Corporate Principal, designation letter by Director/Corporate Officer, or other business authorization to bind on behalf of the Vendor. As the Vendor's authorized representative, I attest that any and all statements, oral, written or otherwise, made in support of the Vendor's response, are accurate, true and correct. I also acknowledge that inaccurate, untruthful, or incorrect statements made in support of the Vendor's response may be used by the County as a basis for rejection, rescission of the award, or termination of the contract and may also serve as the basis for debarment of Vendor pursuant to Section 21.119 of the Broward County Procurement Code. I certify that the Vendor's response is made without prior understanding, agreement, or connection with any corporation, firm or person submitting a response for the same items/services, and is in all respects fair and without collusion or fraud. I also certify that the Vendor agrees to abide by all terms and conditions of this solicitation, acknowledge and accept all of the solicitation pages as well as any special instructions sheet(s).

Supplier: **ARCADIS**

Office of Economic and Small Business Requirements: CBE Goal Participation

A. In accordance with Broward County Business Opportunity Act of 2012, Ordinance No. 2012-33, Broward County Code of Ordinances, the County Business Enterprise (CBE) Program is applicable to this contract. All Vendors responding to this solicitation should utilize, or attempt to utilize, CBE firms to perform at least the assigned participation goal for this contract.

B. CBE Program Requirements: Compliance with CBE participation goal requirements is a matter of responsibility; required forms and information should be submitted with solicitation submittal. If not provided with solicitation submittal, the Vendor must supply information within three business days of the Office of Economic and Small Business Development's (OESBD) request. Vendor may be deemed non-responsible for failure to fully comply within stated timeframes.

1. Vendor should include in its solicitation submittal a **Letter Of Intent Between Bidder/Offeror and County Business Enterprise (CBE) Subcontractor/Supplier,** for each certified CBE firm the Vendor intends to use to achieve the assigned CBE participation goal.

2. If a Vendor is unable to attain the CBE participation goal, the Vendor should include in its solicitation submittal **Application for Evaluation of Good Faith Effort** and all of the required supporting information.

C. The Vendor shall only address the base solicitation amount for CBE goal participation. No alternate/optional item(s) shall be addressed. If the County chooses to exercise the right to award alternate/optional solicitation item(s), the CBE participation goal for this solicitation shall apply to the alternate/optional item(s) recommended to be awarded. The County shall issue a notice to the apparent successful Vendor requiring the Vendor to comply with the CBE participation goal for the alternate/optional item(s); Vendor shall submit all required forms prior to award. Failure to submit the required forms may result in rejection of the solicitation.

D. The Office of Economic and Small Business Development maintains an on-line directory of CBE firms. The on-line directory is available for use by Vendors at https://webapps4.broward.org/smallbusiness/sbdirectory.aspx

E. For detailed information regarding the County Business Enterprise Program contact the Office of Economic and Small Business Development at (954) 357-6400 or visit the website at: http://www.broward.org/EconDev/SmallBusiness/

F. Requirements for Contracts with CBE Goals: if awarded the contract, the Vendor agrees to and shall comply with all applicable requirements of the CBE Program in the award and administration of the contract.

1. No party to this contract may discriminate on the basis of race, color, sex, religion, national origin, disability, age, marital status, political affiliation, sexual orientation, pregnancy, or gender identity and expression in the performance of this contract.

2. Vendor shall comply with all applicable requirements of the Broward County Small Business Development Program in the award and administration of this contract. Failure by Vendor to carry out any of these requirements shall constitute a material breach of this contract, which shall permit County to terminate this contract or to exercise any other remedy provided under this contract, under the Broward County Code of Ordinances, or Administrative Code, or under applicable law, with all of such remedies being cumulative.

3. Vendor shall pay its CBE subcontractors and suppliers, within fifteen (15) days following receipt of payment from County for such subcontracted work and pay all other subcontractors and suppliers within thirty (30) days following receipt of payment from County for such subcontracted work or supplies. If Vendor withholds an amount from CBE subcontractors or suppliers as retainage, such retainage shall be released and paid within fifteen (15) days following receipt of payment of retained amounts from County. For all other subcontractors or suppliers, if Vendor withholds an amount as retainage, such retainage shall be released and paid within thirty (30) days following receipt of payment of retained amounts from County.

4. Vendor understands that the County will monitor compliance with the CBE requirements. Vendor must report monthly on its CBE participation commitment with its pay requests and is required as a condition of payment.

LETTER OF INTENT BETWEEN BIDDER/OFFEROR AND COUNTY BUSINESS ENTERPRISE (CBE) SUBCONTRACTOR/SUPPLIER

This form(s) should be returned with the Vendor's submittal. If not provided with solicitation submittal, the Vendor must supply information within three business days of County's request. This form is to be completed and signed for each CBE firm. Vendor should scan and upload the completed, signed form(s) in BidSync.

Solicitation Number: PNC2115559P1

Project Title: Professional Engineering Services for Studies and Reports

Bidder/Offeror Name: **Arcadis U.S., Inc.**

Address: **8201 Peters Rd, Suite 2400** City: **Plantation** State: **FL** Zip: **33324**

Authorized Representative: **Leah Torres, PE** Phone: **954.761.3460**

CBE Subcontractor/Supplier Name: **COMPLETED FORMS WILL BE SUBMITTED WITH BID OFFER**

Address: City: State: Zip:

Authorized Representative: Phone:

A. This is a letter of intent between the bidder/offeror on this project and a CBE firm for the CBE to perform subcontracting work on this project.
B. By signing below, the bidder/offeror is committing to utilize the above-named CBE to perform the work described below.
C. By signing below, the above-named CBE is committing to perform the work described below.
D. By signing below, the bidder/offeror and CBE affirm that if the CBE subcontracts any of the work described below, it may only subcontract that work to another CBE.

Work to be performed by CBE Firm			
Description	NAICS*	CBE Contract Amount†	CBE Percentage of Total Project Value

AFFIRMATION: I hereby affirm that the information above is true and correct.

CBE Subcontractor/Supplier Authorized Representative

(Signature) (Title) (Date)

Bidder/Offeror Authorized Representative

Leah Torres, PE **AVP** **5/16/2018**
(Signature) (Title) (Date)

* Visit http://www.census.gov/eos/www/naics/ to search. Match type of work with NAICS code as

closely as possible.
† To be provided only when the solicitation requires that bidder/offer include a dollar amount in its bid-offer.

In the event the bidder/offeror does not receive award of the prime contract, any and all representations in this Letter of Intent and Affirmation shall be null and void.

APPLICATION FOR EVALUATION OF GOOD FAITH EFFORT
PURSUANT TO BUSINESS OPPORTUNITY ACT OF 2012, Sec. 1-81.5(e)

If applicable, this form and supporting documentation should be returned with the Vendor's submittal. If not provided with solicitation submittal, the Vendor must supply information within three business days of County's request. Vendor should scan and upload the supporting documentation in BidSync.

SOLCITATION NO.: PNC2115559P1

PROJECT NAME: Professional Engineering Services for Studies and Reports

Arcadis U.S., Inc.
PRIME CONTRACTOR

8201 Peters Rd, Suite 2400, Plantation, FL 33324
ADDRESS

954.761.3460
TELEPHONE

The undersigned representative of the prime contractor represents that his/her firm has contacted County Business Enterprise (CBE) certified firms in a good faith effort to meet the CBE goal for this solicitation but has not been able to meet the goal. Consistent with the requirements of the Business Opportunity Act of 2012 (the Act), the prime contractor hereby submits documentation (attached to this form) of good faith efforts made and requests to be evaluated under Section 1-81.5(e) of the Act.

The prime contractor understands that a determination of good faith effort to meet the CBE contract participation goal is contingent on both the information provided by the prime contractor as an attachment to this application and the other factors listed in Section 1-81.5(e) of the CBE Act, as those factors are applicable with respect to this solicitation. The prime contractor acknowledges that the determination of good faith effort is made by the Director of the Office of Economic and Small Business Development, and is not subject to appeal.

SIGNATURE: **Leah Torres, PE**

PRINT NAME / TITLE: **Leah Torres, PE, AVP**

DATE: **5/16/2018**

Supplier: **ARCADIS**

AFFILIATED ENTITIES OF THE PRINCIPAL(S) CERTIFICATION FORM

The completed form should be submitted with the solicitation response but must be submitted within three business days of County's request. Vendor may be deemed non-responsive for failure to fully comply within stated timeframes.

a. All Vendors are required to disclose the names and addresses of "affiliated entities" of the Vendor's principal(s) over the last five (5) years (from the solicitation opening deadline) that have acted as a prime Vendor with the County.

b. The County will review all affiliated entities of the Vendor's principal(s) for contract performance evaluations and the compliance history with the County's Small Business Program, including CBE, DBE and SBE goal attainment requirements. "Affiliated entities" of the principal(s) are those entities related to the Vendor by the sharing of stock or other means of control, including but not limited to a subsidiary, parent or sibling entity.

c. The County will consider the contract performance evaluations and the compliance history of the affiliated entities of the Vendor's principals in its review and determination of responsibility.

The Vendor hereby certifies that: (select one)

☑ No principal of the proposing Vendor has prior affiliations that meet the criteria defined as "Affiliated entities"

☐ Principal(s) listed below have prior affiliations that meet the criteria defined as "Affiliated entities"

Principal's Name:

Names of Affiliated Entities:

Principal's Name:

Names of Affiliated Entities:

Principal's Name:

Names of Affiliated Entities:

Authorized Signature Name: **Leah Torres, PE**

Title: **Assoc. VP**

Vendor Name: **Arcadis U.S., Inc.**

Date: **5/15/2018**

Supplier: **ARCADIS**

LITIGATION HISTORY FORM

The completed form(s) should be returned with the Vendor's submittal. If not provided with submittal, the Vendor must submit within three business days of County's request. Vendor may be deemed non-responsive for failure to fully comply within stated timeframes.

☐ There are no material cases for this Vendor; or

☑ Material Case(s) are disclosed below:

Is this for a: (check type) ☐ Parent, ☐ Subsidiary, or ☐ Predecessor Firm?	If Yes, name of Parent/Subsidiary/Predecessor: Or No ☑
Party	
Case Number, Name, and Date Filed	**See summary attached in proposal.**
Name of Court or other tribunal	
Type of Case	Bankruptcy ☐ Civil ☐ Criminal ☐ Administrative/Regulatory ☐
Claim or Cause of Action and Brief description of each Count	
Brief description of the Subject Matter and Project Involved	
Disposition of Case (Attach copy of any applicable Judgment, Settlement Agreement and Satisfaction of Judgment.)	Pending ☐ Settled ☐ Dismissed ☐ Judgment Vendor's Favor ☐ Judgment Against Vendor ☐ If Judgment Against, is Judgment Satisfied? ☐ Yes ☐ No
Opposing Counsel	Name: Email: Telephone Number:

Vendor Name: Arcadis U.S., Inc.

Supplier: **ARCADIS**

SUBCONTRACTORS/SUBCONSULTANTS/SUPPLIERS REQUIREMENT FORM
Request for Proposals, Request for Qualifications, or Request for Letters of Interest

The following forms and supporting information (if applicable) should be returned with Vendor's submittal. If not provided with submittal, the Vendor must submit within three business days of County's request. Failure to timely submit may affect Vendor's evaluation.

A. The Vendor shall submit a listing of all subcontractors, subconsultants and major material suppliers (firms), if any, and the portion of the contract they will perform. A major material supplier is considered any firm that provides construction material for construction contracts, or commodities for service contracts in excess of $50,000, to the Vendor.

B. If participation goals apply to the contract, only non-certified firms shall be identified on the form. A non-certified firm is a firm that is not listed as a firm for attainment of participation goals (ex. County Business Enterprise or Disadvantaged Business Enterprise), if applicable to the solicitation.

C. This list shall be kept up-to-date for the duration of the contract. If subcontractors, subconsultants or suppliers are stated, this does not relieve the Vendor from the prime responsibility of full and complete satisfactory performance under any awarded contract.

D. After completion of the contract/final payment, the Vendor shall certify the final list of non-certified subcontractors, subconsultants, and suppliers that performed or provided services to the County for the referenced contract.

E. The Vendor has confirmed that none of the recommended subcontractors, subconsultants, or suppliers' principal(s), officer(s), affiliate(s) or any other related companies have been debarred from doing business with Broward County or any other governmental agency.

If none, state "none" on this form. Use additional sheets as needed. Vendor should scan and upload any additional form(s) in BidSync.

1. Subcontracted Firm's Name: **COMPLETED LIST WILL BE INCLUDED WITH BID OFFER**

   Subcontracted Firm's Address:

   Subcontracted Firm's Telephone Number:

   Contact Person's Name and Position:
   Contact Person's E-Mail Address:

   Estimated Subcontract/Supplies Contract Amount:

   Type of Work/Supplies Provided:

2. Subcontracted Firm's Name:

   Subcontracted Firm's Address:

   Subcontracted Firm's Telephone Number:

   Contact Person's Name and Position:

   Contact Person's E-Mail Address:

Supplier: **ARCADIS**

LOBBYIST REGISTRATION REQUIREMENT CERTIFICATION FORM

The completed form should be submitted with the solicitation response but must be submitted within three business days of County's request. Vendor may be deemed non-responsive for failure to fully comply within stated timeframes.

The Vendor certifies that it understands if it has retained a lobbyist(s) to lobby in connection with a competitive solicitation, it shall be deemed non-responsive unless the firm, in responding to the competitive solicitation, certifies that each lobbyist retained has timely filed the registration or amended registration required under Broward County Lobbyist Registration Act, Section 1-262, Broward County Code of Ordinances; and it understands that if, after awarding a contract in connection with the solicitation, the County learns that the certification was erroneous, and upon investigation determines that the error was willful or intentional on the part of the Vendor, the County may, on that basis, exercise any contractual right to terminate the contract for convenience.

The Vendor hereby certifies that: (select one)

☑ It has not retained a lobbyist(s) to lobby in connection with this competitive solicitation; however, if retained after the solicitation, the County will be notified.

☐ It has retained a lobbyist(s) to lobby in connection with this competitive solicitation and certified that each lobbyist retained has timely filed the registration or amended registration required under Broward County Lobbyist Registration Act, Section 1-262, Broward County Code of Ordinances.

It is a requirement of this solicitation that the names of any and all lobbyists retained to lobby in connection with this solicitation be listed below:

Name of Lobbyist:
Lobbyist's Firm:
Phone:
E-mail:

Name of Lobbyist:
Lobbyist's Firm:
Phone:
E-mail:

Authorized Signature/Name: Leah Torres Date: 5/14/2018

Title: Assoc. VP

Vendor Name: Arcadis U.S., Inc.

Supplier: **ARCADIS**

AGREEMENT EXCEPTION FORM

The completed form(s) should be returned with the Vendor's submittal. If not provided with submittal, it shall be deemed an affirmation by the Vendor that it accepts the terms and conditions of the County's Agreement as disclosed in the solicitation.

The Vendor must either provide specific proposed alternative language on the form below. Additionally, a brief justification specifically addressing each provision to which an exception is taken should be provided.

☐ There are no exceptions to the terms and conditions of the County Agreement as referenced in the solicitation; or

☑ The following exceptions are disclosed below: (use additional forms as needed; separate each Article/ Section number)

Term or Condition Article / Section	Insert version of exception or specific proposed alternative language	Provide brief justification for change
Liquidated Damages	**Please delete this entire section.**	**We do not believe a liquidated damages clause is appropriate given the anticipated scope of professional services. We respectfully request that this clause be removed as not applicable to this type of Agreement and the nature of services anticipated.**

Vendor Name: **Arcadis U.S., Inc.**

Supplier: **ARCADIS**

RFP-RFQ-RLI LOCATION ATTESTATION FORM (EVALUATION CRITERIA)

The completed and signed form and supporting information (if applicable, for Joint Ventures) should be returned with the Vendor's submittal. If not provided with submittal, the Vendor must submit within three business days of County's request. Failure to timely submit this form and supporting information may affect the Vendor's evaluation. Provided information is subject to verification by the County.

A Vendor's principal place of business location (also known as the nerve center) within Broward County is considered in accordance with Evaluation Criteria. The County's definition of a principal place of business is:

1. As defined by the Broward County Local Preference Ordinance, "Principal place of business means the nerve center or center of overall direction, control and coordination of the activities of the bidder [Vendor]. If the bidder has only one (1) business location, such business location shall be considered its principal place of business."

2. A principal place of business refers to the place where a corporation's officers direct, control, and coordinate the corporation's day-to-day activities. It is the corporation's 'nerve center' and in practice it should normally be the place where the corporation maintains its headquarters; provided that the headquarters is the actual center of direction, control, and coordination, i.e., the 'nerve center', and not simply an office where the corporation holds its board meetings (for example, attended by directors and officers who have traveled there for the occasion).

The Vendor's principal place of business in Broward County shall be the Vendor's "Principal Address" as indicated with the Florida Department of State Division of Corporations, for at least six months prior to the solicitation's due date.

Check one of the following:

☑ The Vendor certifies that it has a principal place of business location (also known as the nerve center) within Broward County, as documented in Florida Department of State Division of Corporations (Sunbiz), and attests to the following statements:

1. Vendor's address listed in its submittal is its principal place of business as defined by Broward County;

2. Vendor's "Principal Address" listed with the Florida Department of State Division of Corporations is the same as the address listed in its submittal and the address was listed for at least six months prior to the solicitation's opening date. A copy of Florida Department of State Division of Corporations (Sunbiz) is attached as verification.

3. Vendor must be located at the listed "nerve center" address ("Principal Address") for at least six (6) months prior to the solicitation's opening date;

4. Vendor has not merged with another firm within the last six months that is not headquartered in Broward County and is not a wholly owned subsidiary or a holding company of another firm that is not headquartered in Broward County;

5. If awarded a contract, it is the intent of the Vendor to remain at the referenced address for the duration of the contract term, including any renewals, extensions or any approved

interim contracts for the services provided under this contract; and

6. The Vendor understands that if after contract award, the County learns that the attestation was erroneous, and upon investigation determines that the error was willful or intentional on the part of the Vendor, the County may, on that basis exercise any contractual right to terminate the contract. Further any misleading, inaccurate, false information or documentation submitted by any party affiliated with this procurement may lead to suspension and/or debarment from doing business with Broward County as outlined in the Procurement Code, Section 21.119.

If the Vendor is submitting a response as a Joint Venture, the following information is required to be submitted:

a. Name of the Joint Venture Partnership
b. Percentage of Equity for all Joint Venture Partners
c. A copy of the executed Agreement(s) between the Joint Venture Partners

☐ Vendor does not have a principal place of business location (also known as the nerve center) within Broward County.

Vendor Information:

Vendor Name: **Arcadis U.S., Inc.**

Vendor's address listed in its submittal is:

8201 Peters Road, Suite 2400
Plantation, Florida 33324

Our headquarters is located in Highlands Ranch, CO

The signature below must be by an individual authorized to bind the Vendor. The signature below is an attestation that all information listed above and provided to Broward County is true and accurate.

Leah Torres, PE	**Assoc. VP**	**Arcadis U.S., Inc.**	**5/18/2018**
Authorized Signature/Name	Title	Vendor Name	Date

Supplier: **ARCADIS**

RFP-RLI-RFQ LOCAL PREFERENCE AND TIE BREAKER CERTIFICATION FORM

The completed and signed form should be returned with the Vendor's submittal to determine Local Preference eligibility, however it must be returned at time of solicitation submittal to qualify for the Tie Break criteria. If not provided with submittal, the Vendor must submit within three business days of County's request for evaluation of Local Preference. Proof of a local business tax must be returned with solicitation submittal to qualify for the Tie Break Criteria. Failure to timely submit this form or local business tax receipt may render the business ineligible for application of the Local Preference or Tie Break Criteria.

In accordance with Section 21.31.d. of the Broward County Procurement Code, to qualify for the Tie Break Criteria, the undersigned Vendor hereby certifies that (check box if applicable):

☑ The Vendor is a local Vendor in Broward County and:

a. has a valid Broward County local business tax receipt;

b. has been in existence for at least six-months prior to the solicitation opening;

c. at a business address physically located within Broward County;

d. in an area zoned for such business;

e. provides services from this location on a day-to-day basis, and

f. services provided from this location are a substantial component of the services offered in the Vendor's proposal.

In accordance with Local Preference, Section 1-74, et. seq.,Broward County Code of Ordinances, a local business meeting the below requirements is eligible for Local Preference. To qualify for the Local Preference, the undersigned Vendor hereby certifies that (check box if applicable):

☑ The Vendor is a local Vendor in Broward and:

a. has a valid Broward County local business tax receipt issued at least one year prior to solicitation opening;

b. has been in existence for at least one-year prior to the solicitation opening;

c. provides services on a day-to-day basis, at a business address physically located within the Broward County limits in an area zoned for such business; and

d. the services provided from this location are a substantial component of the services offered in the Vendor's proposal.

Local Business Address:
Vendor does not qualify for Tie Break Criteria or Local Preference, in accordance with the above requirements. The undersigned Vendor hereby certifies that (check box if applicable):

☐ The Vendor is not a local Vendor in Broward County.

Leah Torres, PE	**Associate VP**	**Arcadis U.S., Inc.**	**5/14/2018**
AUTHORIZED SIGNATURE/ NAME	**TITLE**	**COMPANY**	**DATE**

Supplier: **ARCADIS**

DOMESTIC PARTNERSHIP ACT CERTIFICATION FORM (REQUIREMENT AND TIEBREAKER)

Refer to Special Instructions to identify if Domestic Partnership Act is a requirement of the solicitation or acts only as a tiebreaker. If Domestic Partnership is a requirement of the solicitation, the completed and signed form should be returned with the Vendor's submittal. If the form is not provided with submittal, the Vendor must submit within three business days of County's request. Vendor may be deemed non-responsive for failure to fully comply within stated timeframes. To qualify for the Domestic Partnership tiebreaker criterion, the Vendor must currently offer the Domestic Partnership benefit and the completed and signed form must be returned at time of solicitation submittal.

The Domestic Partnership Act, Section 16 ½ -157, Broward County Code of Ordinances, requires all Vendors contracting with the County, in an amount over $100,000 provide benefits to Domestic Partners of its employees, on the same basis as it provides benefits to employees' spouses, with certain exceptions as provided by the Ordinance.

For all submittals over $100,000.00, the Vendor, by virtue of the signature below, certifies that it is aware of the requirements of Broward County's Domestic Partnership Act, Section 16-½ -157, Broward County Code of Ordinances; and certifies the following: (check only one below).

- ☑ 1. The Vendor currently complies with the requirements of the County's Domestic Partnership Act and provides benefits to Domestic Partners of its employees on the same basis as it provides benefits to employees' spouses
- ☐ 2. The Vendor will comply with the requirements of the County's Domestic Partnership Act at time of contract award and provide benefits to Domestic Partners of its employees on the same basis as it provides benefits to employees' spouses.
- ☐ 3. The Vendor will not comply with the requirements of the County's Domestic Partnership Act at time of award.
- ☐ 4. The Vendor does not need to comply with the requirements of the County's Domestic Partnership Act at time of award because the following exception(s) applies: (check only one below).

  - ☐ The Vendor is a governmental entity, not-for-profit corporation, or charitable organization.
  - ☐ The Vendor is a religious organization, association, society, or non-profit charitable or educational institution.
  - ☐ The Vendor provides an employee the cash equivalent of benefits. (Attach an affidavit in compliance with the Act stating the efforts taken to provide such benefits and the amount of the cash equivalent).
  - ☐ The Vendor cannot comply with the provisions of the Domestic Partnership Act because it would violate the laws, rules or regulations of federal or state law or would violate or be inconsistent with the terms or conditions of a grant or contract with the United States or State of Florida. Indicate the law, statute or regulation (State the law, statute or regulation and attach explanation of its applicability).

Leah Torres	Assoc. VP	Arcadis U.S., Inc.	5/14/2018
Authorized Signature/Name	**Title**	**Vendor Name**	**Date**

Supplier: **ARCADIS**

VOLUME OF PREVIOUS WORK ATTESTATION FORM

The completed and signed form should be returned with the Vendor's submittal. If not provided with submittal, the Vendor must submit within three business days of County's request. Failure to provide timely may affect the Vendor's evaluation. This completed form must be included with the Vendor's submittal at the time of the opening deadline to be considered for a Tie Breaker criterion (if applicable).

The calculation for Volume of Previous Work is all amounts paid to the prime Vendor by Broward County Board of County Commissioners at the time of the solicitation opening date within a five-year timeframe. The calculation of Volume of Previous Work for a prime Vendor previously awarded a contract as a member of a Joint Venture firm is based on the actual equity ownership of the Joint Venture firm.

In accordance with Section 21.31.d. of the Broward County Procurement Code, the Vendor with the lowest dollar volume of work previously paid by the County over a five-year period from the date of the submittal opening will receive the Tie Breaker.

Vendor must list all projects it received payment from Broward County Board of County Commissioners during the past five years. If the Vendor is submitting as a joint venture, the information provided should encompass the joint venture and each of the entities forming the joint venture. The Vendor attests to the following:

Item No.	Project Title	Solicitation/ Contract Number:	Department or Division	Date Awarded	Paid to Date Dollar Amount
1	**Litigation Consulting Services**	**Not Applicable**	**Broward County Waste and Recycling Services**	**9/26/2013**	**$50,000.00**
2	**Solid Waste & Recycling Issues Study**	**R2113804P1**	**Broward County**	**10/24/2017**	**$199,887.00**
3					
4					
5					
				Grand Total	**$249,887.00**

Has the Vendor been a member/partner of a Joint Venture firm that was awarded a contract by the County? Yes ☐ No ☑

If Yes, Vendor must submit a **Joint Vendor Volume of Work Attestation Form**.

Vendor Name: Arcadis U.S., Inc.

Leah Torres, PE	Assoc. VP	5/15/2018
Authorized Signature/ Name	**Title**	**Date**

VOLUME OF PREVIOUS WORK ATTESTATION JOINT VENTURE FORM

If applicable, this form and additional required documentation should be submitted with the Vendor's submittal. If not provided with submittal, the Vendor must submit within three business days of County's request. Failure to timely submit this form and supporting documentation may affect the Vendor's evaluation.

The calculation of Volume of Previous Work for a prime Vendor previously awarded a contract as a member of a Joint Venture firm is based on the actual equity ownership of the Joint Venture firm. Volume of Previous Work is not based on the total payments to the Joint Venture firm.

Vendor must list all projects it received payment from Broward County Board of County Commissioners during the past five years as a member of a Joint Venture. The Vendor attests to the following:

Item No.	Project Title	Solicitation/ Contract Number:	Department or Division	Date Awarded	JV Equity %	Paid to Date Dollar Amount
1						
2						
3						
4						
5						
				Grand Total		

Vendor is required to submit an executed Joint Venture agreement(s) and any amendments for each project listed above. Each agreement must be executed prior to the opening date of this solicitation.

Vendor Name:

Authorized Signature/ Name **Title** **arcadisus1 Date**