REQUEST FOR QUALIFICATIONS

INFRASTRUCTURE PROJECTS

(WATER, SEWER, REUSE AND STORMWATER)

RFQ-042-23-JJ | FEBRUARY 28, 2023

TAB A.

Table of Contents

TAB A. Table of Contents

EVALUATION CRITERIA SCORING REFERENCE

CATEGORY	POINTS	DESCRIPTION/CRITERIA	LOCATION IN THE PACKAGE AND COMMENTS
Firm Qualifications and Experience	25	Overall approach, similar project experience and project management	**TAB C.** Pages 13 - 33
Organizational Profile and Project Team Qualifications	25	Professional experience and qualifications of team members, including standing as State of Florida or Broward County CBE	**TAB D.** Pages 35- 87
Approach to Scope of Work	25	Overview of proposed vision, ideas, and methodology, as it relates to meeting typical discipline project scope, budget and time-line	**TAB E.** Pages 89 - 93
Past Performance References	15	Three references, preferably from government entities, for completed projects with similar scope contained in this RFQ	**TAB F.** Pages 95 - 99
Volume of Work	5	**Volume of Work Total Fees** / **Points** $0 to $200,000 — 5 $200,001 to $600,000 — 4 $600,001 to $1,000,000 — 3 $1,000,001+ — 2	Stantec has received less than $200k in fees in the last 5-years
Office Location	5	**Location of Office** / **Points** Within 35 miles from WWTP — 5 Within 35 to 60 miles from WWTP — 4 Within 60 to 90 miles from WWTP — 3 More than 90 miles from WWTP — 2	**TAB B.** Page 9 Stantec's Deerfield Beach Office is located within 24 miles of the City's WWTP

Stantec

February 28, 2023

Stantec Consulting Services Inc.
800 Fairway Drive, Suite 195
Deerfield Beach, Florida 33441
stantec.com

City of Hollywood
Request for Qualifications
RFQ-042-23-JJ

Infrastructure Projects Water, Sewer, Reuse and Stormwater)

Attention:
Jean Joinville
Senior Purchasing Agent

Oscar Bello, PE, DBIA
Senior Project Manager
Mobile: 954-650-0164
oscar.bello@stantec.com

HOW WE STACK UP

1 Top 25 International Design Firms - Environment - Water Treatment

1 Top 25 International Design Firms - Environment - Wastewater Treatment

5 Top 10 Environmental Firms by Type of Work - Engineering/Design

6 Top 20 Environmental Firms by Market Segment - Water Treatment/Supply

8 Top 50 International Design Firms - Sewer/ Waste

9 Top 500 Design Firms

11 Top 150 Global Design Firms

Engineering News Record (ENR), 2022

Dear Ms. Jean Joinville and Selection Committee Members,

Stantec is pleased to submit our statement of qualifications for the City of Hollywood RFQ No. 042-23-JJ. The City of Hollywood's Utilities Department has set itself apart as a utility that provides innovative, resilient, and cost-effective services to its customers. This contract is a critical step in maintaining the reliability of the City's utility infrastructure and providing dependable water, wastewater and stormwater services for the communities and businesses.

For this package, we have assembled a team of trusted professionals with local utility knowledge and project execution experience to effectively bring value to the City of Hollywood. Our team will deliver successful projects by offering the following benefits:

Our Team's Water, Wastewater, and Stormwater Experience within South Florida

Collectively, the Stantec team has supported clients through Water, Wastewater/Reuse and Stormwater infrastructure projects from planning through construction close-out. For 50+ years we have worked and continue to serve many utilities in South Florida including Hallandale Beach, Broward County, Miramar, Seminole Tribe, Miami-Dade, Palm Beach, Fort Lauderdale, Sunrise, West Palm Beach, Town of Davie, North Miami Beach, Pompano Beach, Oakland Park, and others.

Experienced and Responsive Project Team

The experienced team proposed for any of the anticipated infrastructure projects have primarily dedicated their careers to water, wastewater, and stormwater projects for municipalities and utility departments located in South Florida. **The team is led by our seasoned engineer Oscar Bello, PE**. He brings 25 years of water and wastewater experience in South Florida and will serve as the overall Project Manager and Wastewater Collection Lead. He will work closely with each discipline lead, all of whom live and work in South Florida:

- David Clarke, PE - Water
- Ben Quartermaine, PE - Stormwater
- Marlon Medina, PE - Pump Stations/Lift Stations
- Heath Wintz, PE - Water Treatment
- Hal Schmidt, PE - Wastewater Treatment

With our qualifications highlighted above and details within the proposal, Stantec is enthusiastic about these projects and we sincerely appreciate the opportunity to present our qualifications for your review. We look forward to assisting the City of Hollywood with the challenges you face and ultimately helping you better serve your communities.

If you have any questions about this submittal, please do not hesitate to contact me at 954.650.0164 or oscar.bello@Stantec.com.

Sincerely,
Stantec Consulting Services Inc.

Ramon Castella, PE, ENV SP, LEED AP
Vice President, Principal in Charge

Oscar Bello, PE, DBIA
Senior Project Manager

TAB B.

Executive Summary

TAB B. Executive Summary

Who we are

Stantec Consulting Services Inc. (Stantec), in business for the past 67 years, provides professional consulting services in planning, engineering, architecture, landscape architecture, environmental sciences, project management, and project economics for infrastructure and facilities projects. We are a publicly owned company, supporting public and private sector clients in a diverse range of markets, at every project stage, from initial concept and financial feasibility, to project completion and beyond. Our services are offered through more than 28,000 employees operating out of more than 400 locations. With a long-term commitment to the people and places we serve, Stantec has the unique ability to connect to projects on a personal level and advance the quality of life in communities across the globe.

Stantec is one of the world's leading firms for capital improvement and rehabilitation projects with experience in the water, sewer, reuse, stormwater, and wastewater sectors. Our team has unmatched qualifications in water resources, having planned and implemented projects including groundwater supply development for surficial and Floridan aquifers, water treatment, storage tanks, high service pump stations, collection, distribution, and transmission systems, pump stations, wastewater treatment, reclaimed water treatment, and effluent disposal projects.

Our experience

Water touches every part of life in a community, which is why public agencies, utility companies, and industries are increasingly treating water like the very thing it is, a precious resource. They build systems to treat, store, and deliver drinking water; collect, treat, and discharge wastewater; manage surface water quantity and quality; tap and treat groundwater; and irrigate crops and landscapes, plus subsystems for industry and power production. Many of the world's top engineers and scientists have come together at Stantec because they view water a bit differently, as a holistic system rather than unconnected networks divided by jurisdictional boundaries. Please see our Clients in Broward County graph located in page 10.

We are leaders in conveyance, treatment plant, and hydrogeology design, utility financing, plant operations, distribution and storage facilities, utility asset management using GIS, permitting and construction services in south Florida and Tri- County area. We have worked with many utilities in replacement of aging and undersized water and wastewater pipelines utilizing open-cut, pipe bursting and horizontal directional drill. Our experience in design of **water distribution and wastewater collection systems includes miles of pipeline in various materials ranging in size from 2-inch thru 64-inches here in south Florida. Stantec has completed the design of over 1,000 water and wastewater pump/lift stations, ranging in capacity from 230 gpm to 640,000 gpm**, with connected horsepower as high as 94,000 HP. We have partnered with numerous utilities in Florida helping them develop sustainable and scalable Asset Management and GIS solutions for their utility assets. Our utility financing team has helped other utility clients to secure over $4 Billion in grant and loan funding towards utility infrastructure projects.

Stantec uses state-of-the-art control technology and includes the latest field-proven approach to the configuration of wastewater pumping stations. Our electrical and mechanical engineering staff are familiar with the requirements of large capacity pumps and motors, as well as high-voltage switchgears and variable frequency drives. Stantec provide sustainable, scalable Asset Management and GIS solutions. We provide a full spectrum of services from planning through preliminary and final design, including Civil 3D CAD, Building Information Management (BIM) via BIM 360 and Revit, and services during construction and start-up. Related services provided on pumping station projects include hydraulic and transient analysis, noise control, design of electrical substations, in-house evaluation of architectural treatments, and public involvement coordination. Our expertise includes more than three million connected pump station horsepower throughout the world.

As designers of water and wastewater treatment plants around the world, our experience and commitment to excellence maximizes the value of a community's investment by providing the best overall value for your specific situation. With water and wastewater treatment reaching levels of complexity and regulatory scrutiny warranting specialized oversight and facility performance measured constantly, it's important to have the most appropriate, cost-effective solution the first time, every time. We evaluate and optimize by minimizing consumption and discharge, characterizing process streams, addressing hydraulic loading and variability, and troubleshooting process problems while identifying pollution prevention alternatives and sustainable technologies.

Stantec has been a leader in the planning, design and construction of conveyance projects since our inception

in 1954. We designed the World's second-largest drainage pumping system (Permanent Canal Closures and Pumps Project in New Orleans). Stantec is experienced in using all major water system modeling software programs in its planning efforts. InfoWater was developed from our legacy firm MWH; it was so successful that it spun off as Innovyze which is now a separate entity. Our modelers understand the intricacies of different model software. Our team's strength comes not only from our project and client experiences, but more importantly, our direct work with the City.

Our Team

Stantec's team offers the City of Hollywood a familiar project team skilled and efficient in providing the professional and technical expertise required to provide engineering services for water and wastewater projects for public infrastructure improvements. Our **Project Manager, Oscar Bello, PE** will be personally responsible for the delivery of the project. Oscar has more than 25 years combined experience in water, wastewater and reuse engineering. He brings forward the ability to comprehend your utility needs with focused local knowledge. His technical expertise encompasses utility planning, process optimization, treatment plant design for water, wastewater and reuse, regulatory compliance and permit assistance, construction management, CIP development, rate studies, impact fee updates, and bond engineering.

Stantec is very excited about the opportunity to collaborate with the City of Hollywood on this contract. Our team has the right experience to perform any work efficiently and effectively, and has the ability to devote their energies to its success. We have the technical expertise, knowledge, and resources to work closely with you in executing a successful project as we have done countless times in the past with our other clients. Our collective project knowledge and experience is the strength behind our organization and the reason we deliver successful projects.

As designers of projects around the world, we maximize a community's investment by providing experience and ideas that have long-term value. Whether projects call for planners, designers, construction managers, or facility operators, we have the experienced experts who will provide creative, yet practical, water solutions, and apply cost-effective strategies that help protect the health of people and the environment. In the end, we make sure the appropriate quality and quantity of water is where it should be and available when it's needed.

Our project team has not been assembled just for the purpose of responding to this solicitation. On the contrary, we have all worked together on numerous projects over the past 25 years and have created a unified team approach to all of our projects which we will bring to the City of Hollywood for this proposed contract. Would then read: Our local Statnec offices and staff are comprised of many individuals who have been working together for well over 29 years.

We believe Stantec presents a professional consulting team second to none in terms of depth of resources available, the historical development and understanding of the requirements of this contract, and possesses the technical expertise and management team to deliver a successful project, on time and on budget. Our firm is able to offer comprehensive, rapid, cost effective and local delivery of all disciplines necessary to complete any project assigned to us. Our proposed contract manager has tremendous relevant experience, supported by very strong corporate experience in all of the aspects required to help the success of our project managers and the team, Stantec has a very strong inter-office communications plan which focuses on direct contact either in person or by phone as the primary means of communication and notification of the receipt of important project related information.

Our team is diverse in talent and truly multidisciplinary with services provided for all architectural and engineering services. Because of that, we are aware of the needs of each discipline and how they interact with each other on a project. Project management is not just talked about but is truly implemented on each and every task. In fact, most of our projects are led by the civil engineers because our experience has produced managers that are knowledgeable in all fields of design and permitting including the occasional building facility projects.

THIS IS OUR TEAM

KEY INDIVIDUAL	ROLE	YEARS OF EXPERIENCE	OFFICE LOCATION
Oscar Bello, PE	Project Manager	25	Deerfield Beach, FL
Tracy Anderson, PE	Technical Advisor - Transmission	30	Sarasota, FL
John Malueg, PE	Technical Advisor - Resiliency	37	Winston-Salem, NC
Ramon Castella, PE, ENV SP	Technical Advisor - Water Distribution & Wastewater Collection	37	Coral Gables, FL
Tino Senon, PE	Technical Advisor - Pump Station	56	Bellevue, WA
Dave Clarke, PE	Water Distribution & Transmission Engineer	20	Coral Gables, FL
Jarah Parke, PE	Water Distribution & Transmission Engineer	20	Tampa, FL
Bill Mariott, PE	Lead Copper Rule Revision Compliance	26	Plano, TX
Larissa Faria, PE	Permitting Engineer	8	Coral Gables, FL
Ben Quartermaine, PE	Stormwater Engineer	27	Sarasota, FL
Shehab Bata, PE	Stormwater Design Engineer	17	Deerfield Beach, FL
Jordan Corby, PE, PMP	Modeling Engineer	12	Sarasota, FL
Marlon Medina, PE, CFM	Stormwater Pump Station Engineer	14	Coral Gables, FL
Sergio Hoyos, PE	Lift Station Engineer	22	Sarasota, FL
Riccardo Versace	Pump Station Design Engineer	3	Coral Gables, FL
Heath Wintz, PE	Water Treatment Lead	23	West Palm Beach, FL
Hal Schmidt PE, BCEE	Wastewater Treatment Lead	41	Tampa, FL
Fletcher McKenzie, PE	Surge & Hydraulic Analysis Engineer	13	Sacramento, CA
Noel Guercio	Condition Assessment Engineer	20	New York, NY
Cory Meckler, AScT	Cathodic Protection Specialist	29	Calgary, AB
Jon Pearson, PE	Trenchless Engineer	11	San Diego, CA
Anil Dean, PE	Trenchless Engineer	25	Walnut Creek, CA
David Steffes, PE	SCADA Engineer	36	Cleveland, OH
Brad Buchanan, PE	Instrumentation & Control Engineer	9	Deerfield Beach, FL
Jevaan Lewis, PE	Electrical Engineer	15	Deerfield Beach, FL
Craig Kaltenbach, PE	Structural Engineer	27	Tampa, FL
Diane Quigley	Funding & Grant Assistance Specialist	36	Tallahassee, FL
Bernadette Callahan	Green Infrastructure Designer	18	Philadelphia, PA
Sussette Irizarry	Sea Level Rise Adaptation Specialist	10	Coral Gables, FL
Matt Starr, PG	Storm Surge Analysis Geologist	20	Tampa, FL
Paul Carroll, PE	Storm Surge Analysis Engineer	18	Denver, CO
Sean Compel, PE, ENV SP	Construction Manager	20	Coral Gables, FL
Fernando Vargas	Construction Inspector	16	Coral Gables, FL
Ricardo Julien	Construction Inspector	20	Coral Gables, FL
Peterson Gonzales	Construction Inspector	20	Coral Gables, FL

Office location

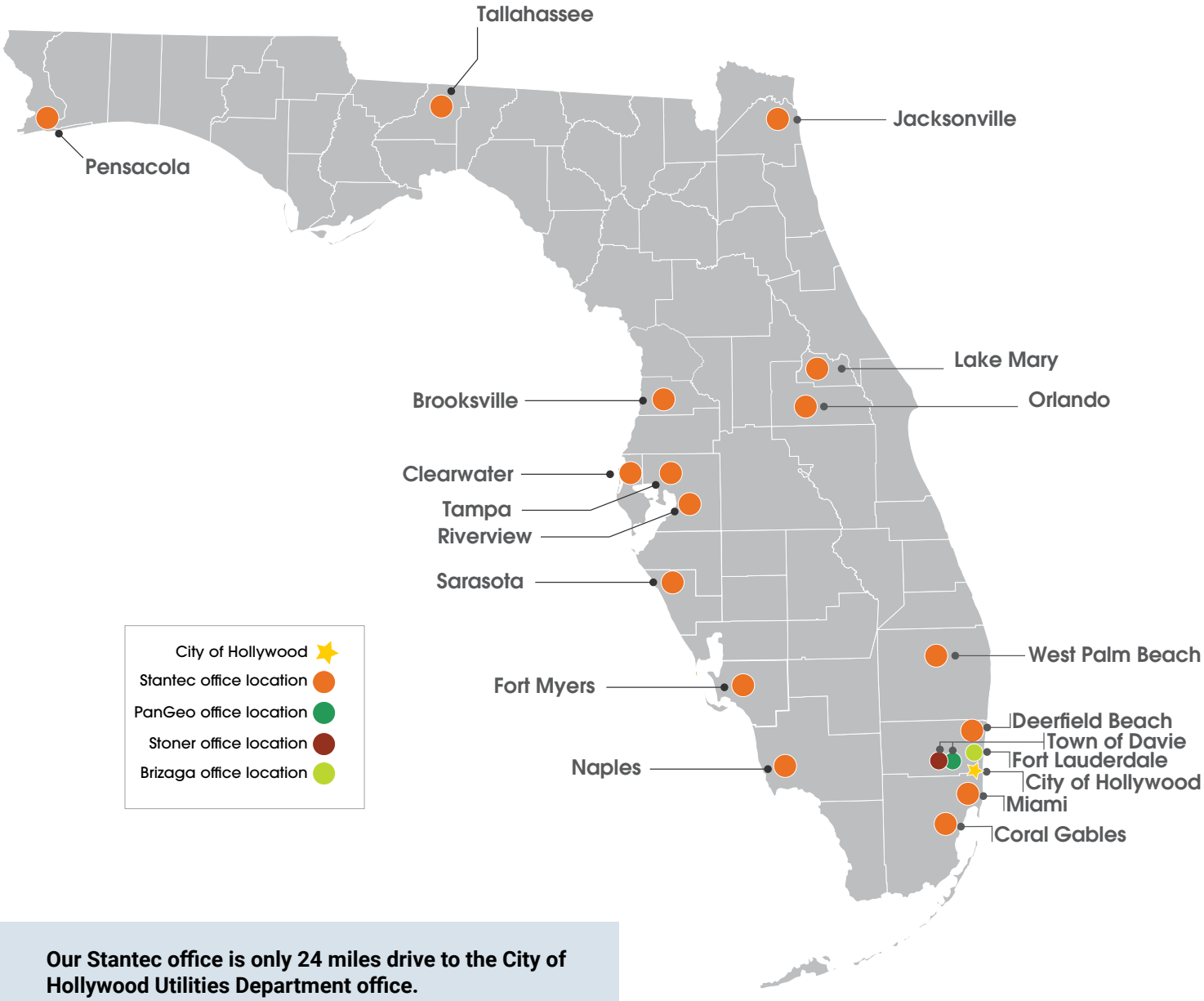
We are local. Our project manager will provide Primary Project Management out of our Deerfield Beach, Florida office. Our staff will be ready and available to the City for anything you may need. As shown in the graphic below, we have 17 offices statewide. We can provide over 130 specialists for this contract if needed. These offices specialize in local municipal engineering services.

The graph below indicates the Florida locations for Stantec and our subconsulting partners.

Our staff will be ready and available to the City for anything you may need. Our team will be led by Project Manager Oscar Bello, PE. He will provide responsive service and will be available to the City immediately once a request is made.

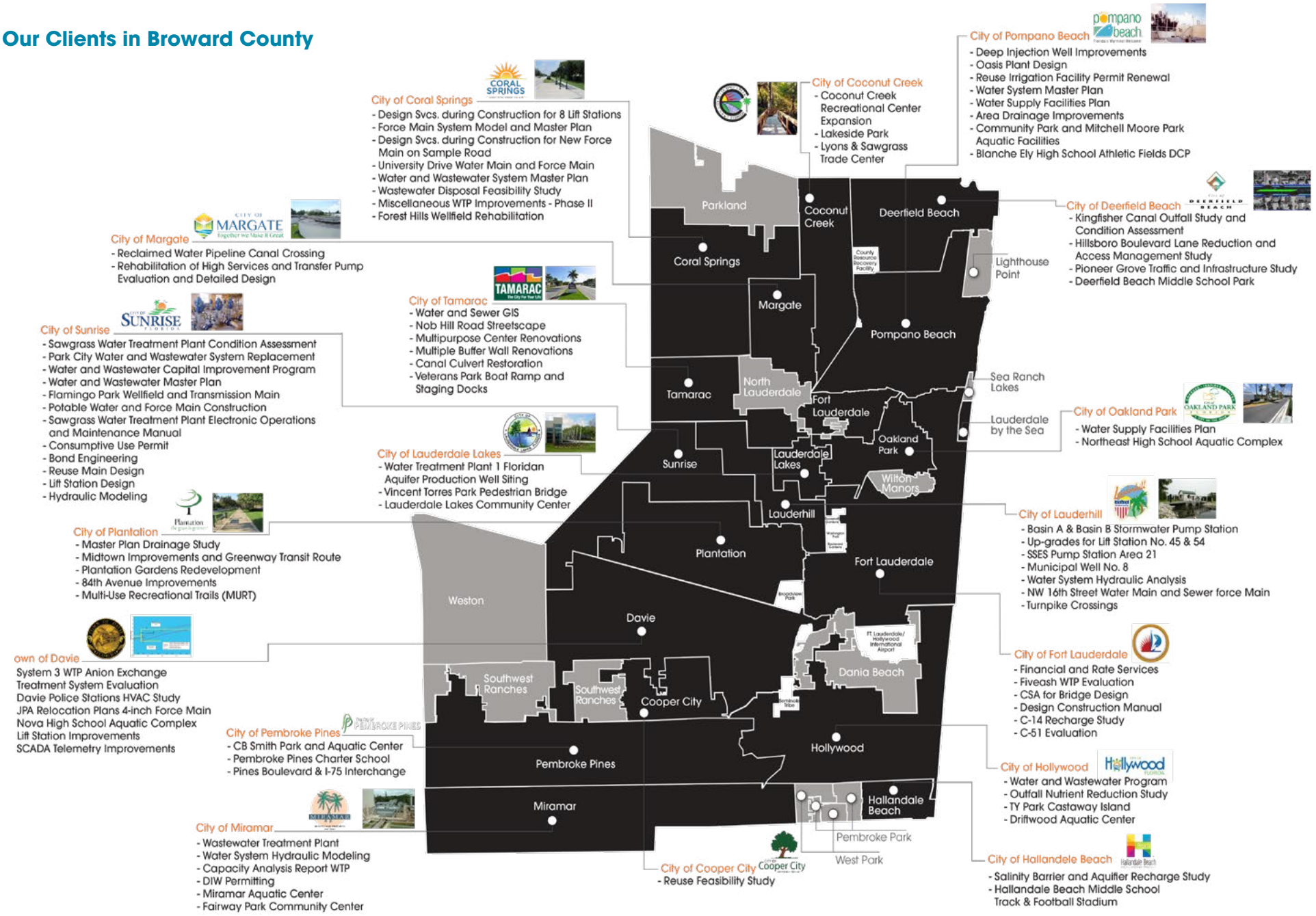
Contact Information

Stantec Consulting Services Inc.
Oscar Bello, PE, Project Manager
oscar.bello@stantec.com
Mobile: 954-650-0164
800 Fairway Drive, Suite 195
Deerfield Beach, Florida 33441



Our Stantec office is only 24 miles drive to the City of Hollywood Utilities Department office.

Our Clients in Broward County



Key Elements of Proposal

Having provided water distribution, wastewater collection, stormwater system, and reuse utilities design services to many South Florida utilities, we are familiar with the type of projects and needs that can arise. We have reviewed the scope of work provided with the RFQ and clearly understand the City's needs. Tasks to be completed under this contract can be grouped as follows:

- **Planning and Support Services:** This includes reviewing budgets and capital improvement plans, performing condition assessments, providing maintenance support, modeling, condition assessment, lifecycle cost analysis, feasibility studies, review regulatory/ compliance changes, permitting, provide meeting and City Commission support, and evaluate client change resiliency measures.
- **Design Services:** Provide complete design packages for utility improvements including public involvement support such as, exhibits and artist's renderings to communicate with public.
- **Quality Assurance, Quality Control & Value Engineering:** This includes generating value, optimizing performance and costs systematically, and performing constructability, quality assurance/control reviews of projects.
- **Construction Management and Inspection:** Provide inspection services to oversee construction progress and adherence to contract documents.
- **Operational and Maintenance Consulting:** This includes troubleshooting treatment plants and the collections system, evaluating existing treatment processes, conduct process optimization studies, perform bench scale and pilot studies, model system hydraulics, and conduct energy and conservation audits.
- **Grant Application, Management and Outreach Services:** Includes review of grant opportunities, application submittal and tracking.
- **Field Investigations and Mapping Services:** Survey, aerial photo, drafting, mapping, and geotechnical testing.

Stantec recognizes the difficulties in providing staff, experience, approach and capabilities in a single Statement of Qualifications for multi-disciplinary RFQ. In the interest of highlighting personnel and projects demonstrating our capabilities, we specifically targeted projects typical of task order assigned projects under continuing service agreements. It is important to recognize the fact that each firm that submits to the City can show some very high profile however, our submittal focuses on project assigned to us under similar type contracts.

In this submittal, please find the following:

- **Firm Qualifications and Experience:**In this section we highlight the depth of relevant experience Stantec has been providing for similar services in South Florida and the deep bench of global resources that support our local staff. We introduce our project manager, Oscar Bello. We also provide an overview of the variety of services we offer as requested in the RFQ Scope of Services and marry these proposed services against a list of some of our recent projects.
- **Organizational Profile and Project Team Qualifications:** In this section we introduce our organization structure, key personnel and subconsultant teaming partners. A resume is included for our key personnel that reviews their education, experience, licensure, role on this project, and past relevant experience.
- **Approach to Scope of Work:** In this section we have provided a concise narrative outlining our understanding of the City's infrastructure, needs, and goals. We have provided our approach to both managing projects under a General Engineering Services contract as well as the specific technical areas of the work. We have also provided our initial thoughts on project implementation and sequencing, and the capabilities our firm has to help the City meet its objectives. Our team is available to perform the work as required and we have provided information on our current workload.
- **References:** At Stantec we are very proud of the work we do and are pleased to provide project references that are relevant to this contract. We welcome you to reach out to our clients to get more information on our performance.
- **Sub Consultant Information:** We have three subconsultants firms who have joined our team: Pangeo Consultants, Stoner & Associates, and Brizaga. In this section we provide background on each firm and the role they will plan on our team. We have worked with each of these firms before, bringing a proven team to the City.
- **Legal Proceedings and Performance:** As requested, we provided a letter indicating that Stantec has not paid liquidated damages and/or been terminated for default.
- **Required Forms:** All forms provided by the City are completed for your use and review.

We hope you enjoy reading more about Stantec, our people, and our team. We very much look forward to the opportunity to have our team join your team.

TAB C.

Firm Qualifications and Experience

TAB C. Firm Qualifications and Experience

Our Firm

We support our public and private sector clients at every stage, from initial concept and financial feasibility to project completion and beyond. The firm holds a fundamental belief in the involvement of the client and users in the entire design process. As integral members of the team, our clients contribute greatly to the energy and enthusiasm that produce the highest quality work. A characteristic of Stantec's work is the uniqueness of each design solution, achieved by beginning each design process without preconceptions.

Stantec has over 28,000 people in more than 400 locations worldwide. With 200 offices and 10,396+ people in the US alone, chances are there's a Stantec presence right where you need us to be. **More specifically, we have 17 offices within the State of Florida including our local Deerfield Beach office to aid in this contract.** This office shall be supported by staff from Coral Gables, West Palm Beach, and Naples as needed for any task work order requiring specialized experience and talent. Stantec's strong commitment to client satisfaction is the foundation of our service to you. We have a long history of serving municipal and county clients throughout the state. Visit www.stantec.com for more info.

Contact Information

For this contract, our Project Manager, Oscar Bello, PE (954-650-0164 / oscar.belllo@stantec.com), will be the conduit for all communications between the City and Stantec, and will bear ultimate responsibility for the performance of the in-house team and sub-consultants, if any. Formal documentation and contact with the City will be through Oscar. On a day-to-day basis, all client/consultant team members may be in contact for various reasons; any such communication will be recorded and filed with the Project Manager to ensure management accountability to the City of Hollywood. Oscar is authorized to manage all aspects of this work as well as to make representations for Stantec. Oscar is located in our Deerfield Beach office located at 800 Fairway Drive, Suite 195, Deerfield Beach, Florida 33441.

Licenses

Stantec is a Corporation certified in the State of Florida under document number: F01000005948. Stantec is authorized to practice engineering, architecture, landscape architecture, geology, and surveying through the State of Florida Department of Business and Professional Regulation and are current with all our certifications.

Please see copy of our licenses and certifications attached under Tab J. Required Forms.

Our Experience

Collectively, the Stantec team has aided many South Florida clients through plannning, design, permitting, bidding, and construction of Water, Stormwater, Reuse and Wasterwater utility projects. For 55+ years we have worked and continue to serve many utilities in the region including Broward County, Fort Lauderdale, North Miami Beach, Hallandale, Seminole Tribe of Florida, Hollywood, Sunrise, Pompano Beach, Tamarac, Davie, Deerfield Beach, Miramar, Oakland Park, Coral Springs, Palm Beach County, West Palm Beach, Wellington, Lake Worth, Miami Dade, and South Florida Water Management District.

With more than 500+ years of combined experience within our team in water distribution and transmission, stormwater system, wastewater collection and treatment, reuse, and construction engineering and inspection services as our core business, we have developed dependable, tested and proven processes and procedures from preliminary design, detailed design, and bidding and award, through construction and startup.

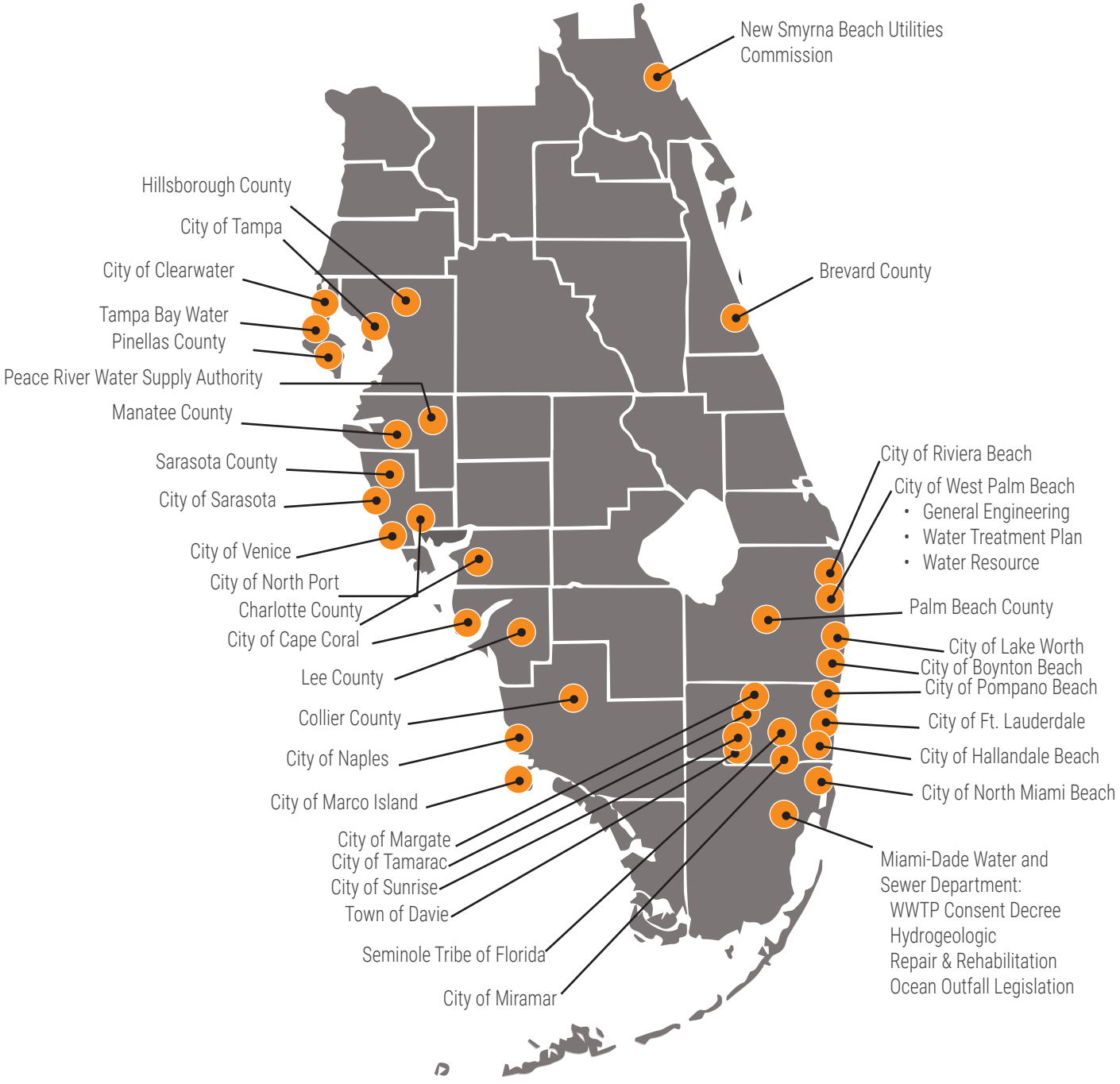
Due to our large and diverse skilled local team, our strong relationships with permitting agencies, and a deep bench of staff company-wide, Stantec has successfully completed all of our delivery commitments over the past five years, and have met and exceeded client expectations for our projects locally.

In the following pages we have included our Continuing Engineering Services experience in Florida and highlighted our team's experience with relevant projects.

We selected these projects to show you the breadth and complexity of our water and wastewater treatment designs and value engineering services. **We will be able to provide you the best-in-class service, supported by our technical team, ranked both as the #1 Water Treatment and Wastewater Treatment design firm (ENR-2022).**

CONTINUING SERVICES CONTRACTS		
PROJECT NAME	OWNER	END DATE
Continuing Services Agreement 18-05-24	City of Miramar	Ongoing
Continuing Services Agreement, Utilities Engineering Services (20-03-05)	City of Sunrise	Ongoing
Continuing Professional Services Agreement	City of Hallandale Beach	Ongoing
Miscellaneous Professional Engineering and Landscape Architectural Services	Town of Davie	Ongoing
Continuing Services Agreement, Civil Engineering Services	City of Tamarac	Ongoing
Agreement for Professional/Consulting Services	City of Pompano Beach	Ongoing
Infrastructure Consultant Engineering Services	Seminole Tribe of Florida	Ongoing
Continuing Architectural and Engineering Services for Various Projects	Town of Hillsboro Beach	Ongoing
Engineering Services for Water and Wastewater Services	City of Miami Beach	Ongoing
Continuing Services Agreement for Architectural/Engineering	City of North Miami Beach	Ongoing
Financial Services	City of Hollywood	Ongoing
Professional Engineering Continuing Services - Various Disciplines	City of Hollywood	Ongoing
Professional Services Agreement, Hydrogeological Services	City of Lake Worth Beach	Ongoing
Program Management Services	City of Sunrse	2015
General Engineering Services	City of Sunrise	2010
Engineering and Construction Services Owner's Advisor Project	Palm Beach County	Ongoing
Water Treatment Plant Improvements	City of West Palm Beach	2022
Non-Exclusive Professional Services Agreement Hydrogeologic and Engineering Services for Disposal, Water Supply, Monitoring Wells and Aquifer Storage and Recovery Wells	Miami Dade Water and Sewer Department	2021
Non-Exclusive Professional Services Agreement For Design Services for Wastewater Treatment Plants Related To Consent Decree Projects	Miami Dade Water and Sewer Department	Ongoing
Non-Exclusive Professional Services Agreement For Design Services for Large Diameter Pipeline Related to Ocean Outfall Program	Miami Dade Water and Sewer Department	Ongoing
Pump Station Improvement Program (PSIP)	Miami Dade Water and Sewer Department	Ongoing
Agreement For Professional Services RSQ 15-19-Water Systems Operational Assessment and Optimization Plan	City of New Smyrna Beach	Ongoing
Construction Management at Risk Program	City of Cape Coral	2014
As-Needed Professional Engineering Services	City of Tampa	Ongoing
As-Needed Professional Services Agreement	Tampa Bay Water	2016
Misc. Engineering Services, Water, Wastewater and Reclaimed Water	Hillsborough County	2017
General Engineering Services	City of Venice	Ongoing
Misc. Water and Wastewater Engineering Services	City of North Port	Ongoing
Continuing Professional Services and Misc. Construction Management Services	Sarasota County	Ongoing
City of Clearwater Public Utilities Department	City of Clearwater	Ongoing
Hydrogeologic Services Contract	Palm Beach County	Ongoing
General Consulting Services	City of Boynton Beach	2017
Construction Administration Services	City of Miami Beach	Ongoing

Our water, wastewater, stormwater, and reuse reclaimed water continuing services contract experience



Water Transmission and Distribution Project

Proposed 12-inch PVC Watermain Improvements

Hallandale Beach, Florida

PROJECT DETAILS

OWNER	City of Hallandale Beach
CONTACT	Jesus Padron Project Manager 954-457-1397 jpadron@cohb.org
PROFESSIONAL FEES	$199,705
COMPLETION DATE	2021

Stantec provided construction documents for the installation approximately 3,250 LF of proposed 12-inch Polyvinyl chloride (PVC) Watermain along Foster Road from NW 9th Avenue to NW 4th Avenue, and approximately 2, 400 LF of 8-inch PVC watermain along NW 9th Street. The existing 6" watermain along Foster Road will be abandoned in place. The project includes installation of new fire hydrants according to City of Hallandale Beach Fire Department requirements, new water services, re-connections of existing stub outs within the project limits, roadway milling and resurfacing and replacement of pavement markings. Services provided include; conducting site investigations, utility coordination, topographic surveys, geotechnical investigation, engineering design, develop construction documents (plans & specifications), permitting, support services during procurement and support during construction including construction observation.

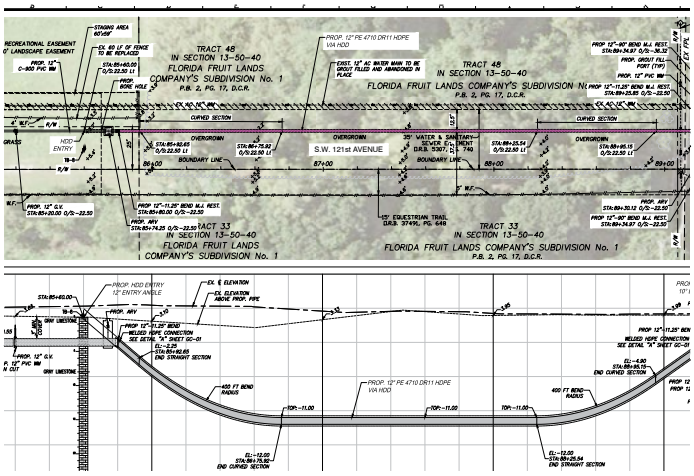
PROJECT RELEVANCE

- Water Distribution
- Existing Neighborhood
- Public Involvement

Water Transmission and Distribution Project

SW 121 Avenue Watermain Pipe Improvements

Sunrise, Florida



PROJECT DETAILS

OWNER	City of Sunrise
CONTACT	Alfredo Montano, PE Project Manager 954-888-6037 amontano@sunrisefl.org
PROFESSIONAL FEES	$534,110
COMPLETION DATE	2022

Stantec is responsible for the construction documents for the installation of approximately 2,500 LF of 12-inch PVC watermain via open-cut, 400 LF of 12-inch HDPE via Horizontal Directional Drill (HDD), 2, 500 LF of 12-inch HDPE via pipe bursting, 3,620 LF of 8-inch HDPE via Horizontal Directional Drill (HDD) and 100 LF of 8-inch PVC WM via open-cut, along SW 121st Street between SW 36th Court and SW 14th Street.

Hydraulic modeling of the system was done to confirm watermain sizes, velocities, fire hydrant spacing, water age and fire flow requirements along the corridor. The project is driven by the City's desire to replace existing asbestos concrete cement (AC) watermain piping, fill in gaps along the corridor where no WM currently exist and provide sufficient fire flow coverage and improve the level of service by providing a more robust distribution system. The project includes installation of new fire hydrants according to Town of Davie Fire Department requirements, new water services, re-connections of existing stub outs within the project limits, roadway milling and resurfacing and replacement of pavement markings. Services provided include; conducting site investigations, utility coordination, topographic surveys, geotechnical investigation, verified vertical and horizontal on existing utilities, engineering design, develop construction documents (plans & specifications), permitting through Florida Department of Environmental Protection (FDEP) and Broward County Traffic, and providing support services during procurement and construction.

PROJECT RELEVANCE

- Water Distribution
- Existing Neighborhood
- Public Involvement

Water Transmission and Distribution Project

Brentwood Water and Sewer Improvements

Davie, Florida

PROJECT DETAILS

OWNER	Town of Davie
CONTACT	Renuka Mohammed Utility Director 954-327-3768 rmohammed@davie-fl.gov
PROFESSIONAL FEES	$334,125
COMPLETION DATE	2022

This is a replacement and upgrade project for the water and sewer infrastructure to replace the aging assets in a residential neighborhood. Services provided include design, community outreach, permit and bid assistance. The engineering task included evaluation and recommendations for fire flow coverage, hydraulic analysis to confirm pipe diameters, feasibility of gravity sewer relocation, review of CCTV to determine sewer improvements, establishing new main alignment, reviewing prior consultants design and developing design documents. The project is located in a dense residential area with little to no right of way and requires a descriptive sequencing plan for the concerned residents.

The project includes the installation of approximately 2,650 LF of 8” HDPE watermain via pipe bursting, 4,500 LF of 6” DIP watermain via open cut, 350 LF of 4” DIP watermain via open cut, 18 new fire hydrants, 650 LF of 8” PVC Sanitary Sewer, 100 LF of 6” PVC Laterals and 4 new manholes, in the Brentwood and Brentwood west community, along SW 67th Avenue, and SW 41st Street. Hydraulic modeling of the system was done to confirm WM sizes, velocities and fire flow requirements.

The project is driven by the Town of Davie’s desire to replace existing asbestos concrete cement (AC) water WM piping and galvanized steel service lines in the project area, provide sufficient fire flow coverage and improve the level of service by providing a more robust distribution system.

PROJECT RELEVANCE

- Water Distribution
- Existing Neighborhood
- Public Involvement

Water Transmission and Distribution Project

8-inch Watermain Improvements

Sunrise, Florida

Stantec was the Engineer of Record for this project for which the City of Sunrise Utilities Department owns and maintains an existing distribution 8-inch Polyvinyl Chloride (PVC) portable watermain facility which currently serves residents and businesses along SR 84 EB between Pine Island and University Drive. It is necessary to relocate a portion of this watermain along SR 84 EB to facilitate the proposed sound barrier wall number six (6) construction which consists of two sections along SR 84 EB. Our firm was in charge of the design to relocate approximately 550 LF of the existing watermain, the technical special provisions and permitting through FDOT (utility office) and Broward County Health Department.

PROJECT DETAILS

OWNER	City of Sunrise
CONTACT	Tim Welch, PE Utilities Director 954-888-6055 twelch@sunrisefl.gov
PROFESSIONAL FEES	$123,000
COMPLETION DATE	2010

PROJECT RELEVANCE

- Water Distribution
- Existing Neighborhood
- Public Involvement

Water Transmission and Distribution Project

NW 57th Avenue 54-inch Water Transmission Main

Miami, Florida

PROJECT DETAILS

OWNER	Miami-Dade County Water and Sewer Department
CONTACT	Carlos Benavides Project Manager 786-268-5285 carlos.benavides@miamidade.gov
PROFESSIONAL FEES	$140,000
COMPLETION DATE	2018

NW 57th Avenue is a major six-lane divided FDOT urban arterial, which required extensive maintenance of traffic planning for the new transmission main construction. The project consists of installing 1, 600 LF of new 54-inch Pre-stressed Concrete Cylinder Pipe (PCCP) watermain under a separate JPA contract for MDWASD; connecting to two existing 24-inch DIP watermains (two tapping sleeves and valves), and to one existing 48-inch PCCP water transmission main. Connection to the existing 48-inch PCCP will be made by closing existing butterfly valves to isolate the pipe segment or by the use of 2- to 48-inch line stops assembly. The project includes furnishing and installing Bar Wrapped (C-303) concrete pressure pipe and fittings, 54- and 48-inch diameter butterfly valves and 12- thru 24-inch resilient wedge gate valves, specialty valves and fittings of various sizes for the transmission main; making connection to existing mains with tapping sleeves and valves, PCCP-to-DIP adapters, and solid sleeve adapters; air release and flushing valve outlet assemblies and access manholes.

PROJECT RELEVANCE

- Large Water Transmission
- Extensive MOT
- Heavy Existing Utilities

Water Transmission and Distribution Project

47th Avenue 16-inch Waterline and Forcemain Replacement

Miami-Dade, Florida

PROJECT DETAILS

OWNER	Miami-Dade County Water and Sewer Department
CONTACT	Alex Retamar Engineer III 786-552-4405 alex.retamar@miamidade.gov
PROFESSIONAL FEES	$222,000
COMPLETION DATE	2020

Design and construction of 10,023 LF of 16" ductile iron watermain along SR 847/NW 47th Avenue from SR 860/ NW 183rd Street to North of NW 207th Drive and a 500 LF horizontal directional drill (HDD) beneath the SFWMD Snake Creek Canal. The project includes installation of new fire hydrants according to Miami-Dade Fire Department requirements, new water services and reconnections of existing stub outs within the project limits. Services provided include; conducting site investigations, utility coordination, topographic surveys, geotechnical investigation, engineering design, develop construction documents (plans & specifications), permitting and providing support services during procurement and construction.

PROJECT RELEVANCE

- Water Transmission
- Urban Corridor
- Heavy Existing Utilities

Water Transmission and Distribution Project

Microtunnel 48-inch PCCP Watermain

Miami, Florida

PROJECT DETAILS

OWNER	Miami-Dade County Water and Sewer Department
CONTACT	Carlos Benavides Project Manager 786-268-5285 carlos.benavides@miamidade.gov
PROFESSIONAL FEES	$709,719
COMPLETION DATE	2019

As part of the Watermain Installation for Miami Dade Water and Sewer microtunneling shall be completed, approximately 712 linear feet, to install a 48-inch Prestressed Concrete Cylinder Pipe (P.C.C.P.) watermain under State Road 874 and CSX railroad along SW 117th Avenue. A 72-inch steel casing pipe will be installed for the 48-inch P.C.C.P. tunnel carrier pipe. Stantec was the Engineer of record for the construction shafts and mircotunnel, and responsible for the development of the 60%, 90% and final construction specifications and drawings. The launching and receiving shafts are approximately 25- to 30-feet deep. Stantec was also responsible for obtaining permits, reviewing the Geotechnical Data Report (GDR), and providing services during construction. Permit services included reviewing standard technical requirements for various agencies, submitting permit applications, fees, and coordinating with the following permit agencies; Miami-Dade RER-DERM, Miami-Dade Department of Transportation and Public Works, Florida Department of Health, MDX, and CSX. Services during construction included site meetings and inspections, submittals, and field monitoring.

PROJECT RELEVANCE

- Large Transmission
- Trenchless
- Pipe Assessment
- Surge Analysis

Water Transmission and Distribution Project

NW 107th Avenue 16-inch Distribution Watermain Improvements

Miami, Florida

PROJECT DETAILS

OWNER	Miami-Dade County Water and Sewer Department
CONTACT	Lin Li, PE Construction Manager 3 305-755-5464 lin.li@miamidade.gov
PROFESSIONAL FEES	$312,000
COMPLETION DATE	2019

Design and construction of 3, 600 LF of new 16" Ductile Iron watermain on SW 107th Avenue from SW 11th Street to West Flagler Street. Project includes a sub aqueous crossing of the Tamami Canal, Fire Hydrant according to Miami-Dade Fire Department requirements, new water services, reconnection of existing stubouts within the project limits and water meter replacements. Stantec was responsible for design, specifications, quantities, construction cost estimate, shop drawings, construction support and all permits acquisition through WASD, DERM, the Health Department and South Florida Water Management District (SFWMD). This project was executed under a Joint Project Agreement (JPA) between FDOT and M-D WASD.

PROJECT RELEVANCE

- Large Water Transmission
- Urban Corridor
- Heavy Existing Utilities

Wastewater Project: Collection, Lift Stations/Pump Station, Reuse, and Forcemain

Miami-Dade County Central District Wastewater Treatment Plant Master Pump Station No. 1 - Hardening Upgrade, Miami, Florida

PROJECT DETAILS

OWNER	Miami-Dade County Water and Sewer Department
CONTACT	Lin Li, PE Construction Manager 3 305-755-5464 lin.li@miamidade.gov
PROFESSIONAL FEES	$312,000
COMPLETION DATE	2019

Master Pump Station No.1 (PS1) is a critical wastewater pumping facility that serves an extensive collection system including most of the City of Miami, Coconut Grove, West Brickell, Coral Gables, West Miami and Miami International Airport and delivers wastewater from the collection system to the Central District Wastewater Treatment Plant (WWTP). The pump station serves a population of over 800,000 people and 146 critical facilities, including hospitals, shelters, and emergency centers. PS1 has an estimated capacity of 160MGD provided by its eight (8) 600 HP vertical centrifugal pumps, six of which are equipped with dual electric motor / direct diesel drives. The pump station and service areas are at low elevations, adjacent to Biscayne Bay and the Miami River, and currently vulnerable to flooding from storm events. Past storm events have caused a series of failures and power outages at the pump station due to loss of power and flood inundation that have limited WASD's wastewater treatment and conveyance services to a significant portion of the Miami-Dade service populations.

Miami-Dade County applied for and was awarded a grant from the State of Florida Hazard Mitigation Grant Program (HMGP) for hardening of PS1. The eleven mitigation methods identified for PS1 are presented below.

- Flood Barriers for Doorways, Opening, and Thresholds
- Upgrade to Impact Windows and Impact Flood Doors
- HVAC Improvements for Ventilation, Redundancy, and Safety
- Floodproof Louvers
- Structural and Equipment Reinforcement for Wind Loading
- Emergency Generators to Replace Diesel Engine
- Discharge Valve Redundancy (Hydropneumatics System)
- Seawall Improvements
- Upgrade Clutch to Hydraulic Type
- Elevate Operations and MCC
- SCADA System Improvements

PROJECT RELEVANCE

- Large Wastewater Pump Station
- Southeast Florida Regional Climate Change Experience
- Grant Funded

Wastewater Project: Collection, Lift Stations/Pump Station, Reuse, and Forcemain

Pump Station Improvement Program (PSIP)

Miami-Dade, Florida

PROJECT DETAILS

OWNER	Miami-Dade County Water and Sewer Department
CONTACT	Luis Lopez-Blazquez, PSIP Manager / Juan Curiel, PE, Project Manager WASD Capital Projects 786-552-8399 / 305-962-0572 llopezb@miamidade-psip.com / Juan.curiel@miamidade.go
PROFESSIONAL FEES	$4,150,000
COMPLETION DATE	2020

US-EPA issued a Consent Decree (CD) to Miami Dade County requiring over 112 sewer pump stations to be brought into compliance over a period of 5 years. As part of the $2B Miami Dade Consent Decree Program, Stantec was selected to perform design services for the $250M Pump Station Improvement Program (PSIP). The goal of the PSIP was to identify and upgrade pump stations and associated forcemains in need of repair due to capacity limitations or structural deficiencies. A number of value engineering initiatives and innovative engineering solutions were applied, as was guidance to O&M to solve system capacity problems without construction, which resulted in a total savings of $39 million. Stantec was responsible for the development and delivery of project documents including engineering analysis and reports, project drawings, and specifications. Engineering services also included obtaining state and local permits. Stantec has met the challenge of obtaining these permits in a very short period and delivering these pump station projects expeditiously to meet critical EPA deadlines.

Below is a discussion on several of the services performed by Stantec under the PSIP program.

- MDWASD - PS 76: New dry-pit mounted submersible pumps with installation of 210 LF of 10-in FM. Reuse of existing wet well and drypit. Installation of new I-beam for removal of pumps.
- MDWASD - PS 819: New submersible pump station with new wet well and valve vault.
- DWASD - PS 870: New submersible pumps installed on a existing rehabilitated wet well.
- MDWASD - PS 105: New submersible pump station with new wet well and valve vault.
- MDWASD - PS 1058: New submersible pump station with new wet well and valve vault. New elevated top slab to meet FEMA flood elevation.
- MDWASD - PS 1056: New submersible pump station with new wet well and valve vault.
- MDWASD - PS 124: New submersible pump station with new wet well and valve vault.
- MDWASD - PS 506: New submersible pump station with new wet well and valve vault.
- MDWASD - PS 698: New triplex submersible pump station with VFDs and flow meter.
- MDWASD - PS 494: New submersible pumps installed on an existing rehabilitated wet well. New valve vault and 50-LF of 8-in FM.

Challenges and Innovations:
Sea level rise, the location of these pump stations, maintaining service during construction and improving capacity and reliability were all challenges with these projects. Stantec worked closely with the PSIP team, WASD, and DERM in considering climate change impacts for pump station upgrades. Pump station design considered the Unified Sea Level Rise (USLR) Projection implemented by the **South Florida Regional Climate Change Compact, and design processes based on asset life. The result was a climate resiliency feature conforming to a Sea Level Rise design criteria** consistent with ASCE 24-05.

PROJECT RELEVANCE

- Wastewater Pump Station
- Southeast Florida Regional Climate Change Experience
- Grant Funded

Wastewater Project: Collection, Lift Stations/Pump Station, Reuse, and Forcemain

Lift Stations 122, 128, and 210 Rehabilitation

Sunrise, Florida

PROJECT DETAILS

OWNER	City of Sunrise
CONTACT	Tim Welch, PE Director of Utilities 954-888-6055 twelch@sunrisefl.gov
PROFESSIONAL FEES	$302,264
COMPLETION DATE	2021

Lift Stations 122, 128, and 210 are being rehabilitated as a part of the City of Sunrise's ongoing sewer collection system rehabilitation and replacement efforts. The City is converting all stations in need of rehabilitation from dry-pit/wet well to submersible in an effort to standardize and improve operation.

Improvements to Lift Station 122 include wet well improvements, new valve vault, two (2) 50 hp pumps, operating point 1925 gpm @ 67 TDH, and new 480V service.

Improvements to LS 128 include two (2) new submersible 30 HP pumps with a new increased design capacity of 635 gpm at 85-feet TDH. The existing wet well will be re-used and rehabilitated, and a new pre-cast valve vault with 8-inch internal piping will be installed. The electrical equipment, wet well, and valve vault rim elevation will all be raised to 9.00-ft NAVD to meet Broward County 100-Yr Flood Elevation. Additionally, electrical equipment will be upgraded with a new control panel, new service and distribution equipment will be replaced.

Improvements to LS 210 include two (2) new submersible 7.5 HP pumps with a new design operating point of 135 gpm at 57-feet TDH. The existing wet well will be re-used and rehabilitated, and a new pre-cast valve vault with 4-inch internal piping will be installed. The electrical equipment, wet well, and valve vault rim elevation will be raised to 6.50-ft NAVD to meet Broward County 100-Yr Flood Elevation. Electrical equipment will be upgraded including a new control panel, service and distribution equipment will be replaced. A new utility easement will be provided for this lift station.

PROJECT RELEVANCE

- Continuing Services Contract
- Wastewater
- Lift Station
- Existing Neighborhood
- Public Involvement

Wastewater Project: Reuse

Sawgrass International Corporate Parkway-Reuse Main and ASR Raw Water

Sunrise, Florida

PROJECT DETAILS

OWNER	City of Sunrise
CONTACT	Guarionex DeLos Santos Project Manager 954-888-6077 gdelossantos@sunrisefl.org
PROFESSIONAL FEES	$509,655
COMPLETION DATE	2020

Stantec provided engineering services and construction management during construction for the Sawgrass Reuse Distribution and Aquifer Storage and Recovery (ASR) Well RAW Water Pipeline System. The project consists of the installation of approximately 30,000 LF of new mains for a new reuse distribution system and a new Aquifer Storage and Recovery (ASR) well system. The portion of the work related to the new reuse distribution system consists of approximately 23,000 LF of ductile iron pipe (DIP), valves and fittings ranging in size between 4-inches and 36-inches in diameter. The portion of the work related to the new raw eater transmission main for the Sawgrass ASR Well system Design includes approximately 7,000 LF of 16-inches DIP, valves and fittings, connecting the ASR booster pump station within the Sawgrass Utility Complex and the SGF-1 ASR well. The project consisted of canal aerial crossing, horizontal directional drilling on Sunrise boulevard, slip lining, and repurposing decommissioned forcemain, and following FDOT MOT guidelines.

Our services included pre-construction planning and coordination with the contractor, cataloging and inspection owner furnished material to be handed over to the contractor, full-time on-site inspection services to observe and document all work activities, project management services including review of product submittals, reviewing and signing the contractor's applications for payment, conducting and documenting minutes for bi-weekly construction progress meetings with owner and contractor, reviewing and responding to contractor's request for information, reviewing contractor's claims for additional compensation, review of progress construction schedules, and coordination of the work with the City's designated inspector. As part of the project closeout, we will review the contractor's final as-builts, final payment requisition, final testing of the system, permit close-out, punch list, and final inspection.

PROJECT RELEVANCE

- Raw Water and Reuse Distribution
- Existing Neighborhood
- Public Involvement

Wastewater Project: Collection, Lift Stations/Pump Station, Reuse, and Forcemain

FIU - Sanitary Sewer Evaluation (SSES) - PSO-428 & PSO-621

Miami, Florida

PROJECT DETAILS

OWNER	Florida International University
CONTACT	Alberto Delgado Director of Facilities and Construction 305-348-4036 alberto.delgado@fiu.edu
PROFESSIONAL FEES	$92,000
COMPLETION DATE	2016

Florida International University owns and operates its private sanitary sewer system servicing the Modesto Maidique Main Campus. The sewer system is comprised of ten pump stations and approximately over 26,000 linear feet of gravity pipe. The system operates under a Private Sanitary Sewers Operating (PSO) program from Miami-Dade Department of Environmental Resources Management (DERM), which oversees the operation of the system and has jurisdictional authority under the Miami-Dade Volume Sewer Customer Ordinance (VSCO), part of Chapter 24 of the Miami Dade County Code.

In 2018 DERM identified two PSOs with excessive Inflow and Infiltration (I/I) which required corrective actions to bring the system into compliance, PSO 428 (the Engineering Campus) and PSO 621. Stantec was contracted to perform a Sanitary Sewer Evaluation Survey for each PSO and rehabilitate the sewer system as necessary to bring down the I/I below the allowable 5,000 gallons per day (gpd). Stantec worked with local Contractors to televise, smoke, and identify the deficient areas for each sewer system. Cost effective solutions were implemented early on to significantly reduce the I/I.

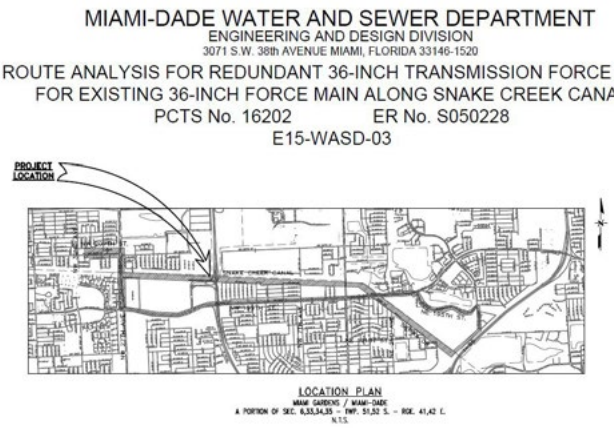
The initial SSES Report, construction repairs, and a final post-repairs report demonstrating I/I flow measurements below 5,000-gpd were completed within 6 months to meet DERM's 2nd SSES Cycle deadline. In the process of the evaluation Stantec identified an illegal stormwater cross-connection which was re-routed with a new drainage system. A low-lying pump station was identified to be susceptible to significant infiltration through it's poorly constructed top slab, a new water-tight top slab was built to prevent any infiltration into the pump station. Other corrective repairs included lining and grouting leaking manholes, repairing broken cleanouts, and lining broken laterals. Stantec worked diligently with FIU and the selected Contractors to meet the aggressive deadlines set by DERM and correct put the two PSOs in compliance.

PROJECT RELEVANCE

- Wastewater Collection Planning
- Existing Wastewater System
- Public Involvement

Wastewater Project: Collection, Lift Stations/Pump Station, Reuse, and Forcemain

Redundant 36-inch Transmission Forcemain Replacement along Snake Creek Canal,
Miami-Dade, Florida


MIAMI-DADE WATER AND SEWER DEPARTMENT
ENGINEERING AND DESIGN DIVISION
3071 S.W. 38th AVENUE MIAMI, FLORIDA 33146-1520
ROUTE ANALYSIS FOR REDUNDANT 36-INCH TRANSMISSION FORCE MAIN
FOR EXISTING 36-INCH FORCE MAIN ALONG SNAKE CREEK CANAL
PCTS No. 16202 ER No. S050228
E15-WASD-03
PROJECT LOCATION
LOCATION PLAN

PROJECT DETAILS

OWNER	Miami-Dade County Water and Sewer Department
CONTACT	Eduardo M. Luis Engineer III Capital Program Management 786-552-8837 eduardo.luis@miamidade.gov
PROFESSIONAL FEES	$189,125
COMPLETION DATE	In Progress (2023)

Preliminary Engineer Report and final design for the installation of approximately 24, 870 LF of 36-inch transmission forcemain which will convey wastewater from PS422 (3028 NW 208th Terrance in Miami Gardens) to an existing 30-inch forcemain on the west side of the rail road crossing (adjacent to I-95) along the south side of Snake Creel Canal. The existing 30-inch/36-inch forcemain alignment begins at PS422, heads south to NW 207th Street, then continues east along NW 207th Street to NW 27th Avenue. At NW 27th Avenue the existing forcemain turns south and crosses to the south side of Snake Creek Canal, then turns east, continues along the south side of Snake Creek Canal, and ends on the west side of the CSX Railroad Crossing. Deliverables include PER, which will recommend the preferred route and preliminary alignment, pipeline material, construction methods and define general characteristics of the new 36-inch forcemains to guide the final design.

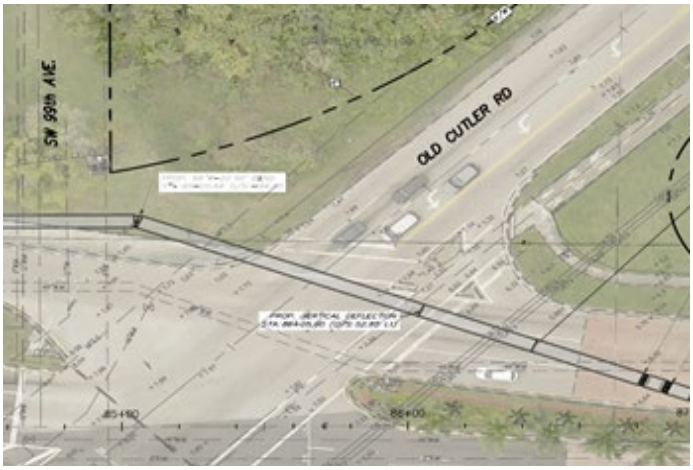
PROJECT RELEVANCE

- Large Forcemain
- Planning and Modeling
- Extensive MOT

Wastewater Project: Collection, Lift Stations/Pump Station, Reuse, and Forcemain

66-inch Forcemain to South District Wastewater Treatment Plant

Miami-Dade, Florida



PROJECT DETAILS

OWNER	Miami-Dade County Water and Sewer Department
CONTACT	Diana Francois Project Manager 954-588-8104 diana.francois@jacobs.com
PROFESSIONAL FEES	$786,755
COMPLETION DATE	In Progress (2023)

SL-1B.1 is a MD-WASD 66-inch transmission PCCP forcemain, proposed to convey wastewater flows from the east terminus of SL-2.2, 100 feet west of the intersection of SW 112th Avenue and SW 216 Street to the existing 60-inch pipe connection on an existing 72-inch transmission forcemain at the intersection of SW 97 Avenue and SW 216 Street near the SDWWTP.

The forcemain has an approximate length of 8,700 linear feet. There is trenchless crossing under the Florida's Turnpike and SFWMD's Black Creek (C-1) Canal with a micro-tunnel. A new 90-inch steel casing will be used to accomplish the microtunnel with a 66-inch carrier pipe.

PROJECT RELEVANCE

- Large Forcemain
- Surge Analysis
- Extensive MOT

Stormwater Project

Belle Meade Stormwater Improvements

Miami, Florida

PROJECT DETAILS

OWNER	City of Miami
CONTACT	Jose Lago, PE, CFM Project Manager 305-416-1252 jlago@miamigov.com
PROFESSIONAL FEES	$295,000
COMPLETION DATE	2010

Belle Meade is an 80-acre, single family, residential neighborhood located in the northeastern portion of the City of Miami adjacent to Biscayne Bay. Over the years, problems with the inadequate drainage infrastructure, tidally influenced groundwater, site elevation, and deteriorating streets created a condition of moderate to severe flooding in the area. Stantec performed a drainage study and determination of the best alternative drainage solutions for the Belle Meade area. The model was run and calibrated based on existing conditions. Design iterations were then input into the system and evaluated against the City's design criteria. The final design recommendation was a 120 cfs stormwater pump station with approximately 4,000 feet of collection system assisted by exfiltration trenches in the higher elevation areas.

Following the study, we provided the full engineering design and permitting of the drainage and streetscape improvements - encompassing several miles of road in a developed flood-prone neighborhood, while providing quality treatment through the use of exfiltration trenches and storm water quality treatment units and ultimately discharging through a large stormwater pump station to the Little River Canal. Permitting included pre/post ICPR computer model and stage calculations for Miami-Dade's Class II Surface Water Management Permit. Additional permitting included SFWMD and ACOE for discharge into navigable waters.

Stantec served as the prime consultant for planning, design, and construction inspection. Stantec coordinated all sub consultant activities. Challenges included construction during the rainy season while maintaining positive outfall for the neighborhood. This project was extremely successful, for the first time in the life of this historic residential neighborhood, the streets do not flood during high tide events.

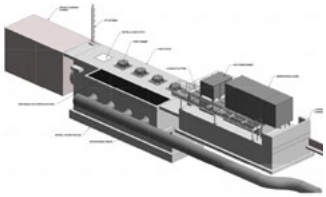
PROJECT RELEVANCE

- Stormwater
- Existing Coastal Neighborhood
- Public Involvement

Stormwater Project

Naples Beach Drainage and Water Quality Improvements

Naples, Florida



PROJECT DETAILS

OWNER	City of Naples
CONTACT	Miguel Flores Project Manager Streets and Stormwater Department 239-213-5004 mflores@naplesgov.com
PROFESSIONAL FEES	$1,400,000
COMPLETION DATE	In Progress (2023)

The City of Naples Drainage Basin II system, in the Naples Beach area, collects stormwater and discharges to the Gulf of Mexico via ten gravity outfalls within the beach surf zone. With the common occurrence of local road flooding during high tides and heavy rain events, the increasing concerns of State's regulatory agencies, City officials, environmental groups, residents, and visitors include beach erosion, lateral beach access, sea turtle nesting habitat, water quality, and beach aesthetics.

Through a feasibility study and preliminary engineering by the Stantec/ECE team, three alternative approaches using stormwater pump stations to consolidate the outfalls were presented to City Council. The selected alternative splits the stormwater basin into a north system and a south system, each with a respective pump station discharging stormwater approximately 1,600 feet into the gulf via new horizontal directionally drilled outfalls.

The stormwater pump stations, design by Stantec, are 70 cfs and 105 cfs capacity. They are a trench-type station, with all electrical system control and instrumentation and backup power systems installed on elevated platforms above base flood elevations.

PROJECT RELEVANCE

- Stormwater
- Pump Station
- Existing Coastal Neighborhood
- Public Involvement

Stormwater Project

Freedom Park Stormwater Pump Station

Collier County, Florida

PROJECT DETAILS

OWNER	Collier County
CONTACT	Brittany Lazo Project Manager 239-252-5728 Brittany.Lazo@colliercountyfl.gov
PROFESSIONAL FEES	$87,400
COMPLETION DATE	In Progress (2023)

Collier County owns and operates Freedom Park, whose primary function is a water quality park (treatment system) for the Gordon River Extension's stormwater basin and secondly serves as a 50-acre recreation area and wildlife learning center to County residents and visitors.

Stantec was selected to design a large 19,000-gpm stormwater pump station (triplex, 80-HP) serving a series of upstream urban basins (over 200-acres). The pump station receives flows through a 6-foot by 12-foot box culvert and pumps into the park through a cascading waterfall that discharges into a pond before meandering downstream through a series of manmade filter marshes and ultimately discharging to the Gordon River Extension (GRE). The wetlands remove nutrients such as nitrogen and phosphorus while also allowing other pollutants to settle out before stormwater reaches the GRE and eventually discharges to the Gordon River.

The conveyance through the wetlands were upgraded by Stantec with the design of large gravity main interconnectors, ranging from 24-inches to 54-inches. The drainage improvements were modeled using XP-SWMMM to ensure the project met the design criteria and to update the overall Master Model.

The updates to the stormwater system are necessary to mitigate upstream flood problems in the urban area and to meet the Florida Division of Emergency Management (FDEM) funding criteria for the Federal Emergency Management Agency Hazard Mitigation Grant Program (HMGP). Hazard mitigation measures are any sustainable action taken to reduce or eliminate long-term risk to properties from future disasters. The risks are further reduced with pump redundancy, backup generator, and bypass ditch. Proposed improvements will help alleviate flooding within the Upper Gordon River Basin.

PROJECT RELEVANCE

- Stormwater
- Pump Station
- Water Quality
- Public Involvement
- Grant Funded

TAB D.

Organizational Profile and Project Team Qualifications

TAB D. Organizational Profile and Project Team Qualifications

Our team has the right experience to perform any work efficiently and effectively, and has the ability to devote their energies to its success. Stantec is very excited about the opportunity to collaborate with the City of Hollywood on this contract. We have technical expertise, knowledge, and resources to work closely with you in executing a successful project as we have done countless times in the past with other clients. Our collective project knowledge and experience is the strength behind our organization and the reason we deliver successful projects.

The key members of our team bring a diverse background and experience related to professional services. This combination of our unique strengths and passions, knowledge, and experience makes it possible for us to deliver successful projects and advance the quality of life in our community. We are very proud of our staff, who bring their collective knowledge, experience, and imagination to every project.

Stantec's team offers the City of Hollywood a familiar project team skilled and efficient in providing the professional and technical expertise required for public water, wastewater, sewer, reuse, and stormwater projects. The Project Manager, Oscar Bello, PE will be personally responsible for the delivery of the professional services for this contract. As a Florida registered Professional Engineer (PE), Oscar has 25 years combined experience, and has served 30+ clients in the Tri-County area. He will be leading a team of a highly qualified professional staff, including our sub consultants PanGeo Consultants, Stoner & Associates, and Brizaga.

Our team is comprised of one main point of contact, overall project manager, supported by various local leads based on the type of project. Our proposed team has technical advisors and independent quality management team comprising of subject matter experts. This leadership team will be supported by technical experts and resources as identified in the organizational chart. Since the RFQ is broad in scope, various resources are proposed. Please see the following pages for details about our key individuals' experience.

KEY INDIVIDUALS DIRECTLY INVOLVED WITH THE WORK

KEY INDIVIDUAL	ROLE	YEARS OF EXPERIENCE	YEARS WITH THE FIRM	% OF TIME TO BE ASSIGNED TO THIS PROJECT
Oscar Bello, PE	Project Manager - Wastewater Collection Engineer	25	2	75%
Tracy Anderson, PE	Technical Advisor - Transmission	30	26	30%
John Malueg, PE	Technical Advisor - Resiliency	37	22	35%
Ramon Castella, PE, ENV SP	Technical Advisor - Water Distribution & Wastewater Collection	37	34	25%
Tino Senon, PE	Technical Advisor -Pump Station	56	46	25%
Dave Clarke, PE	Water Distribution & Transmission Engineer	20	20	60%
Jarah Parke, PE	Water Distribution & Transmission Engineer	20	20	50%
Bill Mariott, PE	Lead Copper Rule Revision Compliance	26	1	55%
Larissa Faria, PE	Permitting Engineer	8	8	55%
Ben Quartermaine, PE	Stormwater Engineer	27	4	70%
Shehab Bata, PE	Stormwater Design Engineer	17	5	55%
Jordan Corby, PE, PMP	Modeling Engineer	12	4	45%
Marlon Medina, PE, CFM	Stormwater Pump Station Engineer	14	13	70%
Sergio Hoyos, PE	Lift Station Engineer	22	3	55%
Riccardo Versace	Pump Station Design Engineer	3	3	85%
Heath Wintz, PE	Water Treatment Lead	23	10	70%
Hal Schmidt PE, BCEE	Wastewater Treatment Lead	41	15	65%
Fletcher McKenzie, PE	Surge & Hydraulic Analysis Engineer	13	4	45%
Noel Guercio	Condition Assessment Engineer	20	16	50%
Cory Meckler, AScT	Cathodic Protection Specialist	29	18	50%
Jon Pearson, PE	Trenchless Engineer	11	8	50%
Anil Dean, PE	Trenchless Engineer	25	8	50%
David Steffes, PE	SCADA Engineer	36	24	65%
Brad Buchanan, PE	Instrumentation & Control Engineer	9	8	65%
Jevaan Lewis, PE	Electrical Engineer	15	2	75%
Craig Kaltenbach, PE	Structural Engineer	27	20	60%
Diane Quigley	Funding & Grant Assistance Specialist	36	1	55%
Bernadette Callahan	Green Infrastructure Designer	18	13	45%
Sussette Irizarry	Sea Level Rise Adaptation Specialist	10	6	40%
Matt Starr, PG	Storm Surge Analysis Geologist	20	5	40%
Paul Carroll, PE	Storm Surge Analysis Engineer	18	4	45%
Sean Compel, PE, ENV SP	Construction Manager	20	20	65%
Fernando Vargas	Construction Inspector	16	16	70%
Ricardo Julien	Construction Inspector	20	6	85%
Peterson Gonzales	Construction Inspector	20	5	85%

This is our team

(1) - Stantec Consulting Services Inc.
(2) - PanGeo Consultants, LLC *(CBE)*
(3) - Stoner & Associates Inc. *(CBE)*
(4) - Brizaga, Inc.

CITY OF Hollywood FLORIDA

PROJECT MANAGER

Oscar Bello PE, DBIA (1)

TECHNICAL ADVISORS

Tracy Anderson PE (1)
Transmission

John B. Malueg PE (1)
Resiliency

Ramon Castella PE, ENV SP (1)
Water Distribution & Wastewater Collection

Tino Senon PE (1)
Pump Station

WATER

Water Distribution & Transmission
Dave Clarke PE (1)
Jarah Parke PE (1)

Lead Copper Rule Revision Compliance
Bill Mariott PE (1)

WASTEWATER & REUSE

Wastewater Collection & Reuse Distribution
Oscar Bello PE (1)

Permitting
Larissa Faria PE (1)

STORMWATER

Stormwater
Ben Quartermaine PE (1)

Stormwater Design
Shehab Bata PE (1)

Modeling
Jordan Corby PE, PMP (1)

PUMP STATIONS & LIFT STATIONS

Stormwater Pump Station
Marlon Medina PE, CFM (1)

Lift Stations
Sergio Hoyos PE (1)

Pump Station Design
Riccardo Versace (1)

WATER & WASTEWATER TREATMENT PLANT

Water Treatment Lead
Heath Wintz PE (1)

Wastewater Treatment Lead
Hal Schmidt PE, BCEE (1)

TECHNICAL SUPPORT TEAM

SURGE & HYDRAULIC ANALYSIS
Fletcher McKenzie PE (1)

CONDITION ASSESSMENT
Noel Guercio PE (1)

CATHODIC PROTECTION
Cory Meckler AScT (1)

TRENCHLESS
Jon Pearson PE (1)
Anil Dean PE (1)

SCADA / INSTRUMENTATION & CONTROL
Brad Buchanan PE (1)

ELECTRICAL
Jevaan Lewis PE (1)

STRUCTURAL
Craig Kaltenbach PE (1)

FUNDING & GRANT ASSISTANCE
Diane Quigley (1)

GEOTECHNICAL
Paul Catledge PE (2)

STORM SURGE ANALYSIS
Matt Starr PG (1)
Paul Carroll PE, PMP (1)

GREEN INFRASTRUCTURE DESIGN
Bernadette Callahan (1)

SEA LEVEL RISE ADAPTATION
Sussette Irizarry (1)

SEA LEVEL RISE ADAPTATION / PUBLIC RELATION / PLANNING
Alec Bogdanoff PhD (4)

CONSTRUCTION MANAGEMENT
Sean Compel PE, ENV SP (1)

CONSTRUCTION INSPECTION
Fernando Vargas (1)
Ricardo Julien (1)
Peterson Gonzales (1)

SURVEYING
James Stoner PSM (3)

OSCAR BELLO

PE

TITLE: Project Manager - Wastewater Collection Engineer

EDUCATION

- Bachelor of Science in Civil Engineering, University of Central, Orlando, Florida, 1999

REGISTRATIONS

- Florida Professional Engineer #61612
- Designated Professional - Design Build Institute of America State of Florida General Contractor License #CGC1525348
- State of Florida Certified Utility & Excavation Contractor #CUC1225471

Oscar has 25 years of experience in water, wastewater, conveyance, site civil engineering, stormwater, and heavy civil construction. He has managed a wide variety of large wastewater collection, water distribution, and conveyance projects. Well versed in septic to sewer conversation projects in urban environments. Oscar has an array of technical experience including wastewater modeling (low pressure systems), trenchless installation (pipe bursting, jack & bore, and HDD), water and sewer pipeline design ranging in size from 4 inches up to 66 inches (PVC, DIP, Steel & PCCP), existing utility rehabilitation in existing neighborhoods, drainage and lift station designs.

He has provided planning, final design, and construction management services for conventional design-bid-build and alternative delivery projects. He has a strong background in Heavy Civil construction. Prior to joining Stantec, Oscar worked for a national water/wastewater contractor. His skills include site risk analysis, estimating, constructability review, scheduling, and project close-outs.

In recent years, Oscar Bello worked on several City of Hollywood infrastructure projects including, the Taft Street Watermain replacement project, and emergency repair projects like the 66" PCCP Outfall. This experience combined with his many years as a design engineer, brings unmatched value to the City.

RELEVANT EXPERIENCE

Design-Build Cudjoe Regional Wastewater Collection System - Outer Islands, Cudjoe Key, Florida - Oscar served as Engineer of Record for this septic-to-sewer design-build project. He was responsible for design, community meetings, modeling, permitting and construction of the central sewerage collection and transmission system for the Lower Keys, described as the Cudjoe Regional Wastewater Collection System Project. The service area included the "outer keys" of Big Pine, Little Torch, Ramrod, No Name and Lower Sugarloaf Keys. It was a hybrid-Wastewater collection system including Low Pressure (EOne Grinder Stations) and Gravity Main. The contract amount was $105M, which included over 240,000 linear feet of pipe, 65 lift stations, 4 master pump stations, 5,500 service connections, and several HDD sub-aqueous crossings. Conducted hydraulic modeling using SewerCAD.

City of Ft. Lauderdale Water and Sewer Biennial Engineer's Report, Fort Lauderdale, Florida - Oscar served as Project Manager and lead contact with the City. This Biennial Report was developed based on discussions with City's leadership and personnel that are responsible for planning, operating, maintaining, and upgrading the Water and Sewer System, review of system planning, and models provided by the City. Furthermore, the report summarized Stantec's review of the water and wastewater facilities, including physical condition, regulatory compliance, and the City's capital plans.

Design-Build 54" Effluent Disposal Pipeline, Northwest, Florida - Design Project Manager for this $54M project that was a private Design-Build project. It involved 81,000 LF of 48" and 54" Steel and Ductile Iron wastewater pipeline with a 54" river outfall and diffuser. Scope included 40 combination air release valves, 30 manways, 800 LF of jack and bore casing installation, wetlands crossings, two river crossings. Project scope required USACOE and FWC permitting.

Broward County Water and Wastewater Services - 48" Forcemain Replacement, Ft Lauderdale, Florida - Oscar served as project engineer for the design and permit to relocate an existing 48" Forcemain located within Florida Turnpike Right-of-Way. This project involved open-cut

installation of approximately 5,400 LF of 48" DIP followed by the removal of an existing PCCP. Coordination included Turnpike District of the FDOT, South Florida Water Management District, the Florida Department of Environmental Protection, and Broward County Water and Wastewater Services.

60" PCCP Effluent Discharge Emergency Repairs, Hollywood, Florida - Project Manager for this emergency contract that included 15MGD effluent bypass with 48" HDPE. Two 60" line-stops were required for the bypass. Project included (2) separate 60" PCCP repairs utilizing 60" closure kits and 60" repair clamps. The repair locations required constant dewatering. Significant dewatering operations including hydraulic pumps, sedimentation tank, large silt bag which clean discharge into a detention pond.

Route Analysis for 36-inch Transmission Forcemain along Snake Creek Canal Basis of Design Report (BODR), Miami Gardens, Florida - Project Manager for this project to provide consulting engineering services to the Miami-Dade Water and Sewer Department (MDWASD) to prepare a Basis of Design Report (BDOR) for the installation of approximately 24, 870 LF of 36-inch Transmission Forcemain (FM) which will convey wastewater from Master Pump Station to an existing 30-inch FM along the south side of Snake Creel Canal. The existing 30-inch/36-inch forcemain alignment begins at PS422, heads south to NW 207th Street, then continues east along NW 207th Street to NW 27th Avenue. The Scope of Work of this Task includes a BODR, which will evaluate routes and recommend the preferred route and preliminary alignment, pipeline material, construction methods and define general characteristics of the new 36-inch forcemains to guide the final design. Route Analysis included environmental and local stakeholder impacts, and HDD evaluations.

Key Haven Wastewater Collection System Phase 2 Improvements, Florida Keys, Florida - Oscar was the Project Manager for this project for which the Florida Keys Aqueduct Authority took over an existing gravity sewer system referred as the Key Haven Wastewater Collection System. A Sanitary Sewer Evaluation Survey (SSES) assessment was required to evaluate the magnitude of infiltration/inflow sources. The project was located in an existing residential neighborhood in the lower Florida Keys. The existing gravity system is made of 24,100 LF of sewer pipe, 80 manholes and four lift stations. Project delivered a comprehensive Sanitary Sewer Evaluation Survey (SSES) assessment program including an infiltration/inflow (I/I) analysis and an engineering report comparing conventional gravity sewer replacement vs. low pressure sewer. Tasks included CCTV inspections, physical survey of the collection system, including manholes structures, inverts, manhole risers, covers, conductivity/salinity testing, flow analysis, and smoke testing.

Design-Build-Operate Wastewater System, Islamorada, Florida - As Project Manager, Oscar was part of this $106M septic to sewer conversion design-build-operate in the Florida Keys. The purpose of the Project was to ensure that all wastewater is collected and treated to State of Florida mandated levels prior to disposal and to ensure safe and reliable wastewater collection and treatment for the community. Additional project considerations included minimizing potential environmental impacts on the Village and surrounding areas, with regard to habitat conservation, marine protection, endangered species and habitat, air and water quality, greenhouse gas emissions, wetlands and estuary preservation or enhancement. The Design-Build scope included: Modifications to the existing NPK and Key Largo wastewater treatment facilities for additional flow, equalization and aeration, 1 Master Pump Station and 4 Vacuum Pump Stations, 7 Ocean Channel Creek crossings using HDD from 8"-18", Hybrid Vacuum / Low Pressure Sewer / Grinder collection system (E One) consisting of approximately 400,000 LF of 3" to 10" PVC and HDPE Pipe, Transmission System consisting of approximately 100,000 LF of 8" to 18" PVC and HDPE, 1.25" HDPE Service Line- approx. 100,000 LF, Service to approximately 4,500 customers, Installation of 434 residential (EOne) Low-Pressure grinder pumps. Services Provided: Construction Management, Master Scheduling, Cost estimating, Value Engineering, Construction and operation services.

Design-Build Services for Business District Pump Station, Low Pressure Sewer System and Watermain Improvements, Miami Shores, Florida - As Design-Build Manager, Oscar was responsible for entire project delivery. Project consisted of the installation 3,100LF of 8" DIP forcemain, low pressure sewer system (Flygt grinder stations), new Miami-Dade WASD regional pump station (47HP), and 4,100LF of 12" watermain throughout the Miami Shores Village Central Business District. Oscar identified $422,236 in savings through a Value Engineering exercise.

60" PCCP Effluent Discharge Emergency Repairs, Hollywood, Florida - Oscar served as project manager for an emergency repair that included 15MGD effluent bypass with 48" HDPE. Two 60" line-stops were required for the bypass. Project included (2) separate 60" PCCP repairs utilizing 60" closure kits and 60" repair clamps. The repair locations required constant dewatering. Significant dewatering operations including hydraulic pumps, sedimentation tank, large silt bag which clean discharge into a detention pond.

TRACY ANDERSON

PE

TITLE: Technical Advisor - Transmission

EDUCATION

- Bachelor of Sciences in Civil Engineering, Tempe, Arizona, 1995

REGISTRATIONS

- Florida Profession Engineer #0048969
- Louisiana Professional Engineer #39112
- Arizona Professional Engineer #37264
- Virginia Professional Engineer #0402060947
- Tennessee Professional Engineer #123306

Tracy is a senior project manager with nearly 30 years of experience in planning, engineering, management, and construction of multidisciplined municipal infrastructure projects. He has been directly involved in the engineering and construction of water and wastewater treatment facilities, pump and lift stations, and major transmission pipelines. His projects include a greenfield waste recycling facility (WRF) with treatment capacity of over 14MGD; a raw pump station with seven 3,250-horsepower pumps and a capacity of 66,000 GPM; a 20-mile raw water transmission pipeline constructed using fiber reinforced plastic pipe with buried valve chambers housing as many as five, eight-foot-diameter valves; a complete community water system that included new groundwater supply wells, disinfection, 1.5-million gallons of finished water storage, 5,000 GPM high-lift booster pump station, and 10 miles of distribution pipelines; and 8,000 linear feet of 20- and 24-inch fusible PVC (FPVC) constructed utilizing horizontal directional drilling (HDD). Tracy has 15 years of conveyance experience in the Desert Southwest working with major water providers including City of Phoenix and Salt River Project and his water transmission pipeline and pumping station experience includes more than 200 miles of pipelines with diameters up to 120-inches and pumping heads in excess of 750-psi TDH.

RELEVANT EXPERIENCE

Southwest Wastewater Reclamation Facility, North Port, Florida - Project Manager for preliminary design and permitting for the 2MGD Phase I of the Southwest Wastewater Water Reclamation Facility (SWWRF) for the City of North Port. The Phase I site design incorporates planning for future facility expansions to an ultimate treatment capacity of 6MGD, accounting for the planned future development within the West Villages area of the City and ensures compatibility of equipment and treatment processes is in accordance with the clients stipulated design criteria.

Wastewater Treatment Plant Expansion, Phase I and Phase II, Maricopa, Arizona - Project Engineer/Resident Project Representative for the planning, pre-design, detailed engineering, and construction phase engineering services for a new wastewater treatment facility for the Ak-Chin Indian Community. Phase I of the project included design and construction of the original 65,000 gpd facility. Phase II included design and construction for an upgrade to 270,000 gpd. The facility included reuse elements, an influent lift station, a mechanical treatment facility, chlorination, and discharge to evaporation/percolation ponds. For the upgrade, the design included a new collection system and pump station. We also replaced the existing stabilization ponds with a new biological/mechanical process consisting of influent pumps and screens, Biological Nutrient Removal (BNR), clarification, filtration, disinfection, and effluent pumping. Effluent disposal options included reuse and recharge. The landscape master plan uses effluent from the wastewater treatment facility.

Nogales International Wastewater Treatment Plant Design-Build Services, Nogales, Arizona - Project Engineer for the planning, pre-design, detailed engineering, and construction phase engineering for a new 14.7MGD upgrade of the Nogales International Wastewater Treatment Plant in Nogales, Arizona. A fast-track, Progressive Design-Build project that included decommissioning of the existing detritors and replacement with vortex grit tanks, 6-millimeter screens downstream of the existing 25-millimeter coarse screens, bio-filters for plant wide odor

control, and three secondary process trains for nitrification and denitrification. The facility design was completed in a compressed six-month schedule with close coordination between designers and contractor in order to meet the City's fixed "not to exceed" $53 million project budget.

Wastewater Treatment Facility Upgrade, Pinedale, Wyoming - Tracy, as Principal in Charge, provided quality control reviews and management activities for the planning, design and construction of improvements to the Town's existing wastewater treatment facility. Improvements included upgrade and expansion of existing aerated lagoon treatment plant including new headworks facility, new anaerobic pretreatment cells, upgrade of aerated lagoons, and new UV disinfection system. Project is the first known municipal treatment application in Wyoming utilizing design concept of modified advanced integrated pond system (AIPS) of anaerobic pretreatment cells followed by aerobic cells. The new headworks facility included mechanical screen/ screenings press system, flow measurement, grit removal/ classifier system, chemical feed for adding alkalinity, and influent pumps. New electrical power and controls were provided including emergency diesel generator, site and building security, and SCADA system.

47th Avenue Waterline Replacement, Miami-Dade Water and Sewer Department, Miami, Florida - Technical Director responsible for the detailed design and final construction documents for approximately 10,000 LF of 16" ductile iron watermain along SR 847/NW 47th Avenue from SR 860/NW 183rd Street to North of NW 207th Drive and a 500 LF horizontal directional drill (HDD) beneath the SFWMD Snake Creek Canal. The project includes installation of new fire hydrants according to Miami-Dade Fire Department requirements, new water services and reconnections of existing stub outs within the project limits. Services provided include; conducting site investigations, utility coordination, topographic surveys, geotechnical investigation, engineering design, develop construction documents, permitting and providing support services during procurement and construction.

Miami Springs 12-inch Waterline Replacement, Miami-Dade Water and Sewer Department, Miami, Florida - Technical Director responsible for the detailed design and final construction documents for approximately 5,600 LF of 12-inch ductile iron watermains in the area around the Miami Springs Circle including Curtiss Parkway, Royal Poinciana Boulevard, Canal Street and Westward Drive. The project includes installation of new fire hydrants according to Miami-Dade Fire Department requirements, new water services and reconnections of existing stub outs within the project limits. Services provided include; conducting site investigations, utility coordination, topographic surveys, geotechnical investigation, engineering design, develop construction documents, permitting and providing support services during procurement and construction.

Miami Springs 8-inch Waterline Replacement, Miami-Dade Water and Sewer Department, Miami, Florida - Technical Director responsible for the detailed design and final construction documents for approximately 3,500 LF of 8-inch ductile iron watermains in the Miami Springs area including: Linwood Drive, from Ludlam Drive to Hammond Drive; Payne Drive, from Hammond Drive to Lenape Drive; and Coolidge Drive, from NW 36th Street to Oakwood Drive. The project includes installation of new fire hydrants according to Miami-Dade Fire Department requirements, new water services and reconnections of existing stub outs within the project limits. Services provided include; conducting site investigations, utility coordination, topographic surveys, geotechnical investigation, engineering design, develop construction documents, permitting and providing support services during procurement and construction.

Alton Road (South) Waterline Replacement, Miami Beach, Miami, Florida - Technical Director responsible for the detailed design and final construction documents for approximately 12,000 LF of 8" ductile iron (DI) watermain along SR 907/Alton Road, from south of 43rd Street to W 48th Street and from Lake View Drive to W 63rd Street and approximately 8,890 LF of 20" DI watermain along SR 907/Alton Road from Lake View Drive to W 63rd Street and along W 63rd Street Alton Road to La Gorce Drive. The project includes installation of new fire hydrants according to Miami Beach Fire Department requirements, new water services and reconnections of existing stub outs within the project limits. Services provided include; conducting site investigations, utility coordination, topographic surveys, geotechnical investigation, engineering design, develop construction documents, permitting and providing support services during procurement and construction.

Alton Road (North) Waterline Replacement, City of Miami Beach, Miami, Florida - Project Manager responsible for the detailed design and final construction documents for approximately 5,000 LF of 8" ductile iron (DI) watermain along SR 907/Alton Road, from Michigan Avenue to North Bay Road/Chase Avenue and approximately 2,500 LF of 12" DI watermain along SR 907/Alton Road from North Bay Road/Chase Avenue to south of Ed Sullivan Drive/43rd street. The project includes installation of new fire hydrants according to Miami Beach Fire Department requirements, new water services and reconnections of existing stub outs within the project limits. Services provided include; conducting site investigations, utility coordination, topographic surveys, geotechnical investigation, engineering design, develop construction documents, permitting and providing support services during procurement and construction.

JOHN MALUEG

PE

TITLE: Technical Advisor - Resiliency

EDUCATION

- Bachelor of Sciences in Water Biology, University of Wisconsin, Stevens Point, Wisconsin, 1980
- Bachelor of Sciences in Civil and Environmental Engineering, University of Wisconsin, Madison, Wisconsin, 1983

REGISTRATIONS

- Kentucky Professional Engineer #15642

John, with 37 years of experience, is Stantec's program manager for resilience planning and design. John performs resilience and disaster management work across North America. He is an expert in critical infrastructure risk identification, disaster response and hazard mitigation including grant funding (FHWA, FEMA, USACE and HUD) programs. John's responsibilities include serving our strategic clients providing strong executive coaching and guidance towards solving problems, maximizing opportunities and gaining resilience. John's knowledge and expertise stems from a 35-year career holding leadership and management positions in government and private consulting. His prior career experience includes serving as a Stormwater Services Manager for Greensboro, North Carolina where he was on City's leadership team responsible for responding to two hurricanes.

RELEVANT EXPERIENCE

Resilience-Sustainable-Innovative West Villages Design Mattamy Homes - Venice, Florida – Supporting blue sky brainstorming and planning for new 111,000 acre. 33,000 parcel coastal development. Planning includes evaluating design catastrophic event, community resiliency and sustainability design options, their feasibility, cost-effectiveness and return of investment. Key theme includes "linked with nature".

Collier County Disaster Recovery Program - Collier County, Florida – Supported damage assessment, federal recovery and grant funding strategy development including identification and screening of mitigation options for funding eligibility and advancement of community-wide resilience. Currently supporting FEMA Hazard Mitigation Grant strategy and application development.

Critical Infrastructure Coastal Flood Risk Vulnerability Assessment – Cape Coral, Florida – Supported vulnerability assessment of City's two wastewater treatment facilities. Assessed risks from 100-, 500-, hurricane category 1 through 5 in addition to including considerations for climate change and associated sea level rise. Scope included assessing federal HMGP and PDM grant funding opportunities.

CRUNCH Climate Resilience Urban Nexus Choices – Stantec in partnership with Florida International University (FIU) is supporting a global research initiative tasked with demonstrating how the urban food-water-energy nexus can strengthen urban resilience through an interconnected knowledge platform and framework.

London 2100 Water Strategic Plan – London, UK – Supporting Thames Water District facilitate the design of a community-based (year – 2100) vision for water. London's water infrastructure which is approaching 200-years old is being revisited to identify strategies for meeting increased demand because of projected 4-fold population growth. Vision includes separating storm and sanitary systems, harvesting rain-water, gray water industrial reuse supported by innovative and sustainable funding strategies.

Living with Water Regional Strategic Plan – Yorkshire Water / Hull, England – Supporting a community still with scares from World War II, who's streets are below the high-tide line that has a history of devastating flooding, John along with the Stantec team is facilitating a new vision, strategy for "living with water" and positioning the community for the next 200-years. Key issues addressed range from water resource management, flood risk mitigation, economic development and overall community resilience.

Strategic Water Pathways – City of New Orleans – The City turns 300 years old this year and throughout its history has dealt with flooding and disaster. John and team in partnership with the City and Rockefeller Foundation are plotting a resilient community based strategy for the next 100-years. Key elements of the plan include incorporating green and maximizing existing infrastructure to reduce flooding and enhance overall sustainability. Analysis will provide the basis for a new water system improvement bond issue.

Amtrak Vulnerability Assessment of Pilot Study, Wilmington, Delaware – Resilience Technical Advisor to a pilot assessment of a ten mile stretch of rail corridor. Project goal was to develop a standardized approach for future nationwide critical asset vulnerability and risk assessments. Team developed datasets projecting sea level rise and coastal surge (years 2020. 2050, and 2100), created a digital elevation model using LiDAR to emulate topographic conditions. Depth grids were incorporated into Hazus-MH model to assess vulnerability to buildings and track. In addition, national VAST and HRI risk assessments tools were used.

Tottenville Beach Recovery and Restoration, Staten Island, New York – HUD sponsored Rebuild by Design project strives to stabilize shoreline, reduce coastal flood risk and protect the local economy. Resilient solution currently under design includes integrated living shorelines, elevated walking trails, green infrastructure, ecosystem restoration and matrix of natural and reinforced sand dunes.

Nine Stations Sandy Repair - Resiliency Engineering Services; New York City Transit (NYCT), New York – Supporting feasibility study and design for mass transit long term flood mitigation. Work addressed nine stations (5 Brooklyn, 4 Queens), Richard Street Fan Plant and Hunters Point Portal.

HUD National Disaster Resilience Completion (NDRC) Phase 2, Multiple Jurisdictions, Nationwide – Lead and technical advisor for the development of seven (7) NDRC Phase 2 grant applications. Individual value of federal grant funding solicited ranged from $200,000 to $865,000,000. Clients included states, counties and districts. Hazards address ranged from sea-level rise, tornadoes, hurricanes, riverine flooding, heat and subsidence. Resilient solutions offered focused on maximizing the triple bottom line addressing social, economic and environmental values.

Resilience Baseline Tool, FEMA Region 2, New York City, New York – Supporting planning and design New Jersey state-wide risk identification, assessment and prioritization base-line. Project is being developed in close coordination with multiple State of New Jersey related initiative including creation of a resilience dash board. Project uniquely leverages FEMA, HUD NDRC-DR and state funding.

Flood Mitigation Design - Sandy Repair-Resiliency Engineering Services; New York City Transit, New York – Supporting evaluation and design of both permanent and temporary flood walls. Tasks included inspection of street level water infiltration points, critical facilities at mezzanine and platform levels. Assess impacts of flooding verses SLOSH Category II Storm plus 3-feet.

Booker T. Washington Resiliency Master Plan, New Jersey Public Housing Authority, New Jersey – Flood risk mitigation and sustainable storm water management is a critical part of developing a resilient community. The Booker T. Washington project addresses a site which was flooded as a result of Super Storm Sandy. The project included developing a resilience master plan that would act as a prototype for assessing and addressing flood risk at sites managed by the Authority The plan was developed with significant community engagement and features a broad array of low impact and hardscape strategies that enhance the site's overall resilience as well as quality of life for its residence.

Rockefeller Foundation Resilience Capacity Building Academies, Nation-wide – Resiliency subject matter expert for $1billion HUD National Disaster Resilience Competition designed to support communities plan and implement programs that increase resilience to future shocks, stresses and disasters. Participating in 5 national academies facilitating States and select communities through a process of risk education, stress identification, resiliency visioning, project planning and grant application development. The competition was designed to support and ultimately fund innovative resiliency projects while encouraging communities to adopt policy changes and resilient activities that reduce and mitigate social, environmental and economic risks associated with climate change.

Greensboro Stormwater Management Program, Greensboro, North Carolina – John led the implementation and start-up of new $8M annual stormwater utility. The programs provided leadership over included engineering and planning, water quality monitoring, environmental outreach, street maintenance and utility operations. As manager, he oversaw compliance of the City's MS4 permit and led the design and implementation of the City's erosion protection and sediment control and industrial stormwater compliance program.

RAMON CASTELLA

PE, ENV SP, LEED AP

TITLE: Technical Advisor - Water Distribution & Wastewater Collection

EDUCATION

- Bachelor of Science in Civil Engineering, Florida International University, Miami, Florida, 1985
- Bachelors in Economics, Florida State University, Tallahassee, Florida, 2010

REGISTRATIONS

- Professional Engineer #40073, State of Florida
- Professional Engineer #11731, Commonwealth of Puerto
- Rico (Estado Libre Associado de Puerto Rico)
- Envision Sustainability Professional (ENV SP)
- LEED Accredited Professional, U.S. Green Building Council

Ramon has over 37 years of expertise in public and private infrastructure projects throughout Florida and the Caribbean. His engineering experience on these projects includes programming, planning, analysis, design, preparation of construction documents, construction administration and inspection and commissioning. His public works infrastructure project types include drainage, flood control, coastal construction, water and sewer systems, roads and bridges, public facilities, parks, project budgeting and grants acquisition.

RELEVANT EXPERIENCE

Central District Wastewater Treatment Plant 1 Secondary Clarifiers and RAS Pump Stations, Miami, Florida - Project Manager for this consent decree project that involved complete rehabilitation of RAS pump stations including pumps, piping, fittings, valves, and appurtenances. The scope of work also included a complete electrical upgrade encompassing transformer upgrades, new electrical feeds, and new raised electrical controls buildings with all new electrical and instrumentation systems.

Watermain Replacement, Sanitary Sewer System, and WASD Pump Station Upgrades, WASD, Key Biscayne, Florida - Project Manager Ramon oversaw construction engineering, construction administration, and inspection services for the Village of Key Biscayne and WASD for this joint $18 million effort. The goal of the project was to provide public sanitary sewer service for approximately 700 single family homes on septic tanks. The project included 35,325 linear feet of eight-inch ductile iron water to replace undersized asbestos-cement facilities, 56,520 linear feet of eight-inch and 12-inch gravity sanitary sewers, 165 sanitary manholes and two new pump stations, and improvements to a third station. The ductile iron watermains installed ranged in size from eight-inches to 16-inches in diameter.

Central District Wastewater Treatment Plant Co-Generation Facility, Miami, Florida - As Project Manager, Ramon supervised this consent decree project that consisted of a new co-generation facility to use treated digester gasses to run engines for electricity production to satisfy plant power needs. The project included a biological scrubbing system to purify the digester gasses prior to use for engine combustion.

Pump Station Improvement Program (PSIP), Miami, Florida - As Principal in Charge, Ramon several pump stations as part of the PSIP. US-EPA issued a consent decree to Miami Dade County requiring more than 112 sewer pump stations be brought into compliance over a period of five years. The Stantec team was selected to provide the engineering services necessary for upgrading more than a dozen pump stations and bring them into compliance with US-EPA criteria. Ramon was responsible for developing and delivering project documents including engineering analysis and reports, project drawings, and specifications. Engineering services also included obtaining state and local permits. The Stantec team met the challenge of obtaining the permits in a very short period of time and delivered the pump station projects expeditiously to meet critical EPA deadlines. Certification of these pump stations removed them from moratorium and allowed for Certificates of Occupancy to be issued with permission to connect to adjacent sewer systems.

Watermain Replacement, Sanitary Sewer System, and Pump Station Upgrades, Key Biscayne, Florida - As Project Manager, Ramon oversaw construction engineering, construction administration, and inspection services for the Village of Key Biscayne and WASD for this joint $18 million effort. The goal of the project was to provide public sanitary sewer service for approximately 700 single family homes on septic tanks. The project included 35,325 linear feet of eight-inch ductile iron water to replace undersized asbestos-cement facilities, 56,520 linear feet of eight-inch and 12-inch gravity sanitary sewers, 165 sanitary manholes and two new pump

stations, and improvements to a third station. The ductile iron watermains installed ranged in size from eight-inches to 16-inches in diameter. The first two phases have been permitted and constructed. The first phase included approximately 35,000 linear feet of 12-inch-diameter and 16-inch-diameter backbone watermain, along the section line and half-section line roadways. The second phase included approximately 12,000 linear feet of eight-inch watermain in single family residential neighborhoods. All project areas were fully restored and the roadways were completely resurfaced. The project was jointly funded by the Village of Pinecrest and Miami-Dade County, and the systems were donated to WASD upon completion, certification, and acceptance.

54" Watermain, NW 57th Avenue, WASD, Hialeah, Florida - Ramon, as Project Manager/Engineer of Record, oversaw construction of a new 54-inch ductile iron watermain on NW 57th Avenue from NW 138th Street to NW 142nd Street. The project incorporated an interconnect with the existing 48-inch PCCP watermain which runs parallel to new line, and is being kept as a back-up facility. The interconnect included temporary line stops and a bypass at the existing 48-inch PCCP main, butterfly valves, and access manholes. NW 57th Avenue is a major six-lane divided FDOT urban arterial, which required extensive traffic planning maintenance for the new main installation. The project was executed under a joint project agreement with FDOT District 6.

Pinecrest Watermain Plan and System Design, 8-inch, 12-inch and 16-inch Watermain Extensions, Pinecrest, Florida - As Project Manager, Ramon oversaw the planning and final design of more than 27 miles of watermain improvements to complete the potable water system of the Village of Pinecrest within a three-square-mile residential area. The homes in the project area were on wells and lacked a public water supply system and fire protection. The master plan was prepared and included a computerized model of the entire system. Public workshops and meetings were held to inform and educate the residents of the work and cost involved in the project. The ductile iron watermains installed ranged in size from eight inches to 16 inches in diameter. The first two phases of have been permitted and constructed. The first phase included approximately 35,000 linear feet of 12-inch and 16-inch diameter backbone watermain for the area, along the section line and half-section line roadways. The second phase of the improvements included approximately 12,000 linear feet of eight-inch watermain in single family residential neighborhoods. All project areas were fully restored and the roadways were completely resurfaced.

Village of Key Biscayne Redevelopment of Gravity Drainage Wells, Key Biscayne, Florida - Principal in Charge for this project that involved the cleaning, rehabilitation, and redevelopment of 30 existing gravity drainage wells located throughout the Village. Responsibilities included inspections, management, and conducting testing at each well to ensure expected discharge capacity was achieved. The work was funded by a grant from the South Florida Water Management District.

Stormwater Pump Station, Seawall and Outfall Permitting, Miami Beach, Florida – Ramon is the QA/QC Officer for this contract for which Stantec is providing to the City of Miami Beach environmental services, agency coordination, and other miscellaneous tasks associated with the pursuit and acquisition of all required environmental permits/ authorizations (new permits or permit modifications) required for the construction of municipal drainage structures, including pump stations. The scope of services for this project includes biological surveys to characterize benthic habitats at proposed outfalls, assistance with obtaining environmental permits, and coordination with all relevant agencies.

FIU Wastewater System SSES, I&I Elimination, and Pump Station Upgrades, Miami-Dade County, Florida – FIU operates a wastewater collection, pumping and transmission system comprised of 10 pumping stations. Nine pumping stations are at the Modesto Maidique main campus and another station is at the Engineering Campus. These 10 pump station areas comprise approximately 36,000 lineal feet of gravity pipes, 170 manholes and 6,500 lineal feet of forcemains. In order to comply with the Miami-Dade County DERM Volume Sewer Customer Ordinance, FIU requested our assistance with managing and performing studies, design, and construction management of a system-wide comprehensive program to upgrade the wastewater system. The program consisted of preparing and implementing a facilities master plan of improvements to the wastewater system to determine the conditions of the entire system, conducting studies to determine what repairs and improvements were necessary, prioritizing and programming the improvements, and providing adequate capacity at its two master pumping stations to allow for future growth. Master planning and programming the wastewater system improvements at both the 360-acre Modesto Maidique Campus and the 35-acre Engineering and Applied Sciences Campus.

Design Criteria for Sunset Island 3 and Sunset Island 4, Miami Beach, Florida – Principal in Charge for the preparation of design-build criteria packages including design development plans. This project was a full reconstruction project of Sunset Island 3 and 4. The islands are an exclusive and historic high end residential neighborhood in Biscayne Bay. The scope of work includes drainage, roadway, water, landscaping, lighting, and undergrounding of utilities (FPL, ATT and Comcast). Project also includes cost estimating, maintenance of traffic, scheduling, storm water pollution prevention, permitting, and construction management.

TINO SENON

PE

TITLE: Technical Advisor - Pump Station

EDUCATION

- Bachelor of Science in Civil Engineering, Florida International University, Miami, Florida, 1985
- Bachelors in Economics, Florida State University, Tallahassee, Florida, 2010

REGISTRATIONS

- Professional Engineer #40073, State of Florida
- Professional Engineer #11731, Commonwealth of Puerto
- Rico (Estado Libre Associado de Puerto Rico)
- Envision Sustainability Professional (ENV SP)
- LEED Accredited Professional, U.S. Green Building Council

Tino has 56 years of experience, over 45 of which have been at Stantec. He was chief mechanical engineer and currently Stantec's Global Pump Systems Technical Leader. He has designed pump stations more than two million horsepower over the past years working for the firm, over 180,000 of which were using horizontal split-case pumps. Using his wealth of experience on numerous pump station projects, Tino serve as senior advisor and quality reviewer for projects in the United States and across the globe. He has worked on projects from concept to startup and held multiple responsibilities as design engineer, project engineer, resident engineer in construction, value engineering reviewer and startup engineer for pumping stations and treatment plants. He is the principal author of Stantec's Best Practice Guide for Pumping Systems and has been an active member of Hydraulic Institute Standards for over 20 years. In addition, he is the principal author of Drinking Water Pump Station Design and Operation for Energy Efficiency Guidebook published by Water Research Foundation, 2015.

RELEVANT EXPERIENCE

Collection and Pump Station System Upgrade, San Francisco, California - As part of on-call services team, Tino served as pump station design senior adviser and quality reviewer. He provided technical guidance and performed periodic review of pump station expansion and the new raw sewer storage tunnel dewatering pump station project.

Lower Tualatin Pump Station, Tualatin, Oregon - CWS implemented a project to design and construct a new 22MGD raw sewage pump station. The pump station was to replace the existing river crossing siphon, lifting flow from the existing gravity sewer and discharging it to the gravity sewer interceptor near the wastewater treatment plant. Tino was responsible for quality reviews and providing direction on pump station design criteria. Stantec prepared a dynamic flow simulation study to optimize the pump station capacity of 22MGD and establish the exceedence flow where the pumps should operate 90% of the time during the near-term planning period. The pumps were sized for the exceedence flow and head near the best efficiency point. The pump station infrastructure was also designed for an ultimate flow of 28MGD by replacing the pump impellers. A total of five (four plus one standby) submersible pumps, 135 HP each with variable frequency drive were used.

Design Build Services for the Primary Effluent Pump Station Phase III Project Proces, Las Vegas, Nevada - This scope of services provides for Design Build procurement, project definition and pre-design to assist the Clark County Water Reclamation District (District) in procuring the design and construction of the Phase III Expansion of the Primary Effluent Pump Station (PEPS) from an existing peak flow of 125MGDto 320MGD. Our company provided engineering services during construction. Our company prepared a 30 percent design and specifications by adding a trench type wet well and pump station adjacent to the existing. The main challenge in the design of the PEPS was the flow distribution from the primary clarifiers to the wet wells, limited volume of the wet well dictated by the available site and construction sequencing. With Tino's input, our company configured the new pump station by using a trench type wet well with the control system to synchronize the operation of the existing and the new pump station to deliver flows equal to the primary effluent and still maintain a range in wet well level.

South River & North Notomas Pump Station, Sacramento County, California - As a member of the Program Management Team, Mr. Senon managed a group of design consultants and pump station design specialists. The project included design and construction of gravity interceptors, two pump stations, and gravity mains. In addition, he served as pump station design specialist for the design and construction of the two largest pump stations in the Sacramento Regional County Sanitation District system (the South River Pump Station at 221MGD and the New Natomas Pump Station at 168MGD).

Rockaway Wastewater Pollution Control Plant (WPCP) Emergency Pump Station, Queens, New York - Tino was a senior pump station design advisor and QA/QC reviewer from preliminary design, detailed design, and bid/award, through start-up and commissioning. He reviewed systems hydraulics, pump selection, drawings and specifications, and shop drawing submittals. He provided advice to the design team pertaining to wetwell and suction configuration, piping layout, and controls. He coordinated with the CFD modeler with respect to the wetwell flow distribution model to insure that the pump suction configuration met the Hydraulic Institute Standards. He provided advice and reviewed the pipe material, routing, and constructability of the new forcemain to minimize number of plant shut downs during construction.

Indian Orchard Pump Station, Springfield, Massachusetts - Tino was a senior pump station design advisor and QA/QC reviewer from preliminary design, detailed design, and bid/award through start-up and commissioning. He reviewed systems hydraulics, pump selection, drawings and specifications, and shop drawing submittals. He provided advice to the design team pertaining to wetwell and suction configuration, piping layout, and controls.

SDS Pipeline and Pump Station Project, Colorado - Our company provided program management service to the Utilities. Tino was responsible for providing technical advice and performed periodic review to the team pertaining to pump station design. The project consisted of conveyance pipeline, three vertical turbine type pump stations and a water treatment plant design for 100MGD. During construction, the Utilities had asked Tino to provide extended services from manufacturing factory inspection, field inspection, startup, and commissioning and energy optimization.

Pump Station Rehabilitation Manager, Los Angeles, California - The $5.0B Citywide wastewater improvement and expansion program included expansion of the Hyperion WWTP to full secondary and solids handling/energy recovery systems, improvements to LA/Glendale, Tillman, and Terminal Island WWTPs, large sewer interceptor rehabilitation and expansion, and rehabilitation of 55 sewer pump stations. Tino was responsible for developing project implementation guidelines and standard construction specifications, updating the City's sewer design manual, developing the City's pumping station design manual, managing the development of the City's Master Specification and Program Implementation Guidelines, conducting project management training seminars, and serving as project coordinator for the raw sewer pumping station rehabilitation and expansions. He also provided technical assistance and guidance to City Engineering staff and other consultants during the design of the raw sewage pumping stations in order to implement consistent design and reliability criteria throughout all of the pumping stations. He further assisted with the design of Dakota PS and reviewed the design for the pumping stations in the harbor area.

Sunset and Heathfield Pump Station Rehabilitation and Expansion, Seattle, Washington - King County implemented an expansion and rehabilitation project that included the addition of new pumps and motors, replacement of VFD and switchgear equipment, and evaluation of the pipe size needed to replace the 12-inch forcemain that parallels the existing 24-inch forcemain to increase the plant's capacity from 18 to 30MGD peak capacity. The existing 30-year-old Sunset Pump Station takes unscreened raw sewage from the collection system and pumps it to the Heathfield Pump Station, which then pumps raw sewage to the East Gate Terminal Structure. Tino, as pump sStation design specialist/technical reviewer, and his team established the influent flow exceedance curve and selected the pumps so that the pump best efficiency is at or near the 70-90% exceedance. Pump-clogging issues were addressed by using four (per station) screw centrifugal pumps with flywheel for water hammer protection.

Durham Advanced Wastewater Treatment Facility Pump Stations Tigard, Oregon - Tino designed a raw sewer influent pump station with a firm capacity to 200MGD, consisting of four 25MGD and two 40MGD pumps for Phase 1 and a total of six 40MGD, 1,000-horse power pumps for Phase 2. Each pump is driven by a VFD. A dual self-cleaning wet well was used so that one wet well can be utilized for dry weather flows and both wet wells for wet weather flows.The pumps were selected to operate with their best efficiency points optimized at the 90% exceedence flow of the collection system. The project also included the design of gravity mains from the existing pump station to the new, flow distribution structures, forcemain to the existing headworks, and biofilter-type odor control system. 3D design was used during design to facilitate interactive review. Additionally, reclaimed water was used to cool the VFD room. This project represented the first pump station in the United States to receive a LEED Silver certification.

Utah Lake Pump Station Replacement and Expansion, Salt Lake City, Utah - Tino served as the senior pump station advisor and provided quality review for the replacement and expansion of the Utah Lake Pump Station. During low lake levels, the pump station is used to pump water from Utah Lake to Jordan River. The existing pump station was built in early 1900s with horizontal axial flow pumps. The pumps had not been replaced since they were originally installed. Due to the age of the equipment, the building does not meet the current seismic standard, therefore the pump station had to be replaced and expanded to 769 cfs, and five vertical axial flow propeller pumps. The team prepared alternative comparison between various types of pumping systems at four different sites.

DAVE CLARKE

PE, CFM

TITLE: Water Distribution & Transmission Engineer

EDUCATION

- Master of Science in Civil Engineering, Florida International University, Miami Beach, Florida, 2008
- Bachelor of Science in Civil Engineering, Florida International University, Miami Beach, Florida, 2002

REGISTRATIONS

- Florida Professional Engineer #66553
- Florida Certified Floodplain Manager #US-12-06737
- Georgia Professional Engineer #040056

Dave is a Project Manager and Principal with Stantec. He has 20 years of experience numerous public infrastructure projects which includes coordination and design of water and wastewater utilities for major and design build projects, including urban arterials for City of Miami Beach, Miami-Dade County Water and Sewer Department (MDWASD), Hallandale Beach, Town of Davie, and Florida Department of Transportation (FDOT), and Florida Turnpike through Joint Project Agreements (JPAs). Dave will be project manager responsible for the overall delivery of each assigned project. Dave is a talented project manager who brings solid technical solutions to problem solving while keeping the client's needs in mind. Dave is currently assisting the City of Miami Beach with water and wastewater improvements along Alton Road through a JPAs. His technical expertise encompasses utility master planning, asset management, detail design, regulatory compliance and permit assistance, construction management and CIP development for water, wastewater and reuse conveyance projects. Dave is committed to his clients, their needs and their communities and has dedicated his career to providing planning and engineering services to water utilities throughout South Florida.

RELEVANT EXPERIENCE

Joint Participation Agreement (JPA) Relocation Plans 54-inch Watermain, Miami, Florida - Deputy Project Manager and Engineer of Record for maintenance of Traffic Plans. JPA project which included installation of approximately 1600 LF of 54-inch DIP watermain. Also includes connections to two existing 24-inch DIP watermains, and to one existing 48-inch Prestressed Concrete Cylinder Pipe (PCCP) watermain at low flow periods within the times determined by the M-D WASD. Duties includes development of scope and man hours, technical special provisions, quantities, construction cost estimate, shop drawings review, coordination with lead roadway project, and permitting through Department of Health.

Pump Station 1- Pump Station 2 Interim Piping Upgrades, Miami, Florida - Senior engineer for the suction & discharge piping upgrades at MDWASD's two largest Pump Stations (PS-1 and PS-2). Project includes new piping (42-inch, 48-inch and 60-inch), plug valves (42-inch, 48-inch and 60-inch) and fitting to allow flexibility in flow into and out of these two stations, and into the two cross-bay forcemain manifolds. Responsible for design, client management, permitting, utility coordination, specifications and cost estimate.

Redundant 36-inch Transmission Forcemain along Snake Creek Canal, Miami, Florida - Senior Engineer for the preliminary engineer report for the installation of approximately 24, 870 LF of 36-inch Transmission Forcemain (FM) for M-D WASD which will convey wastewater from PS422 (3028 NW 208th Terrance in Miami Gardens) to an existing 30-inch FM on the west side of the rail road crossing (adjacent to I-95) along the south side of Snake Creel Canal. The existing 30-inch/36-inch forcemain alignment begins at PS422, heads south to NW 207th Street, then continues east along NW 207th Street to NW 27th Avenue. At NW 27th Avenue the existing forcemain turns south and crosses to the south side of Snake Creek Canal, then turns east, continues along the south side of Snake Creek Canal, and ends on the west side of the CSX Railroad Crossing. Deliverables include PER, which will recommend the preferred route and preliminary alignment, pipeline material, construction methods and define general characteristics of the new 36-inch forcemains to guide the final design.

SL-1B.1 66-inch Forcemain to SDWWTP Phase 1, Miami, Florida, Miami, Florida - Project Engineer for the SL-1B.1 is an MD WASD 66-inch transmission forcemain proposed to convey wastewater flows from the east terminus of SL-2.2 100 feet west of the intersection of SW 112TH

Avenue and SW 216TH Street to the existing 60-inch pipe connection on an existing 72-inch transmission forcemain at the intersection of SW 97TH Ave and SW 216TH Street near the SDWWTP. The forcemain has an approximate length of 8,700 linear feet. There is trenchless crossing under the Florida's Turnpike and SFWMD's Black Creek (C-1) Canal with a Mirco-tunnel. A new 90-inch steel casing will be used to accomplish the micro tunnel.

JPA Alton Road (North) Waterline Replacement, Miami Beach, Florida - Engineer of Record for the design and construction of approximately 12,000 LF of 8" ductile iron (DI) watermain along SR 907/Alton Road, from south of 43rd Street to W 48th Street and from Lake View Drive to W 63rd Street and approximately 8,890 LF of 20" DI watermain along SR 907/Alton Road from Lake View Drive to W 63rd Street and along W 63rd Street Alton Road to La Gorce Drive. The project includes installation of new fire hydrants according to Miami Beach Fire Department requirements, new water services and reconnections of existing stub outs within the project limits. Services provided include; conducting site investigations, utility coordination, topographic surveys, geotechnical investigation, engineering design, develop construction documents (plans & specifications), permitting and providing support services during procurement and construction.

JPA Alton Road (South) Waterline Replacement, Miami Beach, Florida - Engineer of Record for the design and construction of approximately 5,000 LF of 8" ductile iron (DI) watermain along SR 907/Alton Road, from Michigan Avenue to North Bay Road/Chase Avenue and approximately 2,500 LF of 12" DI watermain along SR 907/Alton Road from North Bay Road/Chase Avenue to south of Ed Sullivan Drive/43rd street. The project includes installation of new fire hydrants according to Miami Beach Fire Department requirements, new water services and reconnections of existing stub outs within the project limits. Services provided include; conducting site investigations, utility coordination, topographic surveys, geotechnical investigation, engineering design, develop construction documents (plans & specifications), permitting and providing support services during procurement and construction.

North Lee County WTP Wellfield Expansion, Phase III, Lee County, Florida - QA/QC Officer for this project that consists of 19 production wells—8 on-site wells at the NLC Water Treatment Plant (WTP) and 11 of-site wells—and several 10 miles of raw water transmission mains ranging in size from 10 inches in diameter to 30 inches. To reduce restoration and impacts to traffic, the new mains will be installed using trenchless drilling methods. There will be two crossings of Florida Water. A 1,000 LF horizontal directional drill (HDD) of a 24 inch HDPE pipe under Popash Creek along with a 1,000 LF HDD of a 24 inch HDPE pipe under Bayshore Creek. Stantec's services included the hydrogeological services, route evaluations, property acquisition assistance, hydraulic analyses, environmental services, detailed design, permitting, bidding assistance, and construction observation.

City of Sunrise, JPA Relocation 8-inch Watermain, Broward County Florida - Project Manager for this project for which the City of Sunrise Utilities Department owns and maintains an existing distribution 8-inch Polyvinyl Chloride (PVC) portable Watermain (WM) facility which currently serves residents and businesses along SR 84 EB between Pine Island and University Drive. It is necessary to relocate a portion of this WM along SR 84 EB to facilitate the proposed sound barrier wall number six (6) construction which consists of two sections along SR 84 EB. The firm is in charge of the design to relocate approximately 550 LF of the existing WM, the technical special provisions and permitting through FDOT (utility office) and Broward County Health Department.

Town of Davie JPA Relocation 4-inch Forcemain, Broward County, Florida - Project Manager for this project. The Town of Davie Utilities Department owns and maintains an existing 4- inch Polyvinyl chloride (PVC) Forcemain (FM) facility which currently serves Bradford Marine. The existing 4- inch FM ties into an existing lift station at Bradford Marine then continues to the west North of SR 84 WB, Ramp U- 15 and South of Canal Drive, and diverts to the North into New River Cove Apartments, where it terminates into an existing manhole. The firm is in charge of the design to relocate approximately 942 LF of the existing FM, the Technical Special Provisions, quantities, and permitting through FDOT (utility office) and FDEP.

Town of Davie Water and Sewer Improvement, Davie, Florida - Project Manager and Engineer of Record responsible for the construction documents for the installation of approximately 2,650 LF of 8" HDPE watermain WM via pipe bursting, 4,500 LF of 6" DIP WM via open cut, 350 LF of 4" DIP WM via open cut, 18 new fire hydrants, 650 LF of 8" PVC Sanitary Sewer, 100 LF of 6" PVC Laterals and 4 New Manholes, in the Brentwood and Brentwood west community, along SW 67th Avenue, and SW 41st Street. Hydraulic modeling of the system was done to confirm WM sizes, velocities and fire flow requirements. The project is driven by the Town of Davie's desire to replace existing asbestos concrete cement (AC) water WM piping and galvanized steel service lines in the project area, provide sufficient fire flow coverage and improve the level of service by providing a more robust distribution system. The project includes installation of new fire hydrants according to Town of Davie Fire Department requirements, new water services, re-connections of existing stub outs within the project limits, roadway milling and resurfacing and replacement of pavement markings.

JARAH PARKE

PE

TITLE: Water Distribution & Transmission Engineer

EDUCATION

- Bachelor of Science, Civil Engineering, University of Nevada Las Vegas, University of Nevada, Las Vegas, Nevada, 2007
- Master of Science, Civil Engineering, University of Nevada Las Vegas, University of Nevada, Las Vegas, Nevada, 2010

REGISTRATIONS

- Florida Professional Engineer #87971
- Professional Engineer also in: TX, NM, AZ, CA, UT, NV, TN)
- Professional (PMP)®, Project Management Institute

Jarah has 20 years of experience in water resources engineering. He has a wide variety of experience in multiple aspects of water resources, including hydraulic analysis, water and sewer pipeline design ranging in size from 4 inches to 144 inches, reservoir and tank design, groundwater wells, water quality, drainage, floodplain analysis, and flood control. He has provided planning, final design, and post design engineering services. Jarah is a Certified Floodplain Manager (CFM), Project Management Professional (PMP) and NASSCO certified in Pipeline, Lateral and Manhole Assessment.

RELEVANT EXPERIENCE

Clearwater LS-16 and Forcemain Clearwater, Florida - Jarah servers as the Project Manager for the City of Clearwater's Lift Station 16 Rehabilitation and Forcemain project. The project includes upgrading and increasing the capacity of an existing sewer lift station to 4.9MGD and installing 1500 LF of 16" Forcemain via open cut and horizontal directional drill. Jarah manages the project's scope, schedule, financial, and leads a team of engineers for BODR and final design development.

Engineering Design of the Garnet Valley Water System, Las Vegas, Nevada - Jarah, as Project Manager, oversaw potable water system design, including over 14 miles of pipe ranging in diameter from 12 to 24 inches in diameter, three well sites, two, 2-MG welded steel reservoirs, and five pressure regulating sites. He was responsible for planning scope, schedule, and budget, staffing resources, quality, risk, and financial management. He also led civil design, including pipeline, site grading and drainage, access road, utility interferences, and field investigations.

Low Lake Level Pumping Station, Las Vegas, Nevada - Utilizing CMAR procurement, Jarah, as Project Manager and Lead Civil Engineer, supported a $650 million project to construct a 900MGD pumping station. The underground package consisted of a 26-foot-diameter, 528-foot-deep access shaft, a 16-foot-diameter welded steel pipe bulkhead at the bottom of the shaft, a 33-feet-wide by 36-feet-high by 300-feet-long horseshoe-shaped forebay cavern, and 34 steel-lined, 6-foot-diameter, 500-foot-deep well shafts. The above ground package consisted of thirty-four 30MGD submersible pumps, electrical building, surge tank, and 144-inch welded steel pipe. Jarah was responsible for planning the scope, schedule, and budget, oversaw drawings preparation, hydraulics, calculations, specifications, and cost estimate. As project manager, he also supervised schedule, staffing resources, quality, risk, and financial management.

Morse Lake Pump Plant Project, Seattle, Washington - Jarah, as Design Engineer, participated in a criteria committee meeting to develop and discuss project constraints, issues and design considerations for lake intake and tunnel, pump station and discharge gravity piping. He assisted in developing design considerations for hydraulic modeling, appurtenance design and environmental issues for the 72" gravity pipeline.

Lift Station Renew and Replacement, Houston, Texas - Jarah served as the Project Controls Manager for the City of Houston's Lift Station Renew and Replacement Project. The project included design and bid/ construction support for the rehabilitation of five sewer lift stations along with a lift station abandonment and gravity diversion. Jarah's responsibilities were to provide project management support including budgeting, scheduling, quality control management, and health and safety coordination, as well as providing technical oversight and review for the project design.

Paradise-Whitney Interceptor Project No. 670 Las Vegas/Clark County, Nevada - Jarah was Project Manager for this $40 million project, which consisted of 40,000 linear feet of gravity sewer ranging from 8 to 60 inches in diameter. Jarah managed the preparation of design drawings and specifications and coordinated potholing, CCTV, traffic control, right of way acquisition, and survey. The project included over 1,000 linear feet of 54- and 60-inch-diameter gravity sewer installed via trenchless methods and crossing under an interstate and numerous highly congested intersections. The design for the interceptor included a basis of design report; project deliverables at the 60%, 90%, and final design; and engineering services during bid and construction. Stantec also prepared the infrastructure design for a future odor control facility including the design of two access roads, asphalt paving, a 40-foot by 46-foot concrete slab for calcium nitrate tanks and scrubbers with chemical containment area, sumps, housekeeping pads, an 8-foot-high perimeter fence and gate, and site improvements.

Alta Meadows Storm Drain Project, Las Vegas - Jarah served as a Design Engineer for the design of a flood control conveyance facility designed to provide 100-year capacity and convey flows to an existing channel. The project involved the design of 1.5 miles of 8 foot-by-8-foot RCB, numerous RCP laterals up to 60 inches in diameter, drop inlets, utility relocates, and a confluence structure to the existing channel. Jarah was responsible for hydraulic analysis, design, and development of design drawings for the mainline facility, inlets and laterals using WSPG, HEC-RAS Microstation and Inroads software.

Tarrant Integrated Pipeline Project, Fort Worth/Dallas, Texas - Jarah served as Senior Technical Reviewer for a project including new and modified intakes and pump stations and 150 miles of large diameter pipeline. Stantec was selected for the largest and most complex of the eight pipeline sections (Sections 9, 10, and 11) making up the $2.3 billion project. Collectively, these three sections included 22 miles of 84-inch-diameter pipe and five miles of 120-inch pipe, which are routed through urbanized portions of the cities of Fort Worth and Mansfield, Texas requiring extensive right-of-way and permitting efforts.

Pittman Pecos Conveyance System, Henderson, Nevada - Jarah was responsible for hydraulic analysis, design, and development of design drawings for the mainline facility, inlets, and laterals using WSPG, HEC-RAS Microstation and Inroads software. Interesting design aspects of this project were a 24-inch-high pressure gas crossing and connections to existing facilities on the up and downstream ends. Jarah performed cost analysis of the project including options to include a linear park, construct the open channel of reinforced concrete, construct the channel of concrete and linked concrete blocks, and construct the channel with dyed or stamped concrete for aesthetics. He investigated rightof- way issues and researched land ownership in the area of the project. He also coordinated with local utility agencies to locate utilities and design conveyance facilities with minimum impact to existing utilities along the alignment.

Surface Water Plant - Package 3, Pearland, Texas - Jarah serves as the project manager and lead civil engineer for the 20MGD high service pumping station and 23,000 LF transmission main design. The project includes a combined high service pumping station and administration building as well as a 2MG ground storage tank. Mr. Parke leads the team of over 50 staf and subconsultants and is responsible for project planning, client communications, and quality management.

Dual Media Filters & Distribution Phase 3 & 4, Clark County, Nevada - Jarah served as Lead Civil Engineer for this $11M design and $93M CMAR project to add sixteen dual media (anthracite and sand) bed tertiary filters followed by UV disinfection. The project is a 65MGD expansion of the existing filters and a complete retrofit and expansion of the UV disinfection to 130MGD. The design includes a new chemical facility (complete with chemical containment and bulk loading facilities) and new equalization basin as well as modifications to two existing pump stations. This project was completed using full 3-D design and 3-D review by the client staf . Design deliverables were completed one month early.

Garnet Valley Water System, Clark County, Nevada - Jarah served as the project manager for the water system design including over fourteen miles of pipe ranging in diameter from 12-inch to 24-inch, three well sites, two-2 million-gallon welded steel reservoirs, and five pressure regulating sites. He was responsible for project planning (scope, schedule, and budget), staffing resources, quality, risk, and financial management. He also led the civil design for the project including design of pipeline, site grading and drainage, access road, utility interferences, and field investigations.

Long Term Water Supply Program, Columbia, Tennessee - Jarah is the Project Manager for the raw water conveyance components of CPWS' Long Term Water Supply Program (LTWSP). The project includes routing analysis, system hydraulic analyses, river intake siting evaluation and design, environmental services, geotechnical engineering, detailed design, and permitting for the raw water intake, pumping and transmission components of the LTWSP. The LTWSP raw water conveyance system consists of a new 28-36MGD intake on the Duck River along with a high-lift pump station to convey raw water to both a new and existing surface water treatment plant (WTP); approximately 30,000 LF of 30-inch raw water transmission main to connect the two WTPs, and approximately 60,000 LF of 36" raw water transmission main between the new river intake and the proposed WTP.

BILL MARRIOTT

PE

TITLE: Lead Copper Rule Revision Compliance

EDUCATION

- Master of Science - Environmental Engineering in Civil Engineering, University of Illinois at Urbana-Champaign, Urbana, Illinois, 1996
- Bachelor of Science in Engineering Analysis, Clemson University, Clemson, South Carolina, United States, 1994

REGISTRATIONS

- Florida Professional Engineer #95418
- Georgia Professional Engineer #PE049717
- Louisiana Professional Engineer #PE 004728

Bill has 26 years of engineering experience in the study and design of water and wastewater treatment systems, pumping stations and pipelines. He has conducted pilot scale studies of treatment process alternatives, has experience with alternative project delivery methods and has had involvement with membrane-related project work.

RELEVANT EXPERIENCE

South Mesquite Creek Regional WWTP Screenings Handling Improvements, Mesquite, Texas - Bill served as a project engineer assisting with the design of improvements to the headworks and grit removal facility located at the South Mesquite WWTP. His primary responsibilities on this project included coordinating the layout of one new screen assembly, two screenings sluice troughs and two washer/compactor units in the newly enclosed headworks structure with the work of other disciplines.

Advanced Water Treatment (AWT) Demonstration Project, West Palm Beach, Florida - Bill assisted in the operation of two alternative technologies that were tested for advanced treatment of secondary effluent coming from the City's East Central Regional (ECR) Water Reclamation Facility. Those technologies were: 1) a combined microfiltration (MF)/reverse osmosis (RO) pilot system and 2) a UV disinfection pilot. Following treatment by these two pilots, secondary effluent flowed into a manmade wetlands area (which was the final treatment step to provide reclaimed water).

South Laredo Wastewater Treatment Plant (WWTP) 6MGD Expansion, Laredo, Texas - Bill served as a project engineer who oversaw the design of a new headworks structure, one new clarifier unit, a chlorine feed facility and a chlorine contact basin at the South Laredo WWTP. These improvements were implemented to double the plant's rated capacity, in terms of Average Daily Flow (ADF), from 6MGD to 12MGD.

DCPCMUD Wash Water Tank Replacement, Dallas, Texas - Bill served as the served as the project engineer responsible for overseeing the design and construction of a new 370,000 gallon prestressed concrete wash water tank to replace an existing welded steel storage tank. He also performed the hydraulic analysis which verified that a 6-inch gravity fill line (HDPE below grade and stainless steel above grade) could be constructed from this tank to supply finished water to the Backpulse Tank, which is a component of the plant's ultrafiltration membrane system.

Weslaco Water Treatment Plant Expansion, Weslaco, Texas - Bill served as a project engineer and was responsible for providing construction phase services related to the solids handling facilities at the Weslaco WTP. This required coordination with the Construction Manager at Risk delivery method used for the project's construction phase. He also prepared the revised CT study which addressed capacity increases for the existing Plants 2, 3 and 4 treatment basins and the new Plant 5 treatment train.

BRA Surface Water and Treatment System (SWATS) Neutralization Facility Imp., Granbury, Texas - Bill served as the project manager responsible for overseeing miscellaneous improvements to the existing Neutralization Facility at BRA SWATS plant. The primary elements that were examined included addition of a citric acid feed system for all three neutralization tanks as well as an extension of the caustic feed system.

LARISSA FARIA

PE, ENV SP

TITLE: Permitting Engineer

EDUCATION

- Bachelors of Science in Civil Engineering, University of Florida, Florida, 2014
- Minor Urban and Regional Planning, University of Florida, Florida, 2014

REGISTRATIONS

- Florida Professional Engineer #92181
- Institute for Sustainable Infrastructure - Envision™ Sustainability Professional (ENV SP) #33327

Larissa has eight years of experience as a civil designer with a focus on water and wastewater municipal projects. She has assisted Project Managers with the management and administration of engineering projects including responsibility for aspects of the design and construction of government and municipal facilities. She is proficient with various engineering software tools such as AutoCAD, Civil 3D, Microsoft Project, Microsoft Word, Excel, Power Point, and FDOT's MicroStation.

RELEVANT EXPERIENCE

PS 1- PS 2 Interim Piping Upgrades, Miami, Florida - Suction & Discharge Piping Upgrades at MDWASD's two largest Pump Stations (PS-1 and PS-2). Project includes new piping (42-inch, 48-inch and 60-inch), plug valves (42-inch, 48-inch and 60-inch) and fitting to allow flexibility in flow into and out of these two stations, and into the two cross-bay force main manifolds. Larissa, as project engineer, was responsible for assisting design, client management, permitting, utility coordination, specifications and cost estimate.

MD-WASD PSIP program, Miami, Florida - Services provided will consist of retrofit and upgrade of dry pit/wet pit pump station to dry-pit-mounted submersible pumps, design of new pump station to replace existing, new electrical and controls, pump selection and permitting. Larissa, as project engineering was responsible for the design and permitting support.

Brentwood Watermain Improvements, Davie, Florida - Project Engineer assisting on the construction documents for the installation of approximately 2,650 LF of 8" HDPE watermain WM via pipe bursting, 4,500 LF of 6" DIP WM via open cut, 350 LF of 4" DIP WM via open cut, 18 new fire hydrants, 650 LF of 8" PVC Sanitary Sewer, 100 LF of 6" PVC Laterals and 4 New Manholes, in the Brentwood and Brentwood west community, along SW 67th Avenue, and SW 41st Street. Hydraulic modeling of the system was done to confirm WM sizes, velocities and fire flow requirements. The project is driven by the Town of Davie's desire to replace existing asbestos concrete cement (AC) water WM piping and galvanized steel service lines in the project area, provide sufficient fire flow coverage and improve the level of service by providing a more robust distribution system. The project includes installation of new fire hydrants according to Town of Davie Fire Department requirements, new water services, re-connections of existing stub outs within the project limits, roadway milling and resurfacing and replacement of pavement markings. Services provided include; conducting site investigations, utility coordination, topographic surveys, geotechnical investigation, verified vertical and horizontal on existing utilities, engineering design, develop construction documents (plans & specifications), permitting through Florida Department of Environmental Protection (FDEP) and Broward County Traffic, and providing support services during procurement and construction.

SW 121st Avenue Watermain Improvements, Sunrise, Florida - Project Engineer assisting on the construction documents for the installation of approximately 2, 500 LF of 12-inch PVC WM via open-cut, 4500 LF of 12-inch HDPE via Horizontal Directional Drill (HDD), 2, 500 LF of 12-inch HDPE via pipe bursting, 4, 200 LF of 8-inch PVC WM via open-cut, along SW 121st Street between SW 36th Court and SW 14th Street. Hydraulic modeling of the system was done to confirm WM sizes, velocities, fire hydrant spacing, water age and fire flow requirements along the corridor. The project is driven by the City's desire to replace existing asbestos concrete cement (AC) water WM piping, fill in gaps along the corridor where no WM currently exist and provide sufficient fire flow coverage and improve the level of service by providing a more robust distribution system. The project includes installation of new fire hydrants according to Town of Davie Fire Department

requirements, new water services, re-connections of existing stub outs within the project limits, roadway milling and resurfacing and replacement of pavement markings. Services provided include; conducting site investigations, utility coordination, topographic surveys, geotechnical investigation, verified vertical and horizontal on existing utilities, engineering design, develop construction documents (plans & specifications), permitting through Florida Department of Environmental Protection (FDEP) and Broward County Traffic, and providing support services during procurement and construction.

Proposed 12-inch PVC Watermain Improvement along Foster Road, Hallandale Beach, Florida - Project Engineer responsible for assisting with construction documents for the installation approximately 3,250 LF of proposed 12-inch Polyvinyl chloride (PVC) Watermain along Foster Road from NW 9th Avenue to NW 4th Avenue, and approximately 2, 400 LF of 8-inch PVC watermain along NW 9th Street. The existing 6" watermain along Foster Road will be abandoned in place. The project includes installation of new fire hydrants according to City of Hallandale Beach Fire Department requirements, new water services, reconnections of existing stub outs within the project limits. Services provided include; conducting site investigations, utility coordination, topographic surveys, geotechnical investigation, engineering design, develop construction documents (plans & specifications), permitting and providing support services during procurement and construction.

Utility Work by Highway Contract with FDOT for new Watermain and Buried Electrical (BE) Conduits along Pioneer Trail New Smyrna Beach, Florida - Project Engineer assisting on the construction documents for the installation of approximately 2, 700 LF of 16-inch PVC WM via open-cut, 1,700 LF of 16-inch HDPE WM via Horizontal Directional Drill (HDD), 2, 700 LF of (2) 8-inch HDPE buried electric (BE) conduits via open-cut, and (2) 8-inch BE HDPE via HDD along Pioneer Trail from West of Williamson Boulevard to East of Turnbull Bay Road. The Utilities Commission, New Smyrna Beach (UCNSB) desires to install the new 16-inch WM and 8-inch BE as part of FDOT project, FPID 436292-1-52-01, interchange improvements at I-95 and Pioneer the FODT Improvements will include new ramps, stormwater detention ponds, widening of Pioneer Trial road and bridge (over I-95), and relocation of existing utilities, primarily overhead electric (OE). The Utilities project for UCNSB includes installation defining alignments and future stub-outs, review of geotechnical investigation, HDD hydrofracturing analysis. Services provided include; conducting site investigations, utility coordination, topographic surveys, geotechnical investigation, verified vertical and horizontal on existing utilities, engineering design, develop construction documents (plans & specifications), permitting through Volusia County Department of Health and Volusia County Right-of-Way, and providing support services during procurement and construction. Services provided include; conducting site investigations, utility coordination, topographic surveys, geotechnical investigation, engineering design, develop construction documents (plans & specifications).

JPA Alton Road (South) Waterline Replacement, Miami Beach, Florida - Project Engineer assisting on the design and construction of approximately 5,000 LF of 8" ductile iron (DI) watermain along SR 907/Alton Road, from Michigan Avenue to North Bay Road/Chase Avenue and approximately 2,500 LF of 12" DI watermain along SR 907/Alton Road from North Bay Road/ Chase Avenue to south of Ed Sullivan Drive/43rd street. The project includes installation of new fire hydrants according to Miami Beach Fire Department requirements, new water services and reconnections of existing stub outs within the project limits. Services provided include; conducting site investigations, utility coordination, topographic surveys, geotechnical investigation, engineering design, develop construction documents (plans & specifications), permitting and providing support services during procurement and construction.

Route Analysis for 36-inch Transmission Forcemain along Snake Creek Canal Basis of Design Report (BODR), Miami Gardens, Florida - As project engineer for this project, Larissa assisted in collection of data, design development, CAD drafting and report development for the scope of services to prepare a Basis of Design Report (BDOR) for the installation of approximately 24, 870 LF of 36-inch Transmission Forcemain (FM) (size to be confirmed by M-D WASD) which will convey wastewater from PS422 (3028 NW 208th Terrance in Miami Gardens) to an existing 30-inch FM on the west side of the rail road crossing (adjacent to I-95) along the south side of Snake Creel Canal. The existing 30-inch/36-inch forcemain alignment begins at PS422, heads south to NW 207th Street, then continues east along NW 207th Street to NW 27th Avenue. The Scope of Work of this Task includes a BODR, which will recommend the preferred route and preliminary alignment, pipeline material, construction methods and define general characteristics of the new 36-inch forcemains to guide the final design.

JPA Relocation Plans 8-inch Wastewater Forcemain and Gravity Sewer along NW 47th Avenue, Miami Gardens, Florida - Project Engineer for the installation of approximately 1,100 LF of 8" ductile iron wastewater forcemain and 2,500 LF of gravity sewer along SR 847/NW 47th Avenue from SR 860/NW 183rd Street to North of NW 207th Drive. Services provided include; conducting site investigations, utility coordination, topographic surveys, geotechnical investigation, engineering design, develop construction documents (plans & specifications), opinion of probable construction cost, permitting and providing support services during procurement

BEN QUARTERMAINE

PE

TITLE: Stormwater Engineer

EDUCATION

- Bachelor of Science, University of Central Florida, Environmental Engineering, Naples, Florida, 1995

REGISTRATIONS

- Florida Professional Engineer #57571

Ben has 27 years of experience managing the design and permitting of transportation projects including all stages of project planning: the preparation of a project scope and fee, project scheduling and budgeting to ensure that the project is designed efficiently and effectively, extensive client interaction and resource allocation. Hands-on experience supporting and advising junior engineers as well as the coordination of sub-consultants and outside parties. Projects include roadway design, intersection improvements, sidewalks, trail systems, roadway master planning and the coordination of special assessment methodologies for proposed infrastructure within improvement districts in Florida. Ben takes great care to understand the existing environmental and physical conditions of a project to ensure that the proposed infrastructure will be designed with the best available data, avoiding unnecessary impacts while ensuring that any impacts that cannot be avoided are properly mitigated for. Low impact design, green infrastructure restoration, and smart landscaping are tenants of his designs.

RELEVANT EXPERIENCE

Sorrento East Integrated Water Resources Improvements, Sarasota, Florida - As Drainage Engineer, Ben was responsible for the design and permitting for the conversion of an existing, abandoned wastewater effluent pond to a stormwater treatment and flood storage facility; and the re-sizing of several culverts within the existing Sorrento East subdivision. The project was designed to improve water quality within a coastal watershed and to address localized street flooding in the existing subdivision.

Fruitville Road/Colburn Road to Debrecen Road Transportation Engineering Services, Sarasota, Florida - As Project Engineer Ben was responsible of the design s for the reconstruction of Fruitville Road from a two-lane roadway to a four-lane urban arterial over a distance of 2.1 miles. The new roadway section consists of an urban four-lane divided roadway with multi-use paths, closed drainage, signalized intersections, street lighting, and landscaping. Services also included design of a 16-inch watermain and provision of a utility corridor for existing (and future) water, wastewater, cable, and fiber optic utility service. The existing signals at Coburn Road, East Road, Tatum Ridge Road, and Sarasota Center Boulevard were upgraded to current standard, accommodating additional lanes.

Webber Street Reconstruction, Sarasota, Florida - As Project Engineer, Ben was responsible for the redesign of the Webber Street outfall to address roadway flooding issues associated with the Webber Street sidewalk improvements. Submittal of a Southwest Florida Water Management District permit modification was required to address level of service flooding and included modifications to the drainage structure and enlargement of the treatment system to ensure that the roadway level of service issue was addressed and that the improvements met original permit requirements.

Fort Hamer Road Extension - Segment C, Lakewood Ranch, Florida - Project Manager responsible for roadway and drainage design of approximately 4000 ft roadway segment with six stormwater retention ponds and wetland impacts. Oversite of the utility adjustments, Southwest Florida Water Management District Environmental Resource Permit application package efforts, no adverse stage increases by utilizing ICPR3 and Arc GIS software, water quality treatment calculations utilizing BMPTRAINS, as well as construction plans and bid documents.

SHEHAB BATA

PE

TITLE: Stormwater Design Engineer

EDUCATION

- Bachelor of Science, Civil Engineering, West Virginia University, Morgantown, West Virginia, 2002

REGISTRATIONS

- Florida Professional Engineer #85007
- Texas Professional Engineer #127584

Shehab has 17 years of experience in Site/Civil design and is a registered Professional Engineer in the States of FL, OH, MD and TX. His background includes municipal, commercial, residential and industrial land development, power/environmental, and oil and gas projects. His specific areas of experience include stormwater management, best management practices, NDPES permitting, preparation of stormwater pollution prevention plans (SWPPP), site grading, erosion and sediment control, highway/road design, storm sewer design, water distribution systems, sanitary sewer collection systems and utility and pipeline design. Shehab is proficient in AutoCAD Civil 3D and majority of the hydraulic and hydrologic modeling software.

RELEVANT EXPERIENCE

Pioneer Grove Infrastructure Assessment, Deerfield Beach, Florida - Senior Engineer for this project for which Stantec provided an infrastructure assessment and study of the Pioneer Grove area to determine the existing condition of all utilities including water, sewer, stormwater, power, gas and telecommunications. As part of the overall study, we developed a macro-plan to identify possible upgrades to each system to allow the City to move forward with a plan for the redevelopment that would provide incentives for businesses and developers to take advantage of improved infrastructure for their development. Also included was a evaluation of the existing street rights of way and easements to help the City develop the new Code of Ordinances for the LAC redevelopment district. The incentive here was to create a zoning that allowed reduced setbacks and promote development of a more modern, mixed use urban environment.

Pioneer Grove Phase 1 Drainage Improvements, Deerfield Beach, Florida - Senior Drainage Engineer for this project that as part of the Pioneer Grove Redevelopment plan in the City of Deerfield Beach, the intent of the newly created LAC was to provide infrastructure improvements to support the redevelopment of the LAC. To that ends, the Phase 1 redevelopment consisted of the design and permitting of a new stormwater trunkline for all development north of Hillsboro Blvd. Additionally, storm water and utility improvements were included for the ROW and properties in that area, including relocation of watermains and sewer lines to accommodate the new storm water lines, creation of conflict structures when they could not be avoided and resurfacing of roadways subsequent to installation.

Marcellus and Utica Shale Natural Gas Civil Engineering Services, Various Locations, Pennsylvania and Ohio - As Civil Engineer, Shehab completed site development plans for various natural gas exploration and production wells, water withdrawal sites, and gas transmission pipelines in Ohio and Pennsylvania. Design tasks included pad layout, site grading, utilities coordination, NPDES permitting, preparation of erosion and sediment control reports/narratives, post construction stormwater management reports and studies, and preparation and submission of plans and permits necessary for plan approval from state and local agencies.

City-County Landfill Design of Leachate Upgrades, Washington County, Maryland - As Civil Engineer, Shehab completed environmental site design to accommodate the installation of a leachate collection system that will eliminate an existing leachate seep from a closed landfill into the Conococheague Creek. The proposed improvements will collect the seeping leachate through trench drains and inlets. The leachate will then be pumped to two new on-site above ground storage tanks. The proposed improvements will also include the installation of a new pump station and leachate forcemain to replace the existing leachate collection, conveyance and storage systems. Design tasks also included the preparation of construction specifications, Engineer's cost estimate, and stormwater Management and Erosion and Sediment Control reports.

JORDAN CORBY

PE, PMP

TITLE: Modeling Engineer

EDUCATION

- Bachelor of Arts in History, University at Buffalo, Buffalo, New York, 2005
- Environmental Engineering
- Bachelor of Sciences in Environmental Engineering, University at Buffalo, Buffalo, New York, 2010

REGISTRATIONS

- Florida Professional Engineer #79330
- Colorado Professional Engineer #53600

Jordan has 12 years of experience executing the design, permitting and construction management of stormwater projects including hydraulic modeling with ICPR and production of permit plans with AutoCAD and ArcGIS. Hands-on experience with assessment of on-site conditions to effectively design and plan projects as well as the coordination of sub-consultants. Project objectives include flood alleviation, increased stormwater storage capacity, sediment loading reduction and maintenance improvements. Jordan takes pride in his designs, with a special attention to detail and data collection methodologies.

RELEVANT EXPERIENCE

Analysis of Storm Sewer Resiliency in light of proposed Tottenville Shoreline Improvements Tottenville, New York - As Project Engineer for the Analysis of Storm Sewer Resiliency in Light of Proposed Tottenville Shoreline Improvements, Mr. Corby was responsible for developing a stormwater model for a coastal watershed area of approximately 520 acres in Staten Island, NY. ICPR4 software was used to develop an existing conditions model, which was then calibrated to field data and verified. A second model based on the proposed shoreline improvements was developed in order to determine impacts to the existing flooding conditions The overall watershed was divided into 432 subbasins ranging in size from 0.07 to 16.4 acres with 1431 links representing pipes, drop structure inlets, channels and overland weir connections. Arc Map GIS with Arc Hydro tools were utilized for the management and processing of various types of data including but not limited to LiDAR, drainage asset data from NYCDEP, soils data from NRCS, and field survey.

Fort Hamer Road Extension Segment C Drainage Design, Manatee County, Florida - Project Engineer responsible for drainage design and permitting support of approximately 4000 ft roadway segment with six stormwater retention ponds and wetland impacts. Southwest Florida Water Management District Environmental Resource Permit application package efforts included hydraulic modeling to demonstrate no adverse stage increases by utilizing ICPR3 and Arc GIS software,, water quality treatment calculations utilizing BMPTRAINS, as well as construction plan input and reporting.

Coordination of Stormwater Planning and Regulatory activities within Sarasota Bay Watershed * Sarasota, Florida - As Watershed Coordinator for Sarasota County, Florida from April 2015 to March 2017, Jordan was responsible for coordinating watershed model updates, planning activities, site and development reviews, coordination within multiple internal departments and coordination with external governmental agencies and clients for all activities within the Sarasota Bay Watershed, including Phillippi Creek, Hudson Bayou, Whitaker Bayou, Coastal Fringe/Sarasota Bay, and Roberts Bay North. Watershed modeling activities included reviewing the Phillippi Creek Watershed model update tasks as submitted, and providing technical comments to the consultant. Other activities include coordinating with the GIS staff to maintain the County's GWIS database to be consistent with the record models.

Sunaire Terrace Stormwater Improvements, Sarasota, Florida - As Project Engineer, Jordan was responsible for the design and permitting of a stormwater improvement project in which an existing concrete swale discharging into tidal canal was replaced with a closed system with sediment sump. Southwest Florida Water Management District Permit Exemption Verification obtained. Served as the Project Engineer, activities included: hydraulic modeling to demonstrate no adverse stage increases, construction plans, and reporting. The project was designed to reduce sediment loading into the bay while still allowing the community access to the canoe/ kayak launch.

MARLON MEDINA

PE, CFM

TITLE: Stormwater Pump Station Engineer

EDUCATION

- Bachelor of Science in Civil Engineering, Florida State University, Tallahassee, Florida, 2008

REGISTRATIONS

- Florida Professional Engineer #77052
- State of Florida Certified Floodplain Manager #US-12-06741

Marlon has 14 years of experience in the design of Civil Engineering systems including drainage, paving and utility conveyance projects. He has served as Engineer of Record and Project Manager for various drainage, water, sewer, and industrial projects. His experience has allowed him to effectively deliver projects satisfying all owner requirements. He is proficient at various software packages including Microsoft Project, ICPR (Interconnected Pond Modeling), AutoCAD Civil 3D, and AutoTurn.

RELEVANT EXPERIENCE

NW 2nd Ave Wastewater Meter, North Miami Beach, Florida - Project Engineer Intern for this project which included the design of a Wastewater Meter on an existing forcemain, Permits from WASD, DERM & SFWMD, and assistance in the Construction Phase. The proposed Meter was sized based on tributary flows (current and future), and Permitted in accordance with County and State regulations.

Lift Station 122, 128, and 210 Rehabilitation, Sunrise, Florida - Engineer of Record responsible for the engineering analysis and report, design drawings, and specifications for the repair and rehabilitation of LS 122, LS 128, and LS 210. These three lift stations are not meeting current hydraulic demands and will be converted to submersible lift stations. A design criterion was developed and implemented to identify a new peak flow demand for each sewer basin. LS 122 will be upgraded with new 60 Horsepower pumps, variable frequency drives and an onsite natural gas generator. Engineering services will also include obtaining state and local permits, and Engineering Services during construction.

Pelican Marsh Irrigation Pump Station Improvements, Collier County, Florida - Project Manager responsible for the delivery of a site improvement project at the Pelican Marsh Irrigation Pump Station. The improvements will provide appropriate vehicular and pedestrian access to the station's control building and will also remove nuisance drainage ponding in the building. Engineering Services included local permitting with Collier County, bid assistance, and Engineering Services during construction.

Master Pump Station 104.00 Vertical Asset Hierarchy Development, Collier County, Florida - Project Engineer responsible for the asset management evaluation of Master Pump Station 104.00. Services included an analysis of available project cost information necessary to assign a reasonable capital cost to each utility asset. Project data including the Construction Plans, Schedule of Values, Cost Estimate, Bid Tabulation, and Technical Specifications were broken down in the development of a final asset cost. These efforts assisted the Stantec GIS team in developing an ArcGIS based inventory that will aid Collier County in forecasting future capital costs when planning for utility improvements.

MD-WASD's Pump Station Improvement Program (PSIP), Miami, Florida - Project Manager and Engineer of Record for twelve (12) pump stations part of the PSIP program. US-EPA issued a Consent Decree to Miami Dade County requiring over 112 sewer pump stations to be brought into compliance over a period of 5 years. Stantec was selected as a consultant to provide engineering services necessary for upgrading over a dozen pump stations and bringing them into compliance with US-EPA criteria. Marlon was responsible for the development and delivery of project documents including engineering analysis and reports, project drawings, and specifications.

Lift Station 3 Rehabilitation, Town of Davie, Florida - Engineer of Record responsible for the delivery of project documents and permit approvals necessary for the rehabilitation of Lift Station 03. LS 03 was not functioning and in need of emergency repairs. Stantec provided engineering services necessary to obtain state and local permits and meet US-EPA criteria. The design included new skid-mounted pumps to match existing capacity, wet well improvements, and site improvements.

PSIP – Pump Station 0698, Miami, Florida - Engineer of Record responsible for the engineering analysis and report, design drawings, and specifications for the construction of a new triplex pump station. Existing station is a dry-pit/wet well pump station where the pumps are set below grade and the motors are installed within an at-grade operating building located above the dry well. This station normally pumps directly into the suction side of Booster Station 0522. Engineering services include the design of a new submersible pump station, a new 24-feet deep wet well (12-ft x 12-ft), (3) new 47 HP submersible pumps rated at 2,200 gallons per minute, variable frequency drives, magnetic flow meter, automated control valves, control panels, radio telemetry, and electrical upgrades to the station. Automated control valves are designed to direct discharge wastewater to the suction or discharge side of BS 0522, this allows for a more efficient operating condition for both BS 0522 and PS 698. Upgrades to this pump station will increase capacity and remove from Absolute Moratorium.

PSIP – Pump Station 0124, Miami, Florida - Engineer of Record and Project Manager responsible for the delivery of project documents and permit approvals necessary for the construction of a new pump station. PS 0124 was in moratorium with Nominal Average Pump Operating Times over 10 hours per day. Stantec provided engineering services necessary to obtain state and local permits and meet US-EPA criteria. The design included increasing pumping capacity, motor sizes, new wet well and valve vault, upgrading the power supply into the station and new forcemain.

PSIP – Pump Station 0494, Miami, Florida - Engineer of Record and Project Manager responsible for the delivery of project documents and permit approvals necessary for the upgrades of pump station 0494. This pump station services part of the Golden Beach neighborhood, Center Island. Design services included upgrades to the electrical facilities, two (2) new 20 HP pumps, rectifying illegal forcemain, and implementing climate change resiliency features for stations in coastal communities. Stantec provided an outside the box design that allowed for a shorter construction time and minimized utility conflicts. The new peak flow capacity of Pump Station 0494 allows for future connections within its basin, critical in an area redeveloping at a rapid pace.

PSIP – Pump Station 0076, Miami, Florida - Project Engineer responsible for the engineering analysis and report, design drawings, and specifications for the repair and rehabilitation of PS 0076. This pump station was comprised of a dry-pit and wet well and required the installation of two (2) new dry-pit mounted submersible pumps with 54 horsepower motors. The existing pump station was retrofitted to accommodate the new pumps and a trolley system for removal of the pumps. The pump station meets a peak demand of 1910 gallons/minute and allows for future connections within its 0.25 square mile basin.

Trump National Doral Lift Station projects, Doral, Florida - Project Engineer for the design, specifications, and permitting to redirect sewage flows (2) new remote buildings inside of the 400 acre Trump Doral Golf Resort. The project consisted (2) new lift stations with over 2,000 feet of forcemain. The project wasdesigned, permitted, and constructed expeditiously to meet owner's accelerated schedules during the renovations of the Blue Monster golf course. Marlon worked closely with local agencies and client in order to implement time sensitive schedules and have the project ready for the PGA Tournament.

Master Pump Station 104.00 Vertical Asset Hierarchy Development, Collier County, Florida - Project Engineer responsible for the asset management evaluation of Master Pump Station 104.00. Services included an analysis of available project cost information necessary to assign a reasonable capital cost to each utility asset. Project data including the construction plans, schedule of values, cost estimate, bid tabulation, and technical specifications were broken down in the development of a final asset cost.

Pelican Marsh Irrigation Pump Station Improvements Collier County, Florida - Project Manager responsible for the delivery of a site improvement project at the Pelican Marsh Irrigation Pump Station. The improvements will provide appropriate vehicular and pedestrian access to the station's control building and will also remove nuisance drainage ponding in the building. Engineering Services included local permitting with Collier County, bid assistance, and Engineering Services during construction.

Pinecrest Watermain Master Plan and System Design, Pinecrest, Florida - Engineer Intern for this project which included the design of over 27 miles of watermain to complete the potable water system of the entire Village. The Master Plan was prepared that included a computerized model of the entire system and public workshops and meetings were held to inform and educate the residents of the extensive work and cost involved in the project. The firm also prepared special taxing districts to better explain the finances of the project.

SERGIO HOYOS

PE

TITLE: Lift Station Engineer

EDUCATION

- Master of Sciences in Civil Engineering, California State University, Los Angeles, California, 2005
- Bachelor of Sciences in Civil Engineering, Bucaramanga, Santander, Colombia, 2000

REGISTRATIONS

- Florida Professional Engineer #71781

Sergio has 22 years of engineering, project management, and construction management experience in water and wastewater analysis and design. His project experience includes numerous large pump stations, pipelines, distribution systems, reclamation facilities, sanitary sewer, and water supply infrastructure systems. Sergio's expertise includes pumping system and related mechanical designs as well as drainage, gravity sewer design, and associated civil engineering services. Recently, Sergio was responsible for the construction management of nine of the largest projects under Miami-Dade Water and Sewer Department's Consent Decree Program.

RELEVANT EXPERIENCE

Updating Hydraulic Models, New Smyrna Beach, Florida - Project Manager responsible for updating the Water, Wastewater and Reclaimed Water Hydraulic Models. Stantec was selected to update the 3 hydraulic models that were developed as part of the 2016 Water Resources Master Plan. The water system, which consists of one water treatment plant, 23 raw water supply wells, and a water distribution system that consists of approximately 306 miles of underground piping, four high service pump stations and five off-site ground storage/booster pump stations; the wastewater system, which consists of a single water reclamation facility; and a wastewater collection system which consists of approximately 153 miles of gravity pipes, over 59 miles of forcemains, 102 lift stations, and over 2,700 manholes. The reclaimed water distribution consists of approximately 59 miles of underground piping, one reclaimed water ground-level storage tank and one reclaimed storage pond. Sergio served as a project manager and was responsible for the overall coordination activities to successfully provide the Utilities Commission with a powerful and updated tools to support the long range planning, water quality evaluation, fire flow evaluations, optimization, alternatives evaluation, resiliency studies, emergency planning, and asset management to keep up with their increasing service areas.

Eastside Water Reclamation Facility (EWRF) Odor Control and Headworks Improvements, Venice, Florida - Project Manager for this contract for which Stantec was assigned to investigate and develop a technical memorandum for the evaluation of the Odor Control system and replacement of the existing drying bed with a more effective method to dewater the wastes that are pumped from the lift stations at the facility. Work Assignment also included an investigation and series of alternatives to replace the existing bar screens at the Headworks for a total amount of 0.1 million.

Snapfinger and Pole Bridge Creek Advanced Wastewater Treatment Facilities Expansion, DeKalb County, Georgia - This project provides for the expansion of the Snapfinger AWTF from 36MGD to 100.4MGD and for the expansion of the Pole Bridge Creek AWTF from 43MGD to 56MGD, to meet design year 2035 needs. Sergios' duties as project manager included process mechanical design for both projects' influent lift stations and headworks. The headworks at both sites contain fine screening and fine grit removal facilities to protect downstream MBR and anaerobic digester facilities, with provisions for future addition of biosolids drying facilities.

Sanitary Sewer Gravity Collection System Improvements Program, Pasco County, Florida - Pasco County requested an establishment of a county-wide program for the systematic repair of the gravity wastewater collection system to reduce the sources of salinity in the collection system. The gravity wastewater collection system has been identified as the primary source of infiltration contributing chloride and sodium to the county's Master Reuse System. Sergio was responsible to develop standard details and technical specifications for repair of leaks in the gravity wastewater system, establishing a standard format for issuing repair work directives.

HEATH WINTZ

PE

TITLE: Water Treatment Lead

EDUCATION

- Bachelor of Science in Environmental Engineering, University of Florida, Gainesville, Florida, 2004

REGISTRATIONS

- Florida Professional Engineer #69261

As Lead Environmental Engineer and Project Technical Lead of the Water Group in our West Palm Beach Office, Heath, with 23 years of experience, has provided engineering services for treatment and disinfection of potable water as well as treatment and reuse of municipal and industrial wastewater. Heath's experience includes the design of pump stations, hydraulic structures, chemical feed, and process control systems. From preliminary field and bench testing to engineering design and construction, his breadth of experience provides added value to clients through every phase of a project.

RELEVANT EXPERIENCE

Water Treatment Plan UV System and Related Infrastructure, West Palm Beach, Florida - As Lead Process Mechanical Engineer, Heath led the lead process mechanical team through the fast-track design of a 50MGD UV treatment process building including a new transfer pump station, hypochlorite storage and feed systems, bypass of 32 filters via large diameter hot taps, line stops, and custom fabricated steel fittings. He coordinated SCADA system and fiber optic network modifications for controls. He replaced large split-case centrifugal high-service pumps while minimizing time out of service.

Water Treatment Plant Automation, West Palm Beach, Florida - As Project Engineer, Heath developed P&IDs for existing treatment processes and collaborated with instrumentation and system integration staff to develop plans and specifications for SCADA automation of 47MGD surface water treatment plant originally constructed in 1894. He provided operational/ engineering knowledge of facility to ensure integration with projects under design as part of overall program management.

Water Treatment Plant Bulk Hypochlorite Conversion, West Palm Beach, Florida - As Project Engineer, Heath conducted bench scale monochloramine disinfection tests to determine impact of hypochlorite on turbidity, caustic usage and disinfection byproduct formation. He implemented phased approach to dose hypochlorite while existing chlorine gas building converted to bulk storage and coordinating local subconsultants with in-house design professionals.

West Palm Beach Water Treatment Plant Treatment Alternatives Evaluation, West Palm Beach, Florida - As Lead Process Mechanical Engineer, Heath led the multidiscipline engineering evaluation of treatment facility modifications for Ion Exchange, Ultrafiltration, Actiflo, PAC, and UV treatment processes. He coordinated conceptual design with construction group to develop budget level capital and NPV costs based on geotechnical, structural, mechanical, electrical and control needs of each alternative.

Vulnerability Assessment, West Palm Beach, Florida - As Project Engineer, Heath reviewed water supply, treatment and distribution system security measures to identify system vulnerabilities. Prepare recommendations to reduce possible negative impact to water treatment and distribution systems.

Water Treatment Facility Injection Well (IW-1) Modification, Pompano Beach, Florida - Senior Engineer for this project that required preparation of specifications and review of drawings for relining of the concentrate injection well with FRP and mechanical

Central District Wastewater Treatment Plant Design and FDEP UIC Permitting of Injection Wells, WASD, Miami, Florida - Lead Engineer This project involved coordinating mechanical wellhead design and siting of six new Class I 3,400-foot injection wells for disposal of AADF in order to comply with Ocean Outfall Elimination Legislation. Heath served as the Engineer of Record providing design and technical oversight in addition to preparation of permit documents for FDEP.

Pump Station #2 Odor Control System Alternative Evaluation, WASD,Miami, Florida - Heath, as Project Engineer, directed staff engineers preparing alternative evaluation technical memorandum for chemical, biological, and absorptive odor control technologies. He analyzed historic data provided by client to determine threshold concentrations and coordinated with dispersion modeling provide by consultants. In addition, he evaluated alternatives based on construction constraints, operations requirements and risk to WASD based on sea level rise.

Water Treatment Facility Dual Zone Monitoring Well Modification, Pompano Beach, Florida - Heath served as the Engineer of Record providing design and technical oversight in addition to preparation of permit documents for FDEP. This project focused on preparing drawings and short-form specifications for modification of the dual-zone monitoring well purge piping. Work also included evaluation of the capability of existing pumps to operate with reduced pressure zone assembly.

Injection Well Wellhead Repair and Rehabilitation, Venice Gardens East Water Reclamation Facility, Sarasota County Public Utilities,Venice, Florida - Heath prepared specifications and drawings for modifications to injection well including purge water piping and reduced pressure zone assembly to simplify sampling. Heath served as Engineer of Record providing design and technical oversight in addition to preparation of permit documents for FDEP.

Monitor Well Rehabilitation, Wastewater Treatment Facility Deep Injection Lower Zone, Palm Beach County Water Utilities Department, Pahokee, Florida - Heath provided engineering, hydrogeological, and professional services required during the rehabilitation and testing of Pahokee Wastewater Treatment Facility Deep Injection Lower Zone Monitoring Well. Heath served as the Engineer of Record providing construction and technical oversight in addition to preparation of the rehabilitation and testing report to FDEP.

New Water Treatment Plant 2, 3, 8 Production Wells, Palm Beach County Water Utilities Department, West Palm Beach, Florida - Heath prepared specifications and drawings for construction of eight new surficial production wells. The project involved design of approximately 2,000 feet of directional drill and open cut pipeline on WTP 2 site. He also coordinated mechanical pipeline design with integration of instrumentation.

Water Treatment Plant 8 Wells Rehabilitation, Palm Beach County Water Utilities Department, West Palm Beach, Florida - Heath prepared specifications and drawings for rehabilitation of five surficial production wells. Work involved removal of wellhead, inner casing, rehab of outer casing or lining with PVC, new column and pumps w/VFDs. He coordinated mechanical pipeline design with integration of instrumentation.

Lift Station 5229 Bypass,Palm Beach County Water Utilities Department, Palm Beach County, Florida - Heath reviewed previous contract documents, prepared scope and negotiated fee with design consultants to re-evaluate key re-pump station bypass alternatives and prepare construction drawings and specs. Additionally, he reviewed design approach and provided technical feedback for plan and profile drawings to facilitate bypass and emergency reverse operation of collection system flow to ECRWRF while ensuring continuous service to City of Lake Worth. He developed sequencing plan to facilitate 48-inch forcemain replacement.

Eastside Water Reclamation Facility Process Improvements, Venice, Florida - As Project Engineer, Heath coordinated multidisciplinary (mechanical and structural) design of headworks grit removal system for an 8MGD facility. He designed grit fluidization and pumping system for snail classifier as part of headcell system retrofit.

WAS Pump and Valve Replacement, West Palm Beach, Florida - As Project Engineer, Heath prepared drawings, permitting and specifications for pumping and bypass system to facilitate replacement of WAS pumps and over 120 inoperable plug valves over 8 secondary clarifiers. Prepared construction constraints, permitting, and worked with contractor to ensure continuous operation of 70MGD wastewater facility.

Aerobic Digester AB-1 Stabilization, West Palm Beach, Florida - As Project Engineer, Heath prepared specifications, permitting and drawings to facilitate pre-purchase of floating surface aerators and repairs to fixed surface mixer/aerators, and associated work necessary to stabilize sludge for dewatering and composting.

HAL SCHMIDT

PE, BCEE

TITLE: Wastewater Treatment Lead

EDUCATION

- Master of Science in Engineering, Vanderbilt University, Nashville, Tennessee, 1981
- Bachelor of Science in Engineering, Vanderbilt University, Nashville, Tennessee, 1980

REGISTRATIONS

- Florida Professional Engineer #38819,
- North Carolina Environmental Professional #29130
- Virginia Professional Engineer #39324,
- Georgia Professional Engineer #18218

Hal has 41 years of experience in the planning, permitting, design, construction management, and start-up of over $2.5B worth of wastewater capital improvement projects. His primary focus has been in the areas of advanced and high level biological nutrient removal, membranes, and reclaimed water reclamation, biosolids management and resource recovery. His broad wastewater experience includes permitting, master planning, evaluation and detailed design of treatment systems (biological nutrient removal, membranes, etc.), water reclamation, and biosolids management (thickening, dewatering, stabilization and resource recovery). In his current role as the Stantec's Southeast Wastewater Practice Leader, Hal provides technical analysis and review support to project teams for new and rehabilitated wastewater collection facilities, treatment, reclaimed water and biosolids management facilities; process modeling of liquid treatment processes; energy management and resource recovery (biogas, nutrients, etc.); emerging contaminant removal technologies; and construction sequencing. He has served on numerous state and national forums and stakeholder work groups related to environmental rules, regulations and environmental legislation, and emerging treatment technologies. He is active on numerous committees within the Water Environment Federation; served as a technical advisor/ reviewer for the Water Reuse Research Foundation collaborative research projects, and have co-authored a number of Manuals of Practices for wastewater treatment, reclaimed water reuse, and biosolids management

RELEVANT EXPERIENCE

Central District Wastewater Treatment Plant Chlorination Facilities (CD 2.17), Miami-Dade County, Florida - Hal as Technical Advisor and Senior Engineer for this contract, provided detailed design, permitting, bidding, and engineering design during construction for the replacement of existing elemental gas chlorination system with a new liquid sodium hypochlorite storage and feed system. Under this Task Order, the new liquid hypochlorite facilities were designed to provide the required levels of chlorine to properly disinfect the treated wastewater prior to its discharge outside of the WWTP, as well as to support other internal plant processes.

South District Wastewater Treatment Plant Acid Phase Digester Cluster 1 & 2 Upgrades and New Acid Phase Digester Complex (CD 1.07), Miami-Dade County, Florida - Hal was Technical Advisor for this project that includes rehabilitation, repair and process modification of the Digester Complex at SDWWTP designed for a 15 to 20 year service life depending on the system component and contingent on routine maintenance. Major mechanical components of the anaerobic digestion systems for Clusters 1 and 2 will be replaced as part of this project. Under this project, the existing single-phase mesophilic anaerobic digestion process will be modified to acid/gas phase esophilic anaerobic digestion for effective codigestion of FOG and TWAS. The acid/gas phase mesophilic anaerobic digestion process consists of acid phase digestion followed by gas phase digestion. The design will provide the operational flexibility of independently feeding FOG and TWAS to Clusters 1 and 2, bypassing acid phase digestion.

Central District Wastewater Treatment Plant Headworks Upgrades (CD 2.03 & 2.04), Miami-Dade County, Florida - Hal was Technical Advisor for this project that consisted of upgrading the headworks facilities at Plants 1 (63MGD) and 2 (80MGD). This project included an analysis of alternative approaches for raw wastewater screening facilities, the rehabilitation or replacement of the existing grit chambers, and odor control alternatives. The project includes constructing channels to install four perforated plate type fine screens with 6 mm screen openings at each plant. Each screen was designed to of pass 70 percent of the influent flow. Alternatives were developed to upgrade the existing aerated grit chambers to improve removal efficiency and capture, which include CFD modeling, baffling and new diffusers and blowers. The odor control

improvements included replacing the existing 2-stage chemical scrubber system and relocation and upsizing of the duct work to effectively collect the off gases. Other improvements included relocation of the electrical equipment to a climate controlled environment, new instrumentation and controls; and other miscellaneous structural and hydraulic improvements.

Central District Wastewater Treatment Plant Injection Well Pump Station Design, Miami-Dade County, Florida - Hal as Senior Engineer provided detailed design, permitting, bidding, and engineering services during construction for this project. Our engineers and specialists used BIM 3D modeling technology to develop the design and optimize the design timeline; performed a Water Quality Characterization for the various influent streams; coordinated the new design to minimize potential utility conflicts during construction; completed the detailed design considering optimization practices for increased energy efficiency; provided the client with full system redundancy at the new facility; mitigated potential impact of sea level rise; obtained all necessary FDEP, City of Miami, and RER permits to place the new system component in service; successfully mitigated construction impact to existing plant operations; and provided engineering services during construction.

Central District Wastewater Treatment Plant High Purity Oxygen Wet Weather Improvements, Miami, Florida - Hal provided the technical oversight of the wet weather improvements to the high purity oxygen (HPO) activated sludge system at Miami-Dade Water and Sewer Department's (MDWASD's) 143MGD Central District WWTP. This work involved process modeling (GPSx) to alternatives (i.e., contact stabilization, step feed and ballasted flocculation) for the operational staff to treat wet weather flows at Plant 2 (80MGD. The results of the process modeling indicated that step feed treatment was the optimal and provided the operation staff with the flexibility necessary during wet weather flow conditions. The upgrades were designed to be operation when the influent flows exceeded 115MGD at Plant 2 while still providing the necessary treatment to meet the facility's permitted effluent requirements. This project included incorporation of new 60-inch diameter piping in an already congested area of the site, motorized valves to provide for automatic step feed operation, and new instrumentation and controls for this operation. The work was completed with this project while maintaining the existing HPO facilities in service.

North District Wastewater Treatment Plan Primary and Secondary Clarifier Upgrades, Miami, Florida - As Technical Advisor, Hal was responsible for the technical oversight of Miami-Dade Water and Sewer Department's (MDWASD) upgrades to the primary and secondary clarifier facilities at the 112.5MGD North District WWTP. This project included the necessary planning, permitting and final design services associated with the upgrades to six primary clarifiers and 12 secondary clarifiers. This project consisted of replacing the collector mechanisms for primary clarifiers 1, 2, 4, 5, and 6, and secondary clarifier mechanisms for units 1 through 8. The center well for secondary clarifiers 1 through 10 were enlarged and density current baffles were provided. For all clarifiers, structural rehabilitation of the effluent launders and each tank was recoated in areas of corroded and eroded concrete. New covers were provided for the primary clarifiers and new walkways were provided for the secondary clarifiers. The existing return activated sludge (RAS) pumps were replaced and equipped with variable frequency drives, and the electrical infrastructure associated with these three pump stations were upgraded. Odor control upgrades included new duct from the six primary clarifier tanks and new chemical scrubbers were provided.

Central District Wastewater Treatment Plant Process Modelling HPO Operating Scenarios During Wet Weather Upgrades, Miami, Florida - Hal was the technical advisor for the process team that evaluated alternative process modifications to the high purity oxygen (HPO) activated sludge facilities at the 143MGD CDWWTP during wet weather flow conditions. The work involved process modeling varying alternative operating modes within the HPO facilities for Plants 1 and 2 that included plug flow, contact stabilization and step-feed options. Based on the various alternative operating scenarios, it was determined that operating the HPO facilities in the contact stabilization mode during wet weather conditions was the most favorable for the current operations.

Miami-Dade Water and Sewer Department Consent Decree Projects, Miami , Florida - Hal was responsible for the technical oversight of Miami-Dade Water and Sewer Department's $2.2 billion wastewater capital improvements program at their three regional WWTPs, as outlined in the Consent Decree that was executed in 2014. All of the projects included the necessary planning/phasing, permitting, preliminary and final design, and construction oversight and start-up services. These projects have included work associated with both liquid and solids treatment processes, and include: upgrades to the single stage mesophilic digestion facilities at the 143MGD Central District wastewater treatment plant (CDWWTP); preparation of an Engineering Assessment Report at the CDWWTP; upgrades to the headworks facilities at Plants 1 and 2 at the CDWWTP; upgrades to the oxygen production facilities at the CDWWTP; a fats, oils, and grease receiving station at the 120MGD South District wastewater treatment plant (SDWWTP); upgrades to the single stage mesophilic anaerobic digestion facilities at the SDWWTP; new sludge thickening and dewatering facilities at the SDWWTP and the CDWWTP; new biogas treatment facilities at the CDWWTP to provide suitably clean biogas to the Co-Gen building.

FLETCHER MCKENZIE

PE

TITLE: Surge & Hydraulic Analysis Engineer

EDUCATION

- Masters of Science in Civil Engineering, Michigan Technological University, Houghton, Michigan, 2011
- Bachelors of Science in Civil Engineering, Colorado State University, Fort Collins, Colorado, 2006
- Bachelors of Arts in Spanish, Colorado State University, Fort Collins, Colorado, 2006

REGISTRATIONS

- Colorado Professional Engineer #PE 0049479
- New York State Professional Engineer #101134
- Massachusetts Professional Engineer #54979

Fletcher has 13 years of experience in water and wastewater engineering. He has been part of project teams creating hydraulic models for the analysis of distribution systems, including hydraulic transient analysis; he has performed wet well and sedimentation design, pump selection, control valve design, external pipeline load analysis, master planning, as well as open channel hydraulics, and gravity pipeline design. He has created hydrologic models to estimate peak storm flows as well as HEC-RAS models to estimate floodplains for different recurrence interval storms. He has performed hydraulic structure design, environmental remediation systems operation and maintenance, and stormwater pollution protection design. He has previous job experience performing sewer line surveys, creating plans and profiles, master planning of sewer infrastructure, supervising installation of service lines on a potable water system and construction oversight of a gravity sewer system and oxidation pond, as well as working on water balance models.

RELEVANT EXPERIENCE

Cypress Bridge Wellfield Transmission Main, Tampa Bay, Florida - As Surge Analysis Engineer, Fletcher performed hydraulic transient analysis on the proposed upgraded Cypress Bridge wellfield transmission main. Due to the proposed upgraded well pumps, the transient analysis was done to evaluate the expected maximum and minimum transient pressures in the system due to power failure resulting in pump trips, as well as for normal startup and shutdown of the wells. The project also included field testing to determine if the model was accurately predicting transient pressures using the proposed soft-starters for the existing pumps, evaluating normal startup and shutdown with different operational modes of the soft starter. Recommendations included ramp time for startup and shutdown and the operational mode of the proposed soft starters.

The Lynn Stormwater Pumping Station, Lynn, Massachusetts - Surge Analysis Engineer for this contract. As part of the design progression of the new stormwater pumping station, a hydraulic transient analysis was completed. The purpose of the hydraulic transient analysis is to evaluate the effects of hydraulic transients for various modes of operation and to recommend hydraulic transient mitigation measures where required. The Lynn stormwater pumping station is proposed to deliver a design flow of approximately 114MGD with four main stormwater submersible pumps along approximately 3,800 feet of 54-inch diameter ductile iron pipeline. The analysis evaluated various transient scenarios including pump trip, valve operations, and normal startup and shutdown using variable frequency drives (VFDs). Recommendations included surge suppression combination air vacuum valves, sized and located based on model results, valve closing and opening times for switching modes of operation, as well as minimum ramp-up and ramp-down times for the normal pump startup and shutdown.

Surface Water Treatment Plant, Pearland, Texas - The City of Pearland Surface Water Treatment Plant has a nominal capacity of 10MGD, with a planned expansion to 20MGD. Stantec's involvement on the project includes the design of a high service pump station and approximately 70,000-feet of 20-inch to 36-inch pipeline anticipated to be installed in three major corridors. The pipeline will connect to ground storage tanks in the existing City of Pearland water system and the water will then be pumped to various receiving facilities. Fletcher completed the hydraulic transient analysis to estimate potential transient pressures that could be experienced in the pipelines due to events such as shutdown of the high service pump station due to power failure, normal startup and shutdown of the pump station and operation of the flow control valves at the receiving facilities. As Surge Analysis Engineer for this contract, Fletcher identified the minimum

and maximum transient pressures anticipated to occur within the pipelines for different mitigation strategies including a hydropneumatic tank option and ultimately provided recommendations on the location of surge-suppression combination air valves, normal startup and shutdown procedures, and valve operation times.

Antelope Valley-East Kern (AVEK) Water Agency High Desert Water Bank Project, Palmdale, California
Hydraulics Engineer, The High Desert Water Bank Project involves the construction of conveyance facilities to transfer water both from and into the East Branch of the California Aqueduct. The proposed system is planned to consist of two modes of operation: a Delivery mode in wet years to supply recharge basins from the East Branch and a Return mode in dry years to pump water back to the East Branch, utilizing a common backbone of piping for both modes. The purpose of this hydraulic analysis was to confirm pipe and pump sizes, flow rates, pipe velocities, as well as pressure rating for the HDWB Delivery and Return Systems. Additionally, a preliminary hydraulic transient analysis (HTA) was done looking at power failure conditions resulting in pump trips, as well as normal startup and shutdown events. The preliminary transient recommendations were to utilize a standpipe or surge suppression combination air vacuum valve at the high point of the system and select a piping material capable of withstanding full vacuum pressure. Additionally, a soft-starter was recommended for the Delivery pumps with a 30-second ramp time and a control valve was recommended for the Return well pumps using a 120-second opening/closure time for normal startup and shutdown.

San Fernando Groundwater Remediation Project - Hydraulic Transient Analysis, Los Angeles, California - Fletcher served as the hydraulic transient analyst for the Tujunga and North Hollywood Treatment Plants, which are comprised of various wells that pump to a treatment plant, which is going to be upgraded. The project was being executed as a design build in partnership with Kiewit Corporation, and was therefore on an accelerated schedule to begin construction. Mr. McKenzie's analysis found that during a power failure event with all wells operating, negative pressures could exceed the manufacturer's recommended limits for some of the treatment equipment. Mr. McKenzie then sized and located a bladder style air chamber, including specifying an initial gas pre-charge pressure and tank connection size, to mitigate the downsurge from a pump trip event and maintain positive pressure at the equipment of interest.

Potable Water System Hydraulic Model and Master Plan Update, Henderson, Nevada - Hydraulics and Transient Engineer for this project that consisted of conducting a hydraulic transient screening analysis for the City of Henderson's Potable Water Distribution System. The existing potable water system is an Innovyze InfoWater model consisting of over 80,000 pipes and nearly 30 pump stations, which was calibrated to the existing conditions. The methodology used for transient screening was to identify critical assets, namely pump stations and large diameter transmission mains, that could be impacted by surge events such as pump trips. The large pump stations were identified along with the main flow paths for these stations and pipeline material and elevation data in order to identify potential high-risk areas. The high-risk pump stations were evaluated for pump trip events with the existing mitigation equipment and conclusions and recommendations were made for detailed follow-up studies. In addition to the hydraulic transient screening, Mr. McKenzie performed hydraulic modeling to assess water age conditions in the City of Henderson water distribution system. The study objective was to evaluate water age across the City distribution system under average and minimum day demand conditions, in which increasing water age is a proxy for an increase in trihalomethanes (THMs). Recommendations included seasonal adjustments to reduce storage volume, such as reducing the low set point of the tanks in lower demand periods (while maintaining minimum fire flow volumes) in order to increase the tank turnover; THM aeration, and bottle tests to confirm unique THM reaction rates and formation potential.

Basins 2 and 3 Collection System Improvements Project San Mateo, California - Fletcher Hydraulic Transient Analyst for this contract. The City's Clean Water Program was established to upgrade aging infrastructure, enhance reliability, and provide capacity for wet weather flows in the collection system. The City's 2014 Integrated Wastewater Master Plan identified capital projects that, when constructed together, will provide a complete, system-wide elimination of SSOs during the design storm. The City has divided the improvements into five design basins and ranked the project construction priority. The most critical upgrades are in Basins 2 and 3. Recommended relief sewer projects within Basins 2 and 3 are required to relieve SSOs under the design storm. Recommended relief sewer projects total approximately 6,705 meters of 250-millimeter to 900-millimeter diameter pipelines. There are three pump stations, Dale Avenue (DAPS), 38th Avenue, and 41st Avenue that will be upgraded within Basins 2 and 3. Fletcher completed a hydraulic transient analysis of the portion of the system from the 38th Avenue to the City of San Mateo Water Reclamation Facility (WRF) as part of rehabilitating the DAPS and reconfiguring two forcemains to convey flow to the new WRF headworks. The analysis evaluated power failure (pump trip) as well as normal startup and shutdown transient events to determine what surge mitigation equipment and strategy to utilize, as needed.

NOEL GUERCIO

TITLE: Condition Assessment Engineer

EDUCATION

- Master of Sciences on Construction Management, Arizona State University, Tempe, Arizona, 2003
- Bachelor of Science in Civil Engineering, University of Alberta, Edmonton, Alberta, Canada, 2001

REGISTRATIONS

- Arizona, Professional Engineer #44168
- New York Professional Engineer #096362
- California Professional Engineer #78176

Noel has 20 years of experience in the review, assessment, design, and rehabilitation of all components of underground water infrastructure in project engineer, project management, and technical advisory positions. His experience includes all aspects of contract preparation, contract administration, design, inspection, and construction of water projects. Noel has a Master's degree in Construction Management with an emphasis on pipeline infrastructure assessment and trenchless pipeline installation and rehabilitation.

RELEVANT EXPERIENCE

Site 200 and 300 Water Master Plans, Livermore, California - As Technical Advisor, Noel performed a condition assessment of the water systems and developed the water master plans for the Lawrence Livermore National Laboratory's Site 200 and 300 facilities. Included in the assessment was a useful life analysis, a risk-based assessment for the systems, a prioritization of water system improvements based on the risk of failure and consequences of failure, and cost estimates for improvements. Included in the recommendations were pipeline rehabilitation and replacement of primarily asbestos cement pipe via trenchless methods (cured in place, slip lining, horizontal directional drilling), SCADA and communications improvements, valve replacements, and granular activated carbon and chloramine water treatment systems.

Glendale Waterline Replacements, Glendale, Arizona - Design and construction administration for replacement of approximately 4 miles of failing asbestos cement pipe, services and laterals through four high profile and busy corridors with 8-inch to 12-inch DIP. Traffic control, utility coordination and public outreach programs are critical to the success of this project. Two jack and bore crossings are included to cross under existing golf cart paths.

Val Vista Water Transmission Main, Phase 2, Mesa, Arizona - Noel served as project engineer for the design of 2.3 miles of 60-inch diameter reach transmission main, including utility coordination and relocation, a Salt River Project canal and box culvert crossing, corrosion control design, transportation system analysis, and isolation valves.

SRP Santan Generating Station Alternate Discharge Design, Gilbert, Arizona - Noel served as the Project Manager to complete the design for an alternate discharge from the Santan Generating Station in response to changed ADEQ discharge requirements. The project includes design of approximately 4 miles of 24-inch HDPE pipe, from the Eastern Canal and Warner Road, along Eastern Canal to Guadalupe Road and along Guadalupe Road west to the northwest corner of Greenfield Rd and Guadalupe as well as upgrading approximately half a mile of SRP irrigation pipe to accommodate the additional flow. The project includes site survey, design, utility coordination, coordination with cities and associated permitting.

Basins 2 and 3 Collection System Improvements Project, San Mateo, California - Noel is currently the Conveyance Lead for the design of the Underground Flow Equalization System, a 5.3 million gallon wet weather sewage storage facility. The facility includes tipping buckets for self-cleaning, odor control and a 10MGD pump station. The design also includes overflow diversion structures and 36-inch diameter sewers to convey peak wet weather flow to the storage facility. Noel works closely with the InfoWorks system modelers to determine the required size and configuration to prevent surface outflows during the design storm. He is also leading the design of 20,000 linear feet of relief and replacement sewers ranging in size from 10-inch to 36-inch. The project also includes replacement of two existing submersible pump stations (1.7MGD and 2.5MGD), A 60MGD pump station is being completely renovated under the project.

CORY MECKLER

ASc T

TITLE: Cathodic Protection Specialist

EDUCATION

- Saskatchewan Institute of Applied Science and Technology
- Mechanical Engineering Technology Program
- Saskatoon, Saskatchewan, 1993
- NACE International - Cathodic Protection Level 2, Calgary, Alberta, 2002
- Applied Industrial Technologies Electrical Cathodic Protection Work for Non-Electricians, Calgary, Alberta, 2005

REGISTRATIONS

- Certified Engineering Technologist (CET) #63794, The Association of Science and Engineering Technology Professionals of Alberta (ASET)
- Applied Science Technologist (A.Sc.T) #97153, Saskatchewan Applied Science Technologists and Technicians (SASTT)
- NACE Corrosion Technologist/ Cathodic Protection Technician #7441

Cory is a Senior Integrity Technologist with 29 years of experience in the fields of cathodic protection (CP) and corrosion evaluation. He is a NACE Certified Corrosion Technologist with Level two CP Technician status and has worked in all aspects of CP including project management, field testing and data interpretation, system design and layout, and construction and repairs. Cory is the team lead for the Cathodic Protection and Coatings group in the Calgary office.

RELEVANT EXPERIENCE

Rosemont Well Water Distribution System (WFDS) and Fresh Water Delivery System (FWDS), Sahuarita, Arizona - Cory provided oversight and assistance for the cathodic protection design on the water pipeline project, in conjunction with other members of the cathodic protection and AC mitigation teams.

Greenline LRT Enabling Works, Calgary, Alberta - The project (first stage of construction) extends from 16 Avenue N (Crescent Heights) to 126 Avenue S.E. (Shepard) in the City of Calgary. This Stage 1 of construction for Green Line will be 20 km long and will include 14 stations, the Centre City tunnel, a LRV maintenance facility, and approximately 70 low floor LRT vehicles. Cory assisted/completed AC and CP monitoring provisions for early works at all pipeline crossings within the proposed LRT ROW. Approximate $1B in construction costs.

Parker Water and Sanitation District, Parker, Colorado - Provide CP design and assistance on water projects including the Canyons Pipeline and Pump Station. The project is a regional partnership to create infrastructure to receive potable water, disinfect the water to make the water from Parker, Aurora and Denver compatible, and to convey the water to customers.

Core Area Wastewater Treatment Project, Victoria, British Columbia - The project involves the construction of a new wastewater treatment plant (WWTP) on a point of land at the mouth of Victoria Harbour in Esquimalt, across from the City of Victoria. A new forcemain is required to convey flow from the urbanized portions of the City of Victoria to the new WWTP. Cory provided SME review of corrosion documentation and design for HDD crossing.

City of Winnipeg Watermain CP Pilot Project, Winnipeg, Manitoba - Field technical personnel/ rep, assist/complete in installation and testing of watermains pre and post construction, as well as attend meetings and troubleshoot technical issues as required. The project consisted of design and installation of galvanic anodes on existing watermain infrastructure (via hydrovac and surface work) to extend the life and reduce the yearly repairs encountered. Approximately $5M construction costs with $500,000 USD fee service.

Ak-Chin Link Pipeline, Maricopa, Arizona - Corrosion oversight on assessment of 78” PCCP (AWWA C301) irrigation pipeline. Project included soil analysis, pipeline condition assessment, close interval potential (CIPS) survey & remediation. Testing performed: electromagnetic testing of prestressed wires, visual and sounding inspection, soil sampling & chemical analysis, soil resistivity testing, hydro-geophysics & cathodic protection current requirement testing. Design of new cathodic protection system.

EPCOR - Sludge Pipeline Replacement, Edmonton, Alberta, Canada - Cathodic Protection assessment and design on 2.5 km of pipe replacement.

JON PEARSON

PE

TITLE: Trenchless Engineer

EDUCATION

- Master of Sciences in Civil Engineering (Geotechnical emphasis), Davis, California, 2014
- Bachelor of Sciences in Civil Engineering, University of California, Davis, California, 2012

REGISTRATIONS

- Professional Engineer #85636, California

Jon is a Senior Tunnel and Trenchless Engineer with 11 years of experience. During his career, Jon has worked primarily on tunneling and trenchless engineering and geotechnical engineering. His tunneling and trenchless experience includes large diameter tunnels and shafts in rock and soil as well as trenchless methods including microtunnels, HDD, open-face pipe jacking, and pipe ramming. He has experience working on foundation engineering and excavation support for tunnel shafts, dams, pump stations, and grade separations. During these projects his responsibilities have included conceptual level studies, detailed design, inspection and construction observation, and construction management and administration.

RELEVANT EXPERIENCE

Snake Creek Transmission Forcemain Replacement, Miami-Dade, Florida - Trenchless Engineer for this project that consisted of the installation of a new 36-inch forcemain parallel to Snake Creek Canal in Miami-Dade Florida. Stantec performed route analysis for the new forcemain including trenchless methodology and feasibility evaluation for major intersection and canal crossings. Jon lead the development of the trenchless Basis of Design Report for the project which consisted of six individual crossings with 54-inch microtunnels housing the 36-inch forcemain.

JPA Relocation Plans 16-inch Watermain along NW 47th Avenue, Miami, Florida - Project consists of installation of approximately 800 feet of 16-inch DR 9 HDPE pipe under Snake Creek Canal using horizontal directional drilling with a horizontal curve. Analyzed alignment, hydrofracture risk, settlement risk, and pipe stresses.

Siesta Key Forcemain Phase 1 and Watermain, ICW Crossing to US 41, Sarasota, Florida - Trenchless Engineer for this project that consists of six HDD installations of 20" HDPE DR-9 pipe. The first set of crossings consists of parallel installations of over 3,000 feet of 20" forcemain and 20" watermain with the majority of the crossing progressing under the intercoastal waterway and sensitive mangrove areas. The launch pit for the twin 3,000 foot bores is located in a congested culde- sac with the first part of the alignment progressing in between two luxury homes in Siesta Key. The project also consists of twin bores beneath Highway 41. These project conditions required detailed consideration during design as well as continuous support during construction.

Moccasin Bend River Crossing Mains and Booster Station, Chattanooga, Tennessee - The Moccasin Bend River Crossings Mains and Booster Station Project consists of installation of dual 12-inch watermains across the Tennessee River with accompanying booster station to connect to existing main along Moccasin Bend Road and Browns Ferry Road. A feasiblity study was performed for a horizontal directional drilling (HDD) installation including evaluation of multiple possible entry and exit points along the river. Due to the potential for karstic rock and limited locations for rig set up and pipe laydown, an open-cut installation was recommended. Jon provided review of the HDD feasibility and preliminary evaluation of an open-cut installation of the river.

Shortcut Pipeline Replacement Phase 3, Martinez, California - Project Engineer for this project that consists of evaluation of replacement methods of a section of existing 48-inch reinforced concrete pipe in poor condition under Walnut Creek and detailed design of the replacement method. Detailed design of approximately 2000-ft of dual 30-inch HDPE pipelines to be installed via horizontal directional drilling (HDD) are currently being performed. Challenges include a fault crossing, soft clays, wetlands, and narrow easements for the new pipeline. Jon is the project engineer and trenchless designer for the HDDs.

ANIL DEAN

PE

TITLE: Trenchless Engineer

EDUCATION

- Master of Business Administration, Duke University, Durham, North Carolina, United States, 2004
- Master of Sciences in Civil and Environmental Engineering (Geotechnical Engineering), University of California, Berkeley, Berkeley, California, United States, 1996
- Bachelor of Sciences in Civil Engineering, Johns Hopkins University, Baltimore, Maryland, United States, 1995

REGISTRATIONS

- Florida Professional Engineer #90972
- Texas Professional Engineer #124533
- California, Registered Engineer #C58887
- British Columbia, Professional Engineer #196722
- Hawaii Registered Engineer #13596

With 25 years of professional experience, Anil has held a number of leadership positions within the underground industry, in roles involving tunnel, geotechnical, heavy civil, and environmental engineering; construction management; project management; and program management. His expertise includes large diameter tunnels, microtunneling, and trenchless design and geotechnical engineering. He has experience on projects involving water and wastewater conveyance, dam outlet tunnels, light and heavy rail tunnels, construction management of heavy civil works such as dams, tunnels and trenchless construction, pressurized natural gas pipelines and other utilities, hydroelectric tunnels, and inspection and rehabilitation of existing tunnels.

Anil has provided specialized consulting support related to property protection and the evaluation and mitigation of ground loss resulting from tunnel and underground construction activities. He has experience with EPB and slurry TBMs, road headers, hard rock TBMs (including machines with hard rock EPB capability), NATM/SEM, and cut-and-cover tunneling methods. His trenchless expertise includes HDD, auger boring, and pipe jacking. Anil also has significant experience with the management of ISO 9001 compliant quality management systems.

RELEVANT EXPERIENCE

Miami Springs 12-inch Waterline Replacement, Miami-Dade Water and Sewer Department, Miami, Florida - Performed a design review and assisted with specification development for HDD's associated with approximately 5,600 LF of 12-inch ductile iron watermains in the area around the Miami Springs Circle. The project includes installation of new fire hydrants according to Miami-Dade Fire Department requirements, new water services and reconnections of existing stub outs within the project limits. Services provided include; conducting site investigations, utility coordination, topographic surveys, geotechnical investigation, engineering design, develop construction documents, permitting, and providing support services during procurement.

47th Avenue Waterline Replacement, Miami-Dade Water and Sewer Department, Miami - Performed detailed design for HDD's associated with the design of approximately 10,000 LF of 16" ductile iron watermain along SR 847/NW 47th Ave. from SR 860/NW 183rd Street to North of NW 207th Drive and a 500 LF horizontal directional drill beneath the SFWMD Snake Creek Canal. The project includes installation of new fire hydrants according to Miami-Dade Fire Department requirements, new water services and reconnections of existing stub outs within the project limits. Services provided include; conducting site investigations, utility coordination, topographic surveys, geotechnical investigation, engineering design, develop construction documents, permitting and providing support services during procurement and construction.

SL-1B.1 66-inch Forcemain to South District Wastewater Treatment Plant, Miami - Trenchless Designer - Stantec created detailed design and final construction documents for approximately 8,700 linear feet of 66-inch-diameter transmission forcemain. SL-1B.1 will convey wastewater flows from the intersection of SW 112 Avenue and SW 216 Street to an existing 72-inch transmission forcemain at the intersection of SW 97 Avenue and SW 216 Street near the SDWWTP.

Siesta Key Forcemain and Watermain, Sarasota, Florida - As Trenchless Engineer Anil performed an initial design review and developed final plans and specifications for HDD and instrumentation and monitoring activities. The project included two approximately 3,000 foot long crossings of 20-inch DR 9 HDPE pipe beneath the Intercoastal Waterway and the Siesta Cove residential area and park lands and four other HDD crossings ranging from approximately 400 ft to 800 ft in length of 20-inch DR 11 HDPE pipe.

BRAD BUCHANAN

PE

TITLE: Instrumentation & Control Engineer

EDUCATION

- Bachelor of Science in Electrical Engineering, Central Michigan University, Michigan, 2012

REGISTRATIONS

- Florida Professional Engineer #86225
- Texas Professional Engineer #133831
- North Carolina Professional Engineer #048137
- Louisiana Professional Engineer #43229
- Michigan Professional Engineer #6201067284
- Ohio Professional Engineer #PE85496

Bradley has nine years of experience involving electrical service, generator sizing, power distribution, instrumentation and controls, electrical code compliance, preparation of specifications, drawings, and budgets. He has been involved with various pump station projects and site development projects. His project experience includes providing complete electrical design, motor control, instrumentation and controls, standby power system design, HVAC controls, PLC, and local HMI design.

RELEVANT EXPERIENCE

Heritage Bay Inline Booster Pump Station, Collier County, Florida - As Instrumentation and Controls Designer, Brad designed the electrical, Instrumentation and Controls for this inline booster pump station. Electrical design included new service, standby generator power, standby diesel pumping with independent control, motor controls utilizing VFDs, Allen-Bradley PLC controls, HMI, and remote SCADA monitoring and control. He also performed construction administration which included review of shop drawing submittals and final inspection of electrical and instrumentation.

Miami-Dade Pump Station Improvement Plan (PSIP), Miami, Florida - As Electrical Engineer Brad designed the electrical and controls drawings for various pump stations in Miami-Dade County which include: PS-494, PS-506, PS-688, PS-698, PS-819, and PS-1058. In these projects, He was responsible for preparing the electrical and controls design for each station, as well as the related sections of the Preliminary & Final Engineering design reports and technical specifications. He also performed construction administration duties which include review of shop drawing submittals, performing inspection and preparing a punch list for electrical and controls related work.

Collier County Pump Station Rehabilitation Projects, Naples, Florida - As Electrical and Instrumentation Engineer Brad designed the electrical and instrumentation for various lift station rehabilitation projects, including PS-104.05; PS-147; PS-151; PS-158, and PS-302-09. Electrical design varied by station and included service upgrades, standby power generation, motor controls utilizing VFD's soft starts and across-the-line starters, and harmonic mitigation. The instrumentation and controls design included SCADA communication (radio and fiber), HMI, and PLC pump control strategy with redundant instrumentation and hardwire controls. In addition to electric pumps, some station designs included new diesel pumps with independent instrumentation and controls.

West Shore Lake Pontchartrain Pump Stations and Drainage Structures, St. Charles Parish, Louisiana - Lead Electrical Engineer. Responsible for the electrical systems for four pumps stations with a capacity of 5,600 cfs a part of the West Shore Lake Pontchartrain HSDRRS. Designed the controls and electrical systems for the pumps to operate with a diesel engine and right-angle gear with engine intake and exhaust, cooling systems, lubrication, and fuel systems. Additionally, the pump stations were designed to operate off the grid for up to three days during power failures with redundant backup emergency generators.

Mississippi River Re-introduction into Bayou Lafourche, Pumping Capacity Improvements Project, Donaldsonville, Louisiana - As Instrumentation & Control designer Brad designed the Instrumentation and controls system for new fresh water transfer pumping station that included six 800 HP Vertical Turbine Pumps, Medium Voltage Power Distribution, Automatic Standby Generators, VFD Motor Controls, Safety and Security, CCTV, PLC, and SCADA telemetry.

JEVAAN LEWIS

PE

TITLE: Electrical Engineer

EDUCATION

- Bachelor of Science in Electrical Engineering, Florida International University, Miami, Florida, 2006

REGISTRATIONS

- Florida Professional Engineer #76015
- Puerto Rico Professional Engineer #28520

As Electrical and I&C Lead Engineer, Jevaan will have overall responsibility for the Electrical and Instrumentation and Controls discipline deliverable. With 15 years of design experience, field experience, and a proven track record of delivering projects successfully, Jevaan will be able to lead the Electrical and Instrumentation and Controls design from project conceptualization, through design development, and into construction and closeout. Jevaan has worked for municipal clients in several states and has proudly served as a key technical player in the largest Siemens Distributed Controls System in North America.

RELEVANT EXPERIENCE

South District Wastewater Treatment Plant - Plant 2, Cluster 3 Digesters, MDCWASD, Miami, Florida - As Lead I&C Engineer, Jevaan took over as Engineer of Record for I&C discipline already in progress, bringing the design to 100%. Project scope included replacement floating covers for four digester tanks, all new piping in the control building, new pumps, new heat exchangers, new ventilation system, associated field instruments, and new PLC controller with auxiliary terminal cabinet for process controls. Jevaan also prepared Electrical and I&C design for two new VFD-controlled digester gas blowers for retrofit installation at Cluster 1 Digester Control Building.

Springtree Biscayne Aquifer Well S-23, Sunrise, Florida - As Electrical & I&C Engineer of Record, Jevaan was responsible for the electrical and instrumentation and controls design for a new remote well for supplying the Springtree Water Treatment Plant. The 40hp well pump is controlled from new starter retrofitted into an existing Motor Control Center. Control and signal wiring from the well were routed to an existing PLC at the plant for remote control and monitoring of the well. Project will be put out to bid shortly.

Miami Dade County Water and Sewer Department, Miami, Florida - Jevaan has been assigned to provide startup assistance and construction milestone inspections for the projects under construction at all three wastewater treatment plants including the following:

- South District WWTP - Digester upgrades, Acid Phase Facility
- Central District WWTP - Effluent Pump Station
- Central District WWTP - Plant 2 RAS Pump Stations and Electrical Buildings
- South District WWTP – Effluent Pump Station

S-140 Pump Station Improvements, South Florida Water Management District, Miami, Florida – Prepare Short Circuit, Protective Device Coordination and Arc Flash Hazard Analysis study report for pump station. Salient system components include two new 200kW standby diesel engine generators.

Broward Community and Family Health Centers – Optional Standby Generator Installation, Pompano, Florida - Prepare construction documents for installation of a 60kW Standby Diesel Engine Generator along with two Automatic Transfer Switches.

Broward Community and Family Health Centers – Optional Standby Generator Installation – Hollywood, Florida - Prepare construction documents for installation of an 80kW Standby Diesel Engine Generator along with two Automatic Transfer Switches.

Mobile Generator Specification, Collier County, Florida - Prepared bid specification for the county to procure 53 customized mobile generators for deployment at various wastewater lift stations. Custom requirements include roof mounted solar charging system, UL 142 double-walled sub-base tanks, tandem axels for safety during transit, and two main breakers.

CRAIG KALTENBACH

PE

TITLE: Structural Engineer

EDUCATION

- Bachelor of Sciences in Civil Engineering, University of Cincinnati, 1996

REGISTRATIONS

- Florida Professional Engineer #63619
- Texas Professional Engineer #113657
- Pennsylvania Professional Engineer #078082
- Ohio Professional Engineer #65472
- Massachusetts Professional Engineer #45525
- Connecticut Professional Engineer #PEN.0030174
- New York Professional Engineer #096916
- New Jersey Professional Engineer #24GE05320300
- Virginia Professional Engineer #053224

Craig has 27 years of experience in structural engineering. His emphasis has been in structural design and construction support for projects ranging from the rehabilitation and retrofit of existing facilities to the design of efficient and cost-effective new facilities. Craig has particular expertise with water and wastewater treatment plants and collection and distribution systems. He provides the design for all structural elements as needed for identified structural improvements in water, wastewater, dam, and general facilities improvement projects. Craig also has experience providing support during bidding and construction including submittal reviews, request for information responses, and on-site inspections.

RELEVANT EXPERIENCE

Central District Wastewater Treatment Plant 1 and Plant 2 Headworks and Grit Structures, Miami, Florida - Craig, as Lead Structural Engineer, provided visual inspection, non-destructive testing, and destructive testing of the Headworks and Grit Structures for both Plant 1 and Plant 2 at the Central District Wastewater Treatment Plant. Craig reviewed record drawings and prior inspections prior to performing a site visit to determine the existing conditions visually. The plant shutdown limits required careful planning between the Owner, Engineer, and Contractor to perform inspections and non-destructive and destructive testing in a timely manner, including all repairs to areas where destructive testing was performed which included structural repair and protective coating repair.

Central District Wastewater Treatment Plant Rehabilitate, Replace and Upgrade Program, Miami, Florida - Craig provided structural engineering quality assurance throughout the project design phases and consultation on the feasibility of the structural design aspects. The project was a master planning and design project that involved many aspects of the facility from capital programs to optimizing the operations for both the liquid and solids processing trains. Work included the inspection and assessment of the existing processes and associated equipment to develop a prioritized schedule to upgrade the existing facilities, an energy audit, biological process and hydraulic modeling to control and optimize treatment during all flow and loading conditions, and an assessment of regulatory compliance. Based on the modeling and inspection work performed a prioritized renewal and replacement program was developed.

Southwest Water Reclamation Facility, Cape Coral, Florida - Craig was the Lead Structural Engineer for the expansion design and engineering services during construction of the $117.5 million Southwest WRF. This design/CM at-Risk project involved the expansion of the wastewater plant from 6.6MGD to 13.6MGD. He designed structural modifications for existing headworks, inlet screening facility, new aeration basins, new clarifiers, chlorine contact basins, sodium hypochlorite and alum storage and feed buildings, effluent transfer and reclaimed water distribution pumps, and a reclaimed storage tank. New construction included a generator building with fuel storage area, RAS and WAS pump stations, effluent transfer pump station and reclaimed water pumps, aeration blower building, second emergency generator building, and an environmental resources building. Craig leveraged Stantec's global and national presence to meet a challenging program completion. He used Stantec's 3-D capabilities to enhance the end-product delivery by ensuring project inter-discipline coordination.

Everest Water Reclamation Facility, Cape Coral, Florida - Craig was the Lead Structural Engineer for the design and engineering services during construction of the expansion of the $60 million Everest WRF. This design/construction manager at-risk project involved the expansion of the wastewater treatment plant from 8 to 13MGD. The structural design included two aeration basins, a clarifier, an administration building and generator building, among other minor structures.

Class A Residuals Facility Design and Construction, Hillsborough County, Florida - Craig served as lead structural engineer supervising junior engineers during their 3-D model production, 2-D drawing creation and structural design calculations. Additionally, he provided engineering services during construction.

Miami-Dade Master Pump Station PS3, Miami-Dade County, Florida - Craig lead a team of structural engineers and designers from the United States and Pune to design a wastewater pump station and associated electrical/generator building. The project is located in a high-velocity hurricane zone and used ASCE 7-10.

Van Dyke Aerator, Hillsborough County, Florida - Craig provided the structural engineering support during the design phase for two RAS/WAS pump stations and miscellaneous clarifier improvements. He also provided valuable structural engineering services during construction. Stantec was tasked with upgrading the liquid treatment process at the Van Dyke WWTF. The upgrade included replacing the aerators in two oxidation ditch systems and two clarifiers to replace existing older equipment. Stantec provided all coordination with as the Client and the equipment manufacturers to ensure that the proper aeration and clarifier equipment was selected for design and construction. During construction, Stantec coordinated the sequence of construction to ensure smooth and continuous operation of the treatment process

Baton Rouge South Wastewater Treatment Plant Phase II Wet Weather Improvements, Baton Rouge, Louisiana - Craig provided structural quality assurance through the design phases of the project for the expansion, which included a new 200MGD effluent pump station. This project was implemented under a CD with to provide upgraded treatment facilities and processes to treat the flows generated from the Central and South sanitary sewer collection and transmission networks.

Alternative Concentrate and Disposal Facility, Cape Coral, Florida - Craig, as Lead Structural Engineer, modified several WW-8 North Cape Water Reclamation Facility structural drawings for the more pressing Alternative Concentrate and Disposal Facility design. He provided input on an FRP Building specification and added CIP concrete vault design.

South WWTP Improvements, Baton Rouge, Louisiana - Craig provided structural quality assurance through the design phases of the project for the upgrades for the $150 million expansion to the 60MGD South WWTP (peak flow treatment capacity of 205MGD). This project is part of the Baton Rouge Sanitary Sewer Overflow Program being implemented under a Consent Decree with the EPA. The purpose of this project is to provide upgraded treatment facilities and processes to treat the flows generated from the Central and South sanitary sewer collection and transmission networks.

Southwest RO Expansion, Cape Coral, Florida - Craig was the Lead Structural Engineer for the expansion design and engineering services during construction of the Southwest RO WTP. This design-build project involved the expansion of the water treatment plant from 14.7MGD to 17.8MGD. The structural design and support provided included inspection and evaluation of two existing clearwells, structural modifications to the existing plant for the expanded capacity and the design of a new generator building.

W-6 North Cape Reverse Osmosis Water Treatment Plant, Cape Coral, Florida - Craig was the Lead Structural Engineer for the design and engineering services during construction of the new $11 million North RO WTP. This design-build project involved the design of a new water treatment plant with a capacity of 12MGD that included provisions for the expansion to 24MGD. The structural design included the design of an extensive process building, administration building, clearwell, generator building, high service building and several other structures.

W-11 Southwest RO Emergency Switchgear, Cape Coral , Florida - Craig served as Lead Structural Engineer for the emergency switchgear building replacement design and engineering services during construction of the Southwest RO WTP. This design-build project involved the emergency design of a building to contain replacement switchgear after the existing switchgear facility was deemed unreliable by the City.

West Palm Beach UV Structural Design, West Palm Beach, Florida - Craig led the structural design effort as Stantec was tasked with designing a 50MGD UV disinfection process and related infrastructure improvements. Design for this UV treatment process involved two potential UV vendors, a new transfer pumping station, and a new sodium hypochlorite feed room. Stantec provided UV pilot testing, multi-discipline detailed design, bidding support, engineering services during construction, and construction management services.

DIANE QUIGLEY

AICP, CFM, WEDG Professional

TITLE: Funding & Grant Specialist

EDUCATION

- Master of Urban and Regional Planning, University of New Orleans, New Orleans, Louisiana, 1995
- Bachelor of Science, Geology, Nicholls State University, Thibodaux, Louisiana, 1987

CERTIFICATIONS

- American Planning Association - American Institute of Certified Planners, Chicago, Illinois, 1997
- Association of State Floodplain Managers - Certified Floodplain Manager, Orlando, Florida, USA, 2022
- The Waterfront Alliance - Waterfront Edge Design Professional, Tallahassee, Florida, 2022

Diane has over 36 years of experience in areas of resiliency, environmental, transportation and land use planning. She is experienced in the processes of project development, environmental review, and corridor studies for multiple transportation modes including transit, rail, and Intelligent Transportation Systems. Throughout her career she has focused on an integrated approach to comprehensive, collaborative solutions to infrastructure, resilience, environmental and transportation systems development. She supplements her technical experience with legislative and policy development, strategic planning, program development and management, process improvement and performance management, interagency coordination, and public involvement. She also has experience in local government planning including the adoption of land development code language, Comprehensive Plan policy amendments, including working with large agency leadership and policymakers.

RELEVANT EXPERIENCE

Florida Statewide Flooding and Sea Level Rise and Resilience Plan, Florida - As Program Director for the Resilient Florida Program, Diane was responsible for the development of the first ever Statewide Flooding and Sea Level Rise and Resilience Plan for the state of Florida. This legislatively mandated plan outlines a framework for adapting and mitigating critical assets against the impacts flooding and sea level rise. The plan consists of a list of implementation projects, totaling $270M over three years that will enhance Florida's efforts to protect infrastructure as well as inland waterways, coastlines, and shores, which are invaluable natural defenses against sea-level rise and flooding.

Development of a Standard Scope of Work for Local Vulnerability Assessments, Florida Department of Environmental Protection - Diane coordinated with staff in the preparation of a Standard Scope of Services for a Vulnerability Assessment in accordance with section 380.093 Florida Statutes. The standard scope provides guidance to local governments, regional entities, and counties in drafting a scope of services for a VA. It provides minimum technical criteria for GIS based inundation models, draft language for scope elements and a content checklist for communities to follow to ensure compliance with state laws. She was responsible for final editing and document review.

Draft Rulemaking 62S-8, Florida Department of Environmental Protection, Florida - In her role of Program Director, Diane was responsible for the oversight of a rulemaking process for FDEP Rule 62S-8 which detailed the project evaluation, scoring and ranking process for grants awarded as part of the Statewide Flooding and Sea Level Rise Resilience Plan. The rulemaking process involved collaboration with technical advisory groups, drafting rule language, conducting public workshops and collecting public comments on the Rule. The public comments were addressed and incorporated into the Rule, where appropriate.

Gadsden County Land Development Code Amendments, Gadsden County Board of County Commissioners, Florida - As Director, Diane facilitated the changes to the land development code to clarify driveway spacing requirements, parking lot paving requirements as well as revisions to the chapter relating to location, placement, and approval process for cell phone towers. She presented the proposed amendments to the Planning Commission and County Commission for approval and adoption.

BERNADETTE CALLAHAN

TITLE: Green Infrastructure Designer

EDUCATION

- Bachelor of Science, Civil Engineer, University of Delaware, Newark, Delaware, 2005

REGISTRATIONS

- Louisiana Professional Engineer #PE043214
- Pennsylvania Professional Engineer #PE077478
- New York Professional Engineer #103566-01
- Virginia Professional Engineer #0402062871
- Virginia Professional Engineer #0402062871

Bernadette is Stantec's Green Infrastructure Leader for the Water Group. With 18 years of experience, she has dedicated her career to planning and designing small disconnected communal spaces to create a sense of community and protect the environment. Bernadette has worked on a variety of progressive, community-focused green infrastructure programs, including Philadelphia's "Green City, Clean Waters" program, New York City's Green Infrastructure Program, New Orleans' "Living with Water" initiative, and the Massachusetts' "Municipal Vulnerability Preparedness" Grant Program. She also serves as a design consultant for many of Stantec's offices for planning and designing green infrastructure. Bernadette is passionate about working with green infrastructure to bring communities together and achieve a resilient dividend: better management of stormwater and environmental and open space enhancements to benefit local residents.

RELEVANT EXPERIENCE

New York City Green Infrastructure Program, Brooklyn, New York - Project Manager and Green Infrastructure Lead for this project that supports the City's long-term plan to control combined sewer overflows using green infrastructure on a distributed scale. The team is assisting with planning and design of 40,000 LF of precast porous concrete paver units within the parking lane of a public right-of-way. The treatment will be applied on 75 residential streets within the Gravesend neighborhood in Brooklyn. Sites were pre-qualified for this treatment based on an extensive geotechnical investigation and review of existing conditions. Bernadette is managing surveying, geotechnical engineering, green stormwater infrastructure, and site/civil engineering design services.

Green City, Clean Waters: Green Streets Initiative, Philadelphia, Pennsylvania - As Project Manager and Green Infrastructure Lead, Bernadette managed hundreds of individual green infrastructure installations throughout Philadelphia in support of a long-term plan to control combined sewer overflows using green infrastructure on a distributed scale. The Stantec team has served as on-call engineering design consultant since the program started in 2011 and has provided surveying, geotechnical engineering, landscape architecture, green stormwater infrastructure, and site/civil engineering design services. Bernadette oversaw a variety of green infrastructure projects, including designing hundreds of stormwater tree trenches, bumpouts, subsurface infiltration basins, planters, and rain gardens. The projects have been located within city public rights-of-way, parks and recreation parcels, schoolyards, and vacant properties and included the Green Streets Initiative consisting of stormwater trenches, bump outs, planters, swales, and rain gardens, the Green Schools Initiative involving rain gardens, swales, and stormwater trenches, and the Green Parks Initiative involving permeable pavement, rain gardens, swales, and stormwater trenches. Under Bernadette's direction, design for the following projects was completed: • South Philadelphia: eight stormwater trenches • West Philadelphia: eight stormwater trenches and three swales • Kingsessing: five stormwater trenches and four rain gardens • Stenton: 11 stormwater trenches and three rain gardens • Mount Airy Church: three stormwater trenches and three stormwater bumpouts.

Green City, Clean Waters: Green Parks Initiative, Philadelphia, Pennsylvania - Project Manager and Green Infrastructure Lead for this contract. Green Parks is an initiative of the Green City, Clean Waters program that focuses on the implementation of green infrastructure into public parks, recreation centers, and playgrounds. These green spaces provide a great opportunity for stormwater management systems as they can be designed to capture runoff from adjacent

streets, parking lots, and other impervious areas. In addition, these green spaces provide ample space for larger demonstration projects while providing a neighborhood amenity. Under Bernadette's direction, Stantec completed the design for the following projects under the Green Parks Initiative: • Julian Abele Park (Stormwater Tree Trenches) • Ingersoll Commons Park (Porous Pavement, Swale, and Rain Gardens) • Baker Playground (Rain Garden) • Heston Gardens (Rain Garden) • Haverford Triangle (Rain Garden) • Pops Playground (Rain Garden) • Kingsessing Recreation Center (Rain Gardens and Stormwater Trench) • Stenton Park (Rain Gardens and Stormwater Trench)

Green City, Clean Waters: Green Schools Initiative, Philadelphia, Pennsylvania - Bernadette was the Project Manager and Green Infrastructure Lead for this contract. Green Schools is an initiative of the Green City, Clean Waters program that focuses on the implementation of green infrastructure on schoolyards. Schools account for over 1,400 acres in Philadelphia's combined sewer service area with approximately 65% of this area attributable to impermeable surfaces. Implementation of green infrastructure on schoolyards provides educational opportunities and enhances the environment from which our children learn. Under Bernadette's direction, Stantec completed the design for the following projects under the Green Schools Initiative: • George W. Nebinger Elementary School (Rain Garden, Porous Pavement, Stormwater Trench) • Horatio B. Hackett Elementary School (Rain Garden).

Jose Manual Collazo Playground and Recreation Center Improvements, Philadelphia, Pennsylvania - Bernadette was the Green Infrastructure Lead for this contract. Jose Manual Collazo Playground is the result a public-private partnership project that leveraged City resources with private philanthropy to achieve a multiple-benefit result. The purpose of this project was to provide much-needed green space in the community, while providing stormwater management benefits to combat Philadelphia's combined sewer overflows. Constructed in summer of 2017, this project represents the transformation of an under-utilized and depreciated play area into a beautiful public playground and recreational area with large stormwater management benefits. The new playground features a rain garden with subsurface storage that captures, manages, and stores stormwater runoff from 1.25 acres of impervious runoff associated with the playground and the adjacent street network. The playground also features two basketball courts, four handball courts, a playground, spray ground, a tricycle track, and community communal area. Stantec provided site/civil engineering, green stormwater infrastructure design, and landscape architecture services for the project. In addition, we provided coordination services with the Philadelphia Water Department Green Infrastructure Unit for the design of the green stormwater infrastructure.

Logan Triangle Drainage Study, Philadelphia, Pennsylvania
Bernadette was the Project Manager and Green Infrastructure Lead for this contract. Logan Triangle is the largest plot of vacant land in Philadelphia. This 35-acre property was formerly a residential neighborhood that was built on a creek bed filled with coal ash. As the insubstantial material washed away, the buildings began to sink, and were condemned by the City in the 1990s. Stantec was hired by the Philadelphia Water Department to perform a feasibility study to use a portion of this vacant site to manage stormwater runoff from the surrounding neighborhoods. Given the soil conditions, Stantec's design included a large subsurface detention basin with a substantial foundation. Stantec provided a conceptual stormwater conveyance design, stormwater detention design, and estimate of probable costs.

Tucker Avenue Neighborhood Drainage and Green Infrastructure Improvements, Fairfax, Virginia - Bernadette served as green infrastructure lead and senior civil engineer. The Stantec team provided conceptual design to improve stormwater management and conveyance by evaluating existing drainage and stormwater infrastructure throughout neighborhoods in the vicinity of Tucker Avenue and within a 67-acre drainage area that leads to a local stream, Pimmit Run. Hydraulic and hydrologic modeling was performed within the watershed to identify insufficiencies within the stormwater infrastructure, as well as where overland relief created unsafe and erosive conditions. Existing stormwater infrastructure included systems managed by Fairfax County within easements on private residential lots and within the roadway right-of-way. Conceptual design included improved stormwater infrastructure conveyance and routing, along with low-impact development and green infrastructure principles to improve water quality and neighborhood aesthetics. The goals are to reduce localized flooding and erosion, address public safety concerns, improve stormwater drainage conditions and infrastructure, improve water quality, protect the local stream, utilize an innovative, sustainable, and functional design, reduce runoff to predevelopment flows to the extent feasible by collecting runoff at the source, and partner with the community to develop sound, cost-effective solutions that can be collaboratively implemented and maintained.

SUSSETTE IRIZARRY

TITLE: Sea Level Rise Adaptation Specialist

EDUCATION

- Bachelors of Sciences in Environmental Engineering, Florida International University, Miami, Florida, 2011
- Master of Sciences, Environmental Policy and Management, Florida International University, Miami, Florida, 2016

Sussette is an Environmental Engineer with expertise in project management and environmental policy. Her experience focuses on Sea Level Rise (SLR) adaptation strategies that focus on hardening critical assets and infrastructure for utilities in Florida. Sussette has extensive knowledge with LEED processes, Climate Change, Environmental Regulation, Water Resources Engineering, Sustainable Engineering, and Environmental Resource Management. She has presented at various conferences including the Florida Water Resource Conference, Southwest Florida Water & Wastewater Conference, and for the American Water Works Association and published several articles on the topic of Sustainability.

RELEVANT EXPERIENCE

Consent Decree Project 2.11 Effluent Pump Station Electrical Improvements, Miami-Dade County Water and Sewer Department, Virginia Key, Florida - Project Engineer responsible for overseeing a multi-disciplinary design team closely with the project technical lead to ensure design schedule was met and deliverables were completed. The project focused on sea level rise hardening efforts for the effluent pump station (EPS) at the Central District Wastewater Treatment Plant. A new electrical building was designed to meet a Sea Level Rise (SLR) design elevation of 20.3 ft to house critical electrical and control equipment, including switchgears, motor control centers, and transformers. SLR was a major consideration with regards to designing the electrical building, it required an understanding of the structural needs of the building, including dead loads, live loads, rain loads, wind loads, soil loads, and most importantly, flood loads. Stantec developed a Technical Report, Basis of Design Report, and 30%, 60%, and 100% level design drawings. Stantec provided permitting and bidding services. Stantec is currently providing engineering services during construction.

Consent Decree Project 2.17 Chlorination, Virginia Key, Florida - Project Engineer for the construction phase of the project, which entailed replacing the existing gas chlorination system at the Central District Wastewater Treatment Plant with a liquid sodium hypochlorite storage and feed system. The new bulk storage and satellite buildings for the chlorination system also required hardening design considerations for sea level rise and storm surge protection. Metering pumps for the feed system and critical electrical equipment were elevated to 20.3 ft considering flood loads. Flood protection walls were also built to protect the buildings. During construction Sussette coordinated RFI reviews, Shop Drawing reviews, performed site visits, and oversaw equipment testing. She also assisted in the development of an operation and maintenance manual and record drawings.

Consent Decree Project 2.21 Master Pump Station No. 1, Miami, Florida - Project Manager for this contract, Sussette was responsibilities included monitoring budget, schedule, and contractual obligations for the project during construction. Stantec's scope focused on providing engineering services during construction for upgrades to the ventilation, electrical equipment, and replacement in kind of the odor control system at the pump station. The Odor Control System matched the existing single stage wet chemical scrubber but with an increase in the treatment capacity. She facilitated QA/QC reviews of project efforts and internal meetings with the team to monitor project progress. She also collaborated with multi-stakeholders including sub-consultants, contractor, and client.

MATT STARR

PG

TITLE: Storm Surge Analysis Geologist

EDUCATION

- Bachelor of Science in Marine Science/Coastal Geology
  Conway, South Carolina, 2006

REGISTRATIONS

- Florida Professional Geologist #2906
- Texas Professional Geoscientist #15265

Matthew has 20 years of project management and technical experience in coastal engineering, dredging, beach renourishment, port and marine facilities, coastal structures, hydrographic surveying, hydrodynamic modeling, ecosystem restoration, asset management, natural resource mapping, water quality, and wildlife biology. He is responsible for all phases of project delivery, including local, state, and federal permitting, design services, construction plans, contract documents/bidding, contractor procurement, and CEI services.

RELEVANT EXPERIENCE

Prime Hook National Wildlife Refuge Marsh Restoration and Shoreline Resiliency Project Milton, Delaware - As Coastal Geology Lead, Matt was responsible for the development of the beach nourishment, dune design, and offshore sand search investigations based on hydrographic surveys and field collected geotechnical data. Oversaw the design drawings using AutoCAD Civil 3D and spatial analysis using ArcMap. Analyzed historical wind and water level data and developed a numerical model using Delft3D utilizing Superstorm Sandy and normal circumstance data to investigate the hydrodynamics, salinity, and sediment transport within the marshes of Prime Hook on the shore of Delaware Bay. A series of significant storms, including Superstorm Sandy, created breaches in the barrier island separating the marsh and bay and led to subsequent salt intrusion of the formerly freshwater habitat. The modeling effort was used to determine potential measures that could be taken to either restore the marsh back to its former configuration or best manage the existing system. The marsh restoration project included dredging of 30 miles of conveyance channels and “thin layer” disposal of 600,000 cubic yards of sediment. Numerous storm events have occurred since the construction and the project has performed as designed.

Naples Beach Renourishment Truck Haul Projects, Collier County, Florida - Project Manager for this project that was initiated in 2013 and was recurred in 2014. This project was initiated as a result of storm erosion and consisted of hauling more than 225,000 cy of sand in 2013 and 52,000 cy of sand in 2014 from an upland mine more than 50 miles away from the project site utilizing dump trucks. Matthew was responsible for construction oversight, permit compliance, sediment analysis review, turbidity oversight, weekly, contractor/client meetings, and as-built profile review.

Sebastian Inlet Coconut Point & South Shoreline Restoration, Sebastian, Florida - The Sebastian Inlet Taxing District initiated this project to restore a portion of the south shoreline along the inlet known as Coconut Point, which had experienced significant erosion from increased wave activity during storms. Matthew served as lead scientist responsible for design and state/federal permitting of traditional armoring methods. This project also emphasized native wetland vegetation to create a living shoreline. Armoring was necessary to dissipate the high wave energy often experienced at Sebastian Inlet, however topsoil was used to cover the riprap, reducing voids, and served as a planting area for native species. The upland portion was re-graded with approximately 1,400 cubic yards of material stored at the Sebastian Inlet Dredged Material Management Area (DMMA) to promote better drainage. This project provided a beneficial reuse of dredged material, while improving bird nesting habitat at Coconut Point.

Alligator Bend Shoreline Protection and Resiliency Project, New Orleans, Louisiana - Matt was the Project Manager for this contract. The landfall of Hurricane Katrina in southeast Louisiana damaged thousands of acres of marsh and other coastal habitats in the Pontchartrain basin. Along the shorelines of Lake Borgne, the storm created breaches between the lake and interior

marshes and in some cases removed large expanses of wetlands. Loss of wetlands in the Alligator Bend area created more than 1,000 acres of open water in a complex that formerly supported relatively stable brackish marshes. Post-storm aerial photographs show the most significant losses occurred along the flanks of Bayou Platte leaving a large area of open water between eroding shorelines on Lake Borgne and the Gulf Intracoastal Waterway (GIWW). Continued shoreline erosion and future storms could create a direct path of open water connecting the GIWW and Lake Borgne and threaten the integrity of this important and bridge. Under the Coastal Wetlands Planning, Protection, and Restoration Act (CWPPRA), Provided engineering design services for a foreshore rock dike (breakwater) and vegetative plantings along the shoreline of Lake Borgne. Multidisciplinary capabilities enabled the firm to provide the full range of services required for this challenging project, offering NRCS a streamlined, one-stop approach to developing a sustainable solution. Among the issues faced were the area's poor soil conditions, which required elevated levels of testing and analysis to solve project design challenges.

2019 Indian River County Beach Preservation Plan, Indian River County, Florida - Matt served as the Project Manager supporting Indian River County responsible for the 2019 update to the County's Beach Preservation Plan (BPP) which is the principal document used to evaluate and maintain the resources along the coastline under the County's Coastal Restoration Program. The updates are to support the County in managing its beaches, analyze recent storm events, assess risk along the coast, and document the overall program performance. The BPP provided an analyses of resiliency elements that included beach management strategies, coastal vulnerability, seasonality of the beach sediments and provided new ideas on beach profile designs to promote natural recovery. Analyzed shoreline and volumetric change based on the latest available survey data from the County from 2013 to 2019. Evaluated the depth of closure on a line-by-line basis and impacts before developing an average depth of closure. The erosion analysis included all survey data from 2005 to the most recent data available in 2019 to report shoreline change and volumetric change/background erosion rates.

Galeota Point Shoreline Protection and Revetment Design * Trinidad and Tobago - Project Manager for the purpose of this project that was to design a structure to withstand a 10 to 15-year storm recurrence along the Atlantic Ocean at BP's Galeota Terminal Processing Facility comprised of pipelines carrying flammable gas and pipe racks within close vicinity of the coast. The installed steel sheet pile system used as shoreline protection had failed and was in need of a repair solution. The solution included a natural stone revetment combined with a concrete plinth repair. Matthew was responsible for the design, stone sizing, construction drawings and technical specifications.

FWC Navigation Improvement and Maintenance Program, Statewide, Florida - This contract with the Florida Fish and Wildlife Conservation Commission (FWC), Boating and Waterways Section, involves managing projects and programs in Florida coastal counties to promote the use of state waterways for safe boating. Matt's responsibilities included construction oversight and coordination of waterway markers on state waters, providing boating education and boating safety programs, improving boating access, coordinating the removal of derelict vessels from state waters, economic development initiatives to promote boating in the state, and coordinating the submission of state comments on marine events.

Red Bug Slough Restoration Project, Sarasota County, Florida - Red Bug Slough Preserve is a 7-acre nature preserve located in Sarasota County, Florida. The restoration goals include: provide water quality treatment, preserving existing native habitat; restore and enhance a historical marsh system; increase aquatic habitat; enhance recreational use; and restructure the shoreline to create littoral shelves for habitat enhancement. A small pedestrian foot bridge with Timber Guard Piles was designed and constructed to allow visitors to explore the area and hike the trails within the Preserve. Matthew responsibilities included design from conceptual and permitting phases, through 100% construction drawings and bid documents, and CE&I service during construction.

Mobbly Bayou Wilderness Preserve Habitat Restoration, Oldsmar, Florida - Matt served as the lead coastal scientist responsible for the design, permitting, and implementation of the habitat restoration project, including the development of conceptual restoration plans, as well as the design of cross-sections used in the construction design. The area known as Mobbly Bayou is an estuarine area adjacent to the northern reaches of Mobbly Bayou in Upper Tampa Bay, an identified Surface Water Improvement and Management (SWIM) priority water body. Mobbly Bayou is located within the Mobbly Bayou Wilderness Preserve, an approximately 380-acre preserve located in Pinellas County, primarily within the corporate limits of the city of Oldsmar.

Bahia Beach Habitat Restoration, Ruskin, Florida - Matt served as the lead designer on this project to evaluate alternatives and develop restoration plans for a 149-acre portion of the Wolf Branch Preserve. The restoration site was cleared many decades ago for citrus groves. The restoration plans involved the construction of a series of interconnected tidal wetlands, and planted upland areas that would eventually become pine flatwoods and coastal hammock. In addition to providing habitat functions the restored wetlands and uplands collect and treat stormwater runoff from adjacent developed areas to improve the water quality discharging to Hillsborough Bay.

PAUL CARROLL

PE, PMP

TITLE: Storm Surge Analysis Engineer

EDUCATION

- Bachelor of Science in Marine Science/Coastal Geology
  Conway, South Carolina, 2006

REGISTRATIONS

- Florida Professional Geologist #2906
- Texas Professional Geoscientist #15265

Paul is a Senior Coastal Engineer with Stantec and has been practicing coastal engineering for 18 years. He has been involved in all phases of construction in the marine environment including site feasibility/planning, design, bidding, contracting, and construction administration/ management. Paul has project experience in wave modeling, wave load analysis, coastal structures, and coastal flood hazard analysis. Paul has experience and a passion for helping communities to plan for adaptation to our changing climate. In recent projects he has applied standard methodology for estimating site-specific Sea Level Rise inundation levels as well as assessing infrastructure vulnerability and developing adaptation alternatives. Paul is professionally licensed in North Carolina, South Carolina, and Florida.

RELEVANT EXPERIENCE

Maryland Highway 261, Anne Arundel County, Maryland - Paul was Project Engineer for this contract for which our company provided site-specific sea level rise analysis and hydraulic modeling of riverine flooding coupled with Sea Level Rise and various high and low frequency storm surge inundation scenarios to model and evaluate multiple drainage conveyance structures.

City of San Jose Stormwater Vulnerability Assessment, San Jose, California - Paul was Project Engineer for the evaluation of City stormwater infrastructure for vulnerability to various storm surge and Sea Level Rise scenarios. Development of pump station profiles with critical elevations, risk levels, and adaptation alternatives.

Guam and CNMI Coastal Flood Insurance Study, FEMA - Paul servers as the Deputy Project Manager overseeing the development of the 2D offshore modeling framework as well as the nearshore analysis and modeling. The team consists of a group of highly skilled technical experts in synthetic storm suit development, JPM analysis, nearshore wave modeling, and flood risk mapping. The project will revise and update coastal flood risk four Pacific islands within the Marianas chain (Guam, Saipan, Tinian, and Rota).

Hugh Leatherman Terminal, Charleston, South Carolina - Technical lead on terminal scour analysis, shoreline stabilization design, and dredging engineering. The work includes: 1) preparation of permit drawings of wharf, berth, and access area, 2) design of the wharf rock revetment, 3) dredge material disposal capacity analysis, preparation of bid drawings and contract specifications. Sea level rise over the life of the facility was also analyzed for the purpose of infrastructure design.

South Carolina Port Authority – Hugh Leatherman Terminal, Charleston, South Carolina - Technical lead on terminal scour analysis, shoreline stabilization design, and dredging engineering. The work includes: 1) preparation of permit drawings of wharf, berth, and access area, 2) design of the wharf rock revetment, 3) dredge material disposal capacity analysis, preparation of bid drawings and contract specifications. Sea level rise over the life of the facility was also analyzed for the purpose of infrastructure design.

Coastal Floodplain Mapping – FEMA Region IV, Florida - One of two technical leads on FEMA coastal flood studies in nine North Carolina Counties, three South Carolina Counties, four Georgia Counties, and two northern Florida Counties. Primary tasks include field data collection, landuse coverage discretization, storm surge QC, overland wave modeling, erosion analysis, runup calculation, and BFE gutter mapping.

SEAN COMPEL

PE, ENV SP, LEED AP

TITLE: Construction Manager

EDUCATION

- Bachelor of Science in Civil Engineering, University of Miami, Miami, Florida, 2002

REGISTRATIONS

- Professional Engineer #66618, State of Florida
- Envision Sustainability Professional (ENV SP)
- LEED Accredited Professional, U.S. Green Building Council

Sean has 20 years of extensive experience in the planning, design, permitting and construction of civil engineering and site development projects. He has served as project construction administrator and project manager for various roadway, drainage, water, sewer, underground electrical, and industrial projects. Clients include municipalities, state agencies, educational facilities, and private businesses. His experience in construction services has allowed him to effectively deliver projects satisfying all owner requirements and goals. Responsibilities during construction include permitting, review of scheduling, and overall cost analysis.

RELEVANT EXPERIENCE

Sawgrass International Corporate Parkway - Reuse and ASR RAW Watermain - Sunrise Pipeline, Sunrise, Florida - Construction Administrator for this contract for which Stantec provided Construction Management and Engineering Services during construction for the Sawgrass Reuse. Distribution and Aquifer Storage and Recovery (ASR) Well RAW Water Pipeline System. The project consists of the installation of approximately 30,000 LF of new mains for a new reuse distribution system and a new Aquifer Storage and Recovery (ASR) well system. The portion of the work related to the new reuse distribution system consists of approximately 23,000 LF of ductile iron pipe (DIP), valves and fittings ranging in size between 4-inches and 36-inches in diameter. The portion of the work related to the new raw eater transmission main for the Sawgrass ASR Well system Design includes approximately 7,000 LF of 16-inches DIP, valves and fittings, connecting the ASR booster pump station within the Sawgrass Utility Complex and the SGF-1 ASR well.

Campground Sanitary Sewer Collection System & Electrical System Refurbishment at John Pennekamp Coral Reef State Park, Key Largo, Florida - Project Engineer and Construction Administrator for this project. The John Pennekamp Coral Reef State Park provides visitors with a gateway to the natural world. To keep this environment pristine and accessible for visitors, we constructed a sanitary sewer collection system and access roadway to service the 47-site campground. During the limited time frame during the off-peak park operations, we constructed a sewer collection system consisted of approximately 1,000 linear feet of 8” gravity sewer lines, six concrete manholes and the associated service laterals to each campsite. The lift station provided a deeper wet well as needed to accommodate the new campground collection system. We reconfigured the station electrical and piping to the new wet well layout. The electrical system refurbishment consisted of troubleshooting the recurring chronic line shorting and voltage drops, and determining which electrical wiring runs conduits, and service panels need to be replaced. Additionally, we investigated the engineering of the various existing sanitary sewer systems at the park, and of the existing and proposed adjacent Key Largo Wastewater Treatment District (KLWTD) Collection and Transmission Facilities. Our company evaluated the hydraulic capacity and loading for Pennekamp SP Lift Station No. 1.

FIU Central Utilities (LS1) Lift Station, Modesto Maidique Campus, Miami, Florida - Construction Administrator for the rehabilitation and improvements to FIU’s MMC’s primary lift station. The project consisted of the conversion of line-shaft pumps to dry-pit mounted submersible pumps and increased the capacity to 75 Horsepower. A full electrical upgrade was also performed.

FIU System Evaluation Survey (SSES) Campuswide, Modesto Maidique Campus, Miami, Florida - Construction Administrator for the implementation of the Sanitary Sewer Evaluation & Survey (SSES), consisting of inventorying the existing gravity collection system, cleaning, TV inspection, and smoke testing of all the sanitary sewer lines, laterals, and manholes in nine pump station

areas at the Modesto Maidique (University Park) Campus and the Computer Engineering and Applied Science Campus. Contractor surveyed approximately 40,000 linear feet (LF) of pipes, 152 manholes, and 280 laterals. At the time of the SSES, FIU had approximately 220,000 gallons per day of infiltration and inflow (I&I). The purpose of the SSES was to determine the conditions and severity of defects requiring repairs. Plans and specifications are currently being prepared for the necessary system repairs, with phases corresponding to the priority of the repairs, based on the amount of I&I. In total, about one-fourth of the pipes and manholes require repairs and rehabilitation. The repair and rehabilitation work was performed with ARRA funds in approximately one third of the time allocated.

FIU W1 Lift Station, Modesto Maidique Campus, Miami, Florida - Construction Administrator for this project that consisted of a new replacement triplex lift-station with 45 Horsepower which handles all of the wastewater transmission for the West and South areas of the Modesto Maidique Campus.

NW 2nd Avenue Wastewater Meter, North Miami Beach, Florida - Construction Administrator for this project which included planning, design, permitting, construction administration, certification, and conveyance of a new wastewater meter on an existing forcemain owned and operated by the City that connects to a Miami-Dade Water and Sewer Department interceptor. New meter was set inside an underground vault, provided with isolation valves and fittings, and a check valve (in separate manhole), with telemetry and controls to comply with WASD requirements. The new installation required service to be maintained during construction, and interruption of service was limited to the removal of thrust blocks to allow for the new piping to be connected. The new meter was located inside the right-of way of the South Florida Water Management District's C-9 Canal.

Doral Grande, Atlantic and Pacific Developments, Doral, Florida - Construction Administrator for this project that consisted of a regional WASD Wastewater Pump Station for the entire half section. Project included watermain extensions to serve the new development and a 20" wastewater forcemain donated to Miami-Dade WASD. Project also included full construction management including inspections and engineering support. The proposed utilities serve a 30 Acre site being developed into a 300 apartment residential community in Doral. Other improvements included paving, drainage, striping, signage, geometry and development of adjacent right of ways.

Miami-Dade DERM/DORM FEMA Drainage Improvement Project, Miami-Dade County, Florida - Project Engineer for drainage design of 34 sites throughout Miami-Dade County totaling over 12 miles of roadway, including several section line and half section line roads.

Outfall replacement at 398 Harbor Drive, Key Biscayne, Florida - Construction administrator for this drainage project which involved a new 24 inch outfit to Biscayne Bay to relieve flooding on surrounding streets. The new outfall replaced an old collapsed pipe at another location and it included a duckbill type backflow preventer. The installation of the outfall required securing a 10 foot wide easement through private property and also required close coordination and compliance with the permitting agencies including Miami Dade DERM. The Village of Key Biscayne secured a grant from FDEP and the project was successfully completed and closed out on time.

Key Biscayne Redevelopment of Gravity Drainage Wells, Key Biscayne, Florida - Project Manager and Construction Administrator for this project that involved the cleaning, rehabilitation, and redevelopment of 30 existing gravity drainage wells located throughout the Village. Responsibilities included inspections, management, and conducting testing at each well to ensure expected discharge capacity was achieved. The work was funded by a grant from the South Florida Water Management District.

Key Biscayne Zones 1 & 4 Watermain and Sanitary Sewer Replacement, Key Biscayne, Florida - Construction Administrator responsible for assisting with the administration of sanitary sewers, manholes, existing pump station upgrades and modifications, lateral connections, fire hydrants, watermain replacement including valves and appurtenances, and roadway/ right-of-way restoration, and other related work as shown on the plans.

Key Biscayne Zones 2 & 3 Reclaimed Water & Line Replacement Sanitary Sewer, Key Biscayne, Florida - Director of Construction Services responsible for the construction administration for this project that includes the construction of sanitary sewers, manholes, existing pump station upgrades and modifications, lateral connections, fire hydrants, watermain replacement including valves and appurtenances, and roadway/right-of-way restoration, and other related work as shown on the plans. In addition to observing the on-going work, digital pictures were taken at almost every visit to record the project progress.

Reclaimed Water Distribution System, Key Biscayne, Florida - Construction Administrator for this civil site work including site clearing, earthwork and grading, paving, reclaimed watermains including services, valves and appurtenances, landscaping and roadway/right-of-way restoration. The reclaimed water distribution system was installed from the northern Village limits running south, primarily along Fernwood Road, to West Mashta Drive. The project included the installation of service lines and meter boxes for future use.

FERNANDO VARGAS

TITLE: Construction Inspector

CERTIFICATION

- Certification, FDOT, Asphalt Paving Tech Level 1, 2013

Fernando has over 15 years of experience in materials testing and inspection services in both the public and private sectors. His duties have included sampling and field and laboratory testing of soils and concrete. He has served as lead project inspector for public projects of various scope including water and sewer, drainage, roadway, utilities and industrial. The water and sewer projects include new facilities, retrofitting of existing facilities, and repairs to existing systems. Monitoring of costs and schedule throughout these projects ensures the client is always receiving a quality product on time and within budget.

RELEVANT EXPERIENCE

Sawgrass International Corporate Parkway - Reuse and ASR RAW Watermain - Sunrise Pipeline, Sunrise, Florida - Senior Inspector for this contract for which Stantec provided Construction Management and Engineering Services during construction for the Sawgrass Reuse. Distribution and Aquifer Storage and Recovery (ASR) Well RAW Water Pipeline System. The project consists of the installation of approximately 30,000 LF of new mains for a new reuse distribution system and a new Aquifer Storage and Recovery (ASR) well system. The portion of the work related to the new reuse distribution system consists of approximately 23,000 LF of ductile iron pipe (DIP), valves and fittings ranging in size between 4-inches and 36-inches in diameter. The portion of the work related to the new raw eater transmission main for the Sawgrass ASR Well system Design includes approximately 7,000 LF of 16-inches DIP, valves and fittings, connecting the ASR booster pump station within the Sawgrass Utility Complex and the SGF-1 ASR well.

Doral Grande, Atlantic and Pacific Developments, Doral, Florida - Inspector for this project that consisted of the design and permitting of a regional WASD Wastewater Pump Station for the entire half section. Project included design, permitting of watermain system and 20" wastewater forcemain donated to Miami-Dade WASD. Project also included full construction management including inspections and engineering support. The proposed utilities serve a 30-acre site being developed into a 300-apartment residential community in Doral. Other services also included drainage, striping, signage, geometry and development of adjacent right of ways.

Sanitary Sewer Rehabilitation and Repairs (Phase 3), Medley, Florida - Inspector for this sanitary sewer rehabilitation and repair of Pump Station Areas 105. The project included cleaning of sanitary sewer lines, testing of sanitary sewer joint connections, grouting of cracks, lining or partial lining of damaged sanitary sewers, root removals, replacement of sewer pipes and manholes, and repairs of sanitary manholes.

Sanitary Sewer Rehabilitation and Repairs (Phase 3), Medley, Florida - Inspector for this sanitary sewer rehabilitation and repair of Pump Station Areas 105. The project included cleaning of sanitary sewer lines, testing of sanitary sewer joint connections, grouting of cracks, lining or partial lining of damaged sanitary sewers, root removals, replacement of sewer pipes and manholes, and repairs of sanitary manholes.

Golden Beach Capital Improvements Program Master Plan, Golden Beach, Florida - Inspector for this comprehensive Capital Improvements Program Master Plan that focuses on several major improvement areas: town-wide drainage improvements; utilities underground relocation (electrical, telephone, cable); and town-wide streetscape & traffic calming. The Master Plan carefully considered each of these with respect to feasibility, cost/benefit, and design, as well as an analysis of funding options and scenarios, and schedule for phasing and implementation.

Sunset Islands 3 and 4, Miami Beach, Florida – Senior Inspector for this design/build project which involved complete infrastructure reconstruction with primary goals including beautification and combatting the effects of sea level rise. Scope of work includes watermain and water service replacement, rehabilitation of the existing gravity sanitary sewer line and manholes, complete stormwater infrastructure improvements, roadway reconstruction including raising roads in some areas and harmonization to properties, concrete work including valley gutters and driveways, the undergrounding of overhead utilities for Florida Power & Light (FPL), AT&T, and Atlantic Broadband, and landscaping. The stormwater systems include a primary and secondary gravity collection system and two pump stations, one for each island, that discharge into Biscayne Bay. Environmental controls during construction and all maintenance of traffic had to be carefully monitored at all times. Close coordination with City staff and homeowners is most important to ensure impact to residents is minimized.

Miami-Dade County Roadway Improvements, Miami, Florida - Inspector for this project which consists of supervising all operations necessary for the construction of a new 4-lane divided roadway along SW 157th Avenue (from SW 120th Street to SW 112th Street) including a new bridge over the C-IW Canal. The work includes new sidewalk, curb and gutter, median, a stormwater drainage system, signage, pavement markings, signalization, and street lighting. The scope also includes the new construction of the items below as part of the overall wastewater master plan to complete a connection north of SW 112th Street:

- a 2-lane roadway on SW 120th Street (from SW 157th Avenue to 1800 feet west of SW 157th Avenue);
- a new 16-inch watermain along SW 157th Avenue (from SW 112thStreet to SW 120th Street);
- a new 16-inch watermain along SW 120th Street (from SW 157th Avenue to SW 162nd Avenue); and
- the installation of a 36-inch sewer forcemain along SW 157th Avenue (from SW 112th Street to SW 120th Street).

Belle Meade Drainage Improvements, Miami, Florida - Inspector for this $8 million project which consisted of the design and permitting of a drainage improvement project encompassing several miles of road in developed flood-prone neighborhood providing quality treatment through the use of exfiltration trenches and gravity wells and discharging to the Miami River. Permitting included pre/post analysis and stage calculation for Miami-Dade's Class II Surface Water Management Permit.

CEI Construction Services – Miami Center for the Performing Arts / Biscayne Boulevard "Superblock" Streetscape Improvements, Miami, Florida - Inspector responsible for inspection support and all materials testing for a high-profile roadway reconstruction and resurfacing project in downtown Miami including: paver brick pavement, Superpave asphalt, decorative lighting, signalization, drainage, striping, signage, curb and gutter, sidewalks, and landscaping.

Drainage and Stormwater Planning & Design Belle Meade Drainage Improvements, Miami, Florida - Inspector for this $8 million project which consisted of the design and permitting of a drainage improvement project encompassing several miles of road in developed flood-prone neighborhood providing quality treatment through the use of exfiltration trenches and gravity wells and discharging to the Miami River. Permitting included pre/post analysis and stage calculation for Miami-Dade's Class II Surface Water Management Permit.

Reclaimed Water Distribution System, Key Biscayne, Florida - Inspector for this project which consisted of the installation of a Reclaimed Water Distribution System from the Northern Village limits running south, primarily along Fernwood Road, to West Mashta Drive including residential and commercial service lines, valves and appurtenances, roadway/right-of-way restoration, and other related work.

Miami Gardens Canal Stabilization & Repairs, Miami Gardens, Florida - Construction Administrator for this design-build project which included the canal bank stabilization for over 3000 linear feet of canal bank, 2 large culvert headwalls, reconstruction of 12 stormwater outfalls, and outfalls structures. A stabilization synthetic stacking system was used for the canal bank to reestablish the banks by preventing future erosion. Permitting included a Class III permit throughout PERA Water, Miami-Dade Public Works. The project design included a stormwater pollution prevention plan, environmental designs including manatee grates, and maintenance of traffic. Additionally, the project also included grant management.

Village of Key Biscayne Zones 2 & 3 Reclaimed Water & Line Replacement Sanitary Sewer, Key Biscayne, Florida - Inspector responsible for this project that included the construction of sanitary sewers, manholes, existing pump station upgrades and modifications, lateral connections, fire hydrants, watermain replacement including valves and appurtenances, and roadway/right-of-way restoration, and other related work as shown on the plans. In addition to observing the on-going work, digital pictures were taken at every visit to record the project progress.

RICARDO JULIEN

TITLE: Construction Inspector

Ricardo has 20 years of experience in the construction of civil engineering projects and overseeing all phases of multimillion-dollar construction, infrastructure, superfund and environmental projects for diverse sector clients. Experience includes managing crews of up to 150 in a variety of construction/demolition projects. He has strong credentials and a proven history of on-time, on-budget and high-quality project completions. His experience includes: construction and demolition projects, site safety/OSHA compliance, change order management, budgeting and cost controls, bidding, estimating and proposals, and subcontractor and crew supervision.

RELEVANT EXPERIENCE

19th Street Pump Station, Miami Beach, Florida - Senior Inspector/Resident Project Representative for this large stormwater pump station servicing the Convention Center area. The pump station was designed to handle large quantities of stormwater by connecting to a 10'x15' box culvert that eventually drains to the Collins Canal. The station includes a junction structure, dual treatment structures, wet well, overflow bypass and dissipater box. A total of four axial flow stainless steel pumps will transfer stormwater into the Collins Canal. A new backup generator on an elevated platform was constructed adjacent to the project in the Miami Beach Botanical Garden. Along with the daily quality control and coordination with stakeholders, responsibilities included ensuring all environmental controls were in place on a daily basis.

Lift Station #3, Davie, Florida - Senior Inspector for this lift station improvements that included installation of a new above-grade pump station with a peak flow capacity of 370-gpm, new suction piping, a new isolation plug valve, an emergency pump out connection, new discharge forcemain, rehabilitation to the existing wet well including leak repairs and new liner, new SCADA unit, and electrical upgrades. The Lift Station 3, located in the Town of Davie, required an emergency upgrade after its skip mounted pumps failed. Stantec provided expedited design and permitting services to replace the existing pumps with an in-kind pre-packaged lift station which included a new hinged fiberglass housing and a structural steel base.

Pinecrest Watermain Master Plan Update, Pinecrest, Florida - Senior Inspector for this assignment that involved reviewing and updating the previously compiled Watermain Master Plan to accurately reflect the first two phases of watermain extensions completed by the Village. The update also included reviewing available records and conducting field visits to determine portions completed by private developers and homebuilders. Field reviews were completed to locate existing valves, fire hydrants and water meters. Plans were then finalized, and cost estimates were developed to determine the magnitude of work remaining to connect approximately 475 properties still being served by private wells.

Miami Beach Convention Center Infrastructure, Miami Beach, Florida - Senior Inspector/ Resident Project Representative for this high-profile upgrade of the Convention Center and surrounding streets. Scope of work include sanitary sewer forcemain replacement, watermain replacement, gravity sewer upgrades, pre-cast concrete box culvert, drainage pipe and structures, complete roadway reconstruction including medians, sidewalks and curbs, and landscaping and irrigation. The drainage work was completed to be able to connect into two new stormwater pump stations, both of which discharge into the Collins Canal. Project responsibilities included daily inspection and reporting of the work, field testing including pressure tests, coordination with other trades and stakeholders, and ensuring all environmental controls were in place on a daily basis.

PETERSON GONZALES

TITLE: Construction Inspector

Peterson has over 20 years of experience in the construction of civil engineering and infrastructure projects for a diverse sector clients. Experience includes full-time inspection observation services on various roadway, drainage, watermain, sewer, parks and electrical infrastructure. He has a proven history of on-time, on-budget and high-quality project completions for various public sector clients including local municipalities, counties, M-DWASD and FDOT. His construction responsibilities also includes site safety compliance, change order management, budgeting and cost controls, and project closeout.

RELEVANT EXPERIENCE

Morningside Park Sanitary Sewer Extension, Miami, Florida - Senior Inspector for the installation of approximately 650 linear feet of 8" PVC gravity sanitary sewer. The restroom at the park had been closed due to extensive damage to the existing gravity system, primarily destroyed by tree roots. Upon exploring various options, including a small grinder lift station and new gravity sewer using pipe bursting, it was determined that a new route to an existing manhole would be the best approach. The new discharge was connected to a M-DWASD collection system and required permits and final construction acceptance by M-DWASD, DERM, and DOH. Upon completion of this project, the park restrooms were successfully re-opened.

Sawgrass International Corporate Parkway - Reuse and ASR RAW Watermain - Sunrise Pipeline Sunrise, Florida - Senior Inspector for this contract for which Stantec provided construction management and engineering services during construction for the Sawgrass Reuse Distribution and Aquifer Storage and Recovery (ASR) Well RAW Water Pipeline System. The project consists of the installation of approximately 30,000 LF of new mains for a new reuse distribution system and a new Aquifer Storage and Recovery (ASR) well system. The portion of the work related to the new reuse distribution system consists of approximately 23,000 LF of ductile iron pipe (DIP), valves and fittings ranging in size between 4-inches and 36-inches in diameter. The portion of the work related to the new raw eater transmission main for the Sawgrass ASR Well system Design includes approximately 7,000 LF of 16-inches DIP, valves and fittings, connecting the ASR booster pump station within the Sawgrass Utility Complex and the SGF-1 ASR well.

Grove Park, Phase 3, Miami, Florida – Senior Inspector for this critical area of drainage improvements. The Grove Park area just south of State Road 836 has a history of flooding and low-lying homes have been in need of relief for quite some time. After studying the area it was determined that utilizing a fully interconnected network of exfiltration trenches would provide the best relief. During the design phase, it was also decided that the existing watermains, owned and operated by Miami-Dade Water and Sewer Department (M-DWASD) were critically undersized and in need of replacement. In cooperation with the City of Miami, a Joint Participation Agreement was signed between M-DWASD and the City to expedite and implement the new watermains. This neighborhood project also included new curbs, drainage aprons, sidewalks, driveways, and paving.

The Roads Neighborhoods Improvements, Miami, Florida - Senior Inspector for this comprehensive project for the City of Miami that began with preliminary cost estimates to assist the City in prioritizing and selecting project areas. Several neighborhood streets within the historic Roads neighborhood were selected and analyzed for improvements. Final improvements included new drainage systems, curb and gutters, sidewalk repairs, ADA ramps and detectable warning mats to promote safe pedestrian usage, milling and resurfacing of the existing asphalt roadway, new signage, striping, and swale restoration.

TAB E.

Approach to Scope of Work

TAB E. Approach to Scope of Services

Stantec is very familiar with work order assignments under an Engineering Consulting Services contract. We have specialized management approaches to adapt to multiple concurrent projects. We will continuously improve by collecting feedback on each assignment to better adapt to the needs of the project and to the infrastructure needs of the City.

Our approach is designed to meet the City's project objectives while actively controlling costs, meeting the project schedule, and producing quality deliverables. Our experience in managing work order contracts has led to an approach that includes all of our technical resources in one coherent management structure. A clear understanding of this process by all team members is crucial to the project's overall success.

To streamline the communication between Stantec and the City of Hollywood, Oscar Bello will serve as Project Manager. He will be Stantec's main point of contact for work order assignments. After discussing the project needs with City staff, he will identify the project team to be assigned to the project, based on individual expertise and skills, who will assume the responsibility to complete the technical work orders on schedule and on budget

The Stantec Project team is committed to designing quality for the City's Infrastructure projects and providing expert trusted advice to the City of Hollywood.

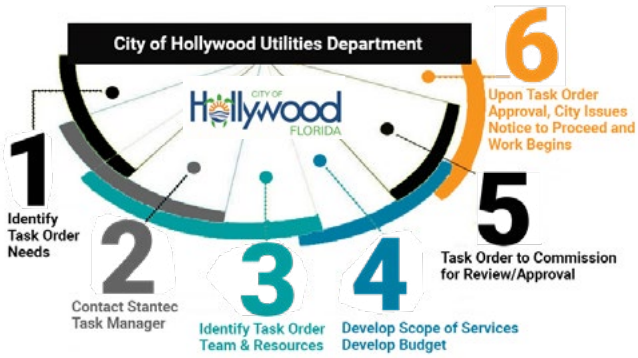
OUR COMMITMENTS TO THE CITY OF HOLLYWOOD

- We will follow a successfully proven detailed project management plan, including strong communication guidelines and constant adherence to project schedule.
- We will provide suggestions and ideas for innovative solutions.
- We will adhere to a stringent quality assurance and quality control plan.
- We will provide consulting opinions and advice, as requested regarding specific projects, working as an extension of City staff.

APPROACH TO PROJECTS

The beginning of any project is arguably the most important phase. The project approach for these projects must always begin with a clear and thorough understanding of the client's goals and objectives. Meetings between City staff and the Stantec team will be conducted, and Oscar will work closely with the City to develop a scope of work. These meetings aim to identify goals for the project and solidify understanding of the scope with all project team members.

The following sections provide a more detailed synopsis of Stantec's approach utilizing our Project Work Order Delivery platform that will ensure that all assigned infrastructure projects will be completed in a technically competent, timely and cost-effective manner.



PROJECT WORK ORDER DELIVERY IS A PARTNERSHIP

Stantec has prepared this project approach specifically for the City of Hollywood and would be deployed based on our understanding of issues, challenges, and requirements associated with each project. Additionally, by utilizing this contract, Hollywood's Department of Public Utilities has at its disposal whatever resources may be needed whenever they are required.

As seen in the graph, our simplified, successful approach to infrastructure project work order management involves working in an integrated, overlapping partnership with all members of the work order team.

1. Identify Work Order Needs
The initial phase is initiated by City staff. The department, usually through its thoroughly evaluated Capital Improvement Program project description and narratives, provides to Stantec's Project Manager an overview of its needs through definition of the project scope.

2. Contact Stantec's Project Manager
After notice from the City, Stantec's Manager, Oscar Bello, coordinates internally to inform the Stantec team that the project has been presented for scope development.

3. Identify Work Order Team & Resources
The Stantec Project Manager will meticulously compare the Department's needs and scope of work, and proceed with the selection of the most qualified, available Work Order team members and required supporting resources. A project organization chart is prepared and approved by the Project Manager.

4. Develop Scope of Services and Level of Effort Budget
The selected team, utilizing their unique scope-specific experience and skillset, with input from the City, develops the detailed engineering scope of services required to meet the project technical and project management prerequisites. The team, led by the Stantec project manager, develops the Work Order project budget.

5. Work Order Submittal
The Project Work Order is presented to the City staff for preliminary review and approval, which later is forwarded to Commission for final review and approval.

6. Work Order Approval/Kickoff Meetings
The City issues the Notice to Proceed and project work begins. Kickoff and project management reporting meetings and frequent Stantec team meetings will occur, both internally and with City staff. The project team participates in regularly scheduled internal meetings, and with City staff. These are generally scheduled weekly / biweekly / monthly as appropriate for the project. A project overview, deliverables, assignments, schedule, and budgets are reviewed with the team during the kickoff meeting and will be included within overall project management reports for each assigned project.

STANTEC'S CURRENT WORKLOAD AND HOW THIS PROJECT WILL FIT INTO OUR WORKLOAD

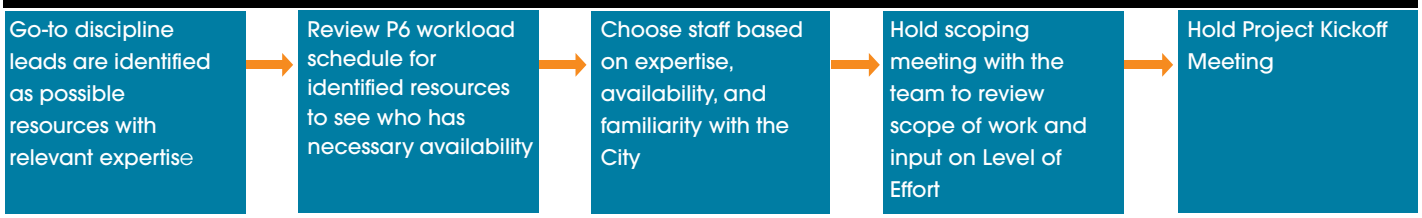
Everybody wants to win work and secure future opportunities, but to do so without having the ability to properly serve the client due to workload issues is an all too common mistake.

We are uniquely positioned to fulfill the City's infrastructure needs over the next five-plus years. Several large Miami-Dade Consent Decree projects are moving into construction, making our staff available locally within the Tri-County area. In addition, by late 2023, the commitment for key team members is projected to taper off, allowing us to bring additional technical resources and experience to handle any planned infrastructure projects.

Our commitment to this contract has been anticipated and planned by our team. The table on page 36, **TAB D. Organizational Profile and Project Team Qualifications) represents our key individuals' availability, anticipating a contract award by Summer 2023.**

In case of any unforeseen circumstances, our team has the necessary support and backup staff at all levels for all discipline level experience at the local level. Additionally, Stantec has sufficient staff across our Florida offices and the capability to draw resources firm-wide to complete the work.

We have a staffing process in place to provide the City with the experts that understand the scope and have the availability and background that you need.



PROJECT DELIVERY WORKFLOW

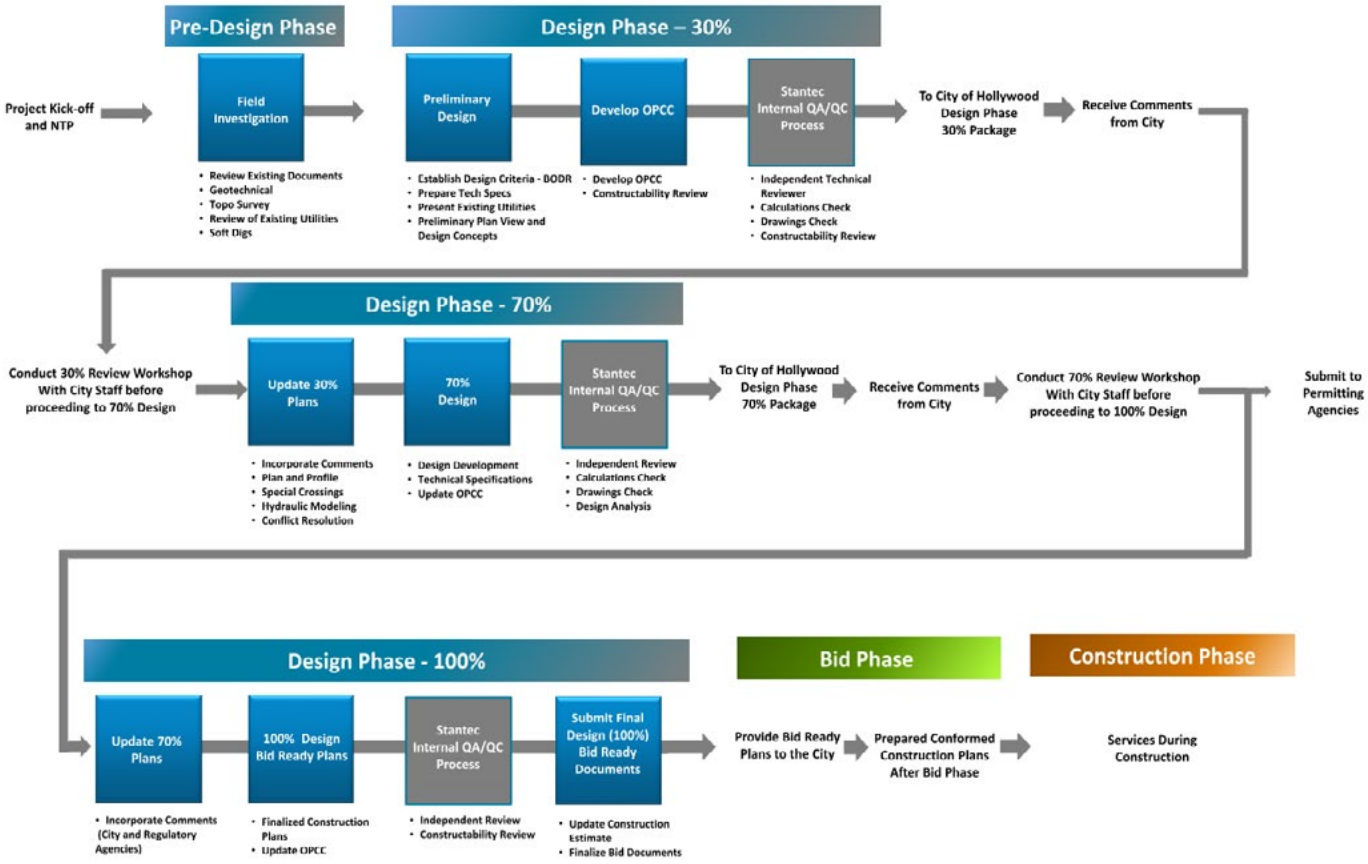
Stantec's proposed team members, including Oscar Bello and Rick Cowles, have worked with the City of Hollywood staff in the past, giving us a solid foundation for working on upcoming work orders. We will build on this knowledge, trust, and experience to execute the work under this contract promptly and cost-efficiently.

BEST PRACTICE IN PROJECT DELIVERY

Having delivered thousands of successful projects over the years, there are some best practices that we employ at Stantec that achieve successful project outcomes. These include:

- Defining roles and responsibilities for project leadership and key staff with subsequent identification of best resources for the role and commitment of those resources to the project.
- Estimating costs using a bottom up approach and work breakdown structure.
- Ensuring clear understanding of client objectives across the project team.
- Defining scope well and breaking work down into manageable and logical activities.
- Carefully specifying and communicating inputs to and outputs required from subconsultants with subconsultant work product verified for appropriateness, completeness, and quality before use.
- Adhering to approved Project Execution Plan with changes documented and approved.
- Monitoring costs and value to allow for error correction and the calculation of variances.
- Forecasting estimates at completion with regular reviews.
- Sequencing activities to meet deadlines and using resources efficiently.
- Anticipating risks and planning responses appropriately.
- Planning communication among project team members effectively to enable frequent exchanges of information between all project team members, the client, and other stakeholders.
- Planning and budgeting Health and Safety, Quality, and environmental issues with control measures put in place to achieve right results.

The sections below outline the Stantec team's project delivery approach which are applicable to many of the infrastructure projects. Each component of the 30%, 70% and 100% submittals are identified with measurable activities and intermediate steps to achieve these deliverables.



SCHEDULING METHODOLOGY (TIMELINE) FOR EFFECTIVELY MANAGING AND EXECUTING THE WORK IN THE OPTIMUM TIME

Maintaining a project on schedule begins with understanding the key issues that drive it and developing contingency plans to control it. The primary purpose of the project schedule is to provide a full accounting of all relevant activities and phases and the proper sequencing of project-related such that the project is delivered on schedule. Following are some of the strategies that Stantec uses to control the project schedule:

- A proactive Project Management Plan (PMP)
- Intensive Due Diligence Phase
- Accelerate non-critical path activities to compensate for potential unforeseen delays that might occur later on in the project
- Meet with City's staff, public officials, & key community members ahead of time for consensus on key project issues

Stantec's Project Manager, Oscar Bello, will be responsible for project delivery and will provide schedule, quality control, and monitoring. Oscar has a solid record of quality delivery on time and on budget.

Schedule progress will be monitored at monthly project meetings with key personnel. Schedule updates will also be made anytime scope changes or critical factors occur. Closely monitoring the project schedule will allow the Project Manager to make informed decisions regarding resource needs, schedule and effort adjustments.

FACILITIES, TECHNOLOGICAL CAPABILITIES, AND RESOURCES

Our staff is very familiar with the City software such as Microsoft Windows operating system, Microsoft Word, Excel, and Access Software, and Bentley Microstation and Autodesk CADD software. Stantec's team has daily access to a wide array of state-of-the-art software and equipment.

Our primary software packages, such as AutoCAD Civil 3D, REVIT, ICPR, Microstation, and StarNet are network licensed, offering our team the flexibility to adapt to increased project demands. Our team produces the digital deliverables our clients want in the formats our clients need by applying the best combination of equipment and software to help our clients achieve their project goals with quality, safety, and timeliness. The following is a list of specialized equipment and software that we have available for this project:

Stantec Equipment & Software

Desktop Computer Equipment - Customized and explicitly designed for Engineering by Dell computers includes desktops and laptops with single & dual monitors. Mobile-computer equipment with wireless and Bluetooth capabilities.

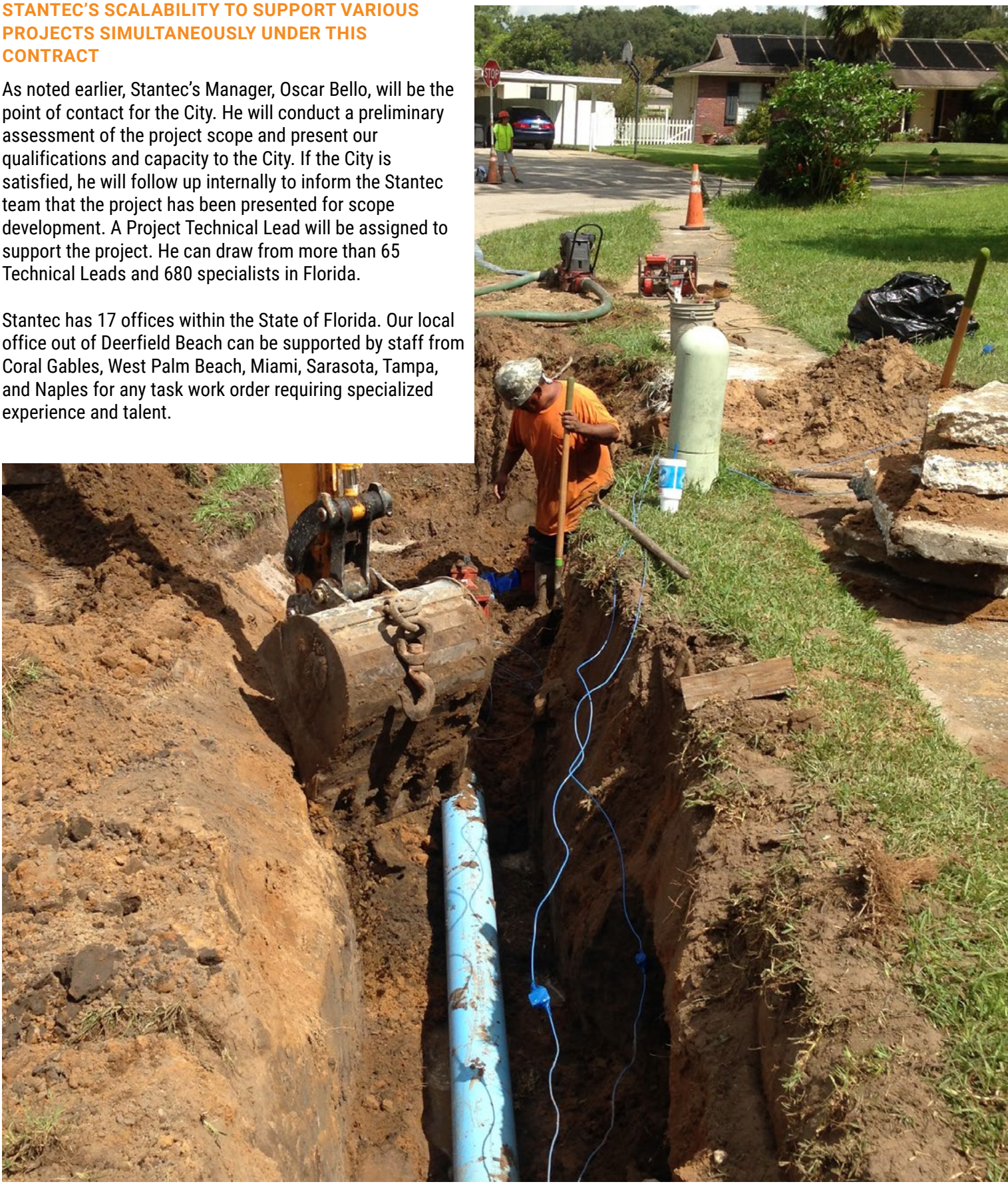
- Microsoft Office Suite
- AutoCAD 3D with REVIT
- Microstation
- GeoPack
- ICPR
- EaglePoint
- Primavera Project Planner & Microsoft Project
- MathCAD and AutoTurn
- WaterCAD, WaterGEMS, SewerCAD, and
- HAMMER software for steady-state, real-time and transient pipe analyses.
- ESRI GIS Software Arc Info, ArcView, ARC MAP
- Stantec Equipment & Software
- HEC RAS
- Digital Cameras
- Underwater Digital Camera
- Portable GPS units
- LIDAR
- Project-specific FTP sites password-protected
- Full range of selected Adobe Creative Suite for marketing and public relations segment.
- Corporate-wide remote solutions availability - Virtual Private Network
- Full colors plotters, copiers, printers, faxes, scanners.

In addition, our staff includes architects and graphic artists who develop scale models of buildings or facilities to help our Clients and the public to view how a project will look once completed. Our in-house Public Engagement/Relations department creates renderings and exhibits of proposed facilities, charts of data in support of projects, and computer-generated animations. The latter is particularly useful when demonstrating several phases of a project, as it progresses from start to finish, but is also useful in visualizing current as well as future conditions.

STANTEC'S SCALABILITY TO SUPPORT VARIOUS PROJECTS SIMULTANEOUSLY UNDER THIS CONTRACT

As noted earlier, Stantec's Manager, Oscar Bello, will be the point of contact for the City. He will conduct a preliminary assessment of the project scope and present our qualifications and capacity to the City. If the City is satisfied, he will follow up internally to inform the Stantec team that the project has been presented for scope development. A Project Technical Lead will be assigned to support the project. He can draw from more than 65 Technical Leads and 680 specialists in Florida.

Stantec has 17 offices within the State of Florida. Our local office out of Deerfield Beach can be supported by staff from Coral Gables, West Palm Beach, Miami, Sarasota, Tampa, and Naples for any task work order requiring specialized experience and talent.



TAB F.

References

TAB F. References

VENDOR REFERENCE FORM

City of Hollywood Solicitation #: RFQ-042-23-JJ - Infrastructure Projects
Reference for: Stantec Consulting Services Inc.

Organization/Firm Name providing reference: Seminole Tribe of Florida
Organization/Firm Contact Name: Randy Fouch, PE **Title:** Project Manager
Email: ranthusfouch@semtribe.com **Phone:** 954.203.1034
Name of Referenced Project: Water Supply Wells Maint. **Contract No:** WO 20845
Date Services were provided: IMM Wells 2 & 4 February 2022 to Present **Project Amount:** $49,892 (Prof. Fee)

Referenced Vendor's role in Project: ☒ Prime Vendor ☐ Subcontractor/ Subconsultant
Would you use the Vendor again? ☒ Yes ☐ No. Please specify in additional comments

Description of services provided by Vendor (provide additional sheet if necessary):
ENGINEERING SERVICES FOR DESIGN, AND SERVICES DURING CONSTRUCTION FOR A 300 GPM SURFICIAL DRILLING WATER WELL.

Please rate your experience with the Vendor	Need Improvement	Satisfactory	Excellent	Not Applicable
Vendor's Quality of Service				
a. Responsive	☐	☐	☒	☐
b. Accuracy	☐	☐	☒	☐
c. Deliverables	☐	☐	☒	☐
Vendor's Organization:				
a. Staff expertise	☐	☐	☒	☐
b. Professionalism	☐	☐	☒	☐
c. Staff turnover	☐	☐	☒	☐
Timeliness/Cost Control of:				
a. Project	☐	☐	☒	☐
b. Deliverables	☐	☐	☒	☐

Additional Comments (provide additional sheet if necessary): STANTEC IS OUR CONSULTANT OF CHOICE FOR OUR WATER SUPPLY WELLS.

****THIS SECTION FOR CITY USE ONLY****

Verified via:	**Email:**	☐	**Verbal:**	☐	**Mail:**	☐
Verified by:	**Name:**				**Title:**	
	Department:				**Date:**	

VENDOR REFERENCE FORM

City of Hollywood Solicitation #: RFQ-042-23-JJ (Infrastructure Projects (Water, Sewer, Reuse and Stormwater)
Reference for: Stantec Consulting Services

Organization/Firm Name providing reference: City of Tamarac
Organization/Firm Contact Name: Mustafa Albassam, PE
Title: City Engineer
Email: Mustafa.Albassam@tamarac.org
Phone: 954-597-3712
Name of Referenced Project: Ciywide Culvert Headwall Improvements Project - Phase 5
Contract No:
Date Services were provided: 2016 - 2019
Project Amount: $547,136 ($55,000 Prof. Fees)

Referenced Vendor's role in Project: ☒ **Prime Vendor** ☐ **Subcontractor/ Subconsultant**

Would you use the Vendor again? ☐ **Yes** ☐ **No.** Please specify in additional comments

Description of services provided by Vendor (provide additional sheet if necessary):
Stantec had designed and worked on many projects within the City of Tamarac. They are one of our continuing service contract holders.

Please rate your experience with the Vendor	Need Improvement	Satisfactory	Excellent	Not Applicable
Vendor's Quality of Service				
a. Responsive	☐	☐	☑	☐
b. Accuracy	☐	☐	☑	☐
c. Deliverables	☐	☐	☑	☐
Vendor's Organization:				
a. Staff expertise	☐	☐	☑	☐
b. Professionalism	☐	☐	☑	☐
c. Staff turnover	☐	☐	☑	☐
Timeliness/Cost Control of:				
a. Project	☐	☐	☑	☐
b. Deliverables	☐	☐	☑	☐

Additional Comments (provide additional sheet if necessary):

****THIS SECTION FOR CITY USE ONLY****						
Verified via:	**Email:**	☐	**Verbal:**	☐	**Mail:**	☐
Verified by:	**Name:**				**Title:**	
	Department:				**Date:**	

VENDOR REFERENCE FORM

City of Hollywood Solicitation #: RFQ-042-23-JJ - Infrastructure Projects
Reference for: Stantec Consulting Services Inc.

Organization/Firm Name providing reference: Indian Creek Village
Organization/Firm Contact Name: Guillermo Olmedillo
Title: Village Manager
Email: golmedillo@icvps.org
Phone: 305.865.4121
Name of Referenced Project: Indian Creek Sewering Project
Contract No:
Date Services were provided: April 2021 to Present
Project Amount: $452,340 (Prof. Fee)

Referenced Vendor's role in Project: ☒ **Prime Vendor** ☐ **Subcontractor/ Subconsultant**

Would you use the Vendor again? ☒ **Yes** ☐ **No.** **Please specify in additional comments**

Description of services provided by Vendor (provide additional sheet if necessary):
Project and technical support.

Please rate your experience with the Vendor	**Need Improvement**	**Satisfactory**	**Excellent**	**Not Applicable**
Vendor's Quality of Service				
a. Responsive	☐	☐	☒	☐
b. Accuracy	☐	☐	☒	☐
c. Deliverables	☐	☐	☒	☐
Vendor's Organization:				
a. Staff expertise	☐	☐	☒	☐
b. Professionalism	☐	☐	☒	☐
c. Staff turnover	☐	☐	☒	☐
Timeliness/Cost Control of:				
a. Project	☐	☐	☒	☐
b. Deliverables	☐	☐	☒	☐

Additional Comments (provide additional sheet if necessary):

******THIS SECTION FOR CITY USE ONLY******						
Verified via:	**Email:**	☒	**Verbal:**	☐	**Mail:**	☐
Verified by:	**Name:**	Guillermo Olmedillo			**Title:**	Village Manager
	Department:	Village Administration			**Date:**	01/24/2023

VENDOR REFERENCE FORM

City of Hollywood Solicitation #: RFQ-042-23-JJ - Infrastructure Projects
Reference for: Stantec Consulting Services Inc.

Organization/Firm Name providing reference: City of Hallandale Beach
Organization/Firm Contact Name: Jesus Padron
Title: Project Manager
Email: jpadron@cohb.org
Phone: (954) 457-1397
Name of Referenced Project: Foster Road Water Main Replacement
Contract No:
Date Services were provided: April 2019 to January 2020
Project Amount: $1.2M (Cons) / $199,705 (Prof. Fee)

Referenced Vendor's role in Project: ☒ **Prime Vendor** ☐ **Subcontractor/ Subconsultant**

Would you use the Vendor again? ☐ **Yes** ☐ **No. Please specify in additional comments**

Description of services provided by Vendor (provide additional sheet if necessary):
Stantec Consulting Inc, provided professional engineering services for the installation of approximately 3,250 LF of proposed 12-inch Polyvinyl chloride (PVC) Water Main along Foster Road from NW 9th Avenue to NW 6th Avenue, and approximately 2, 400 LF of 8-inch PVC water main along NW 9th Street from NW 9th Avenue to NW 8th Avenue, along NW 8th Avenue from NW 9th Street to Foster Road along the side streets.

Please rate your experience with the Vendor	**Need Improvement**	**Satisfactory**	**Excellent**	**Not Applicable**
Vendor's Quality of Service				
a. Responsive	☐	☐	☒	☐
b. Accuracy	☐	☐	☒	☐
c. Deliverables	☐	☐	☒	☐
Vendor's Organization:				
a. Staff expertise	☐	☐	☒	☐
b. Professionalism	☐	☐	☒	☐
c. Staff turnover	☐	☐	☒	☐
Timeliness/Cost Control of:				
a. Project	☐	☐	☒	☐
b. Deliverables	☐	☐	☒	☐

Additional Comments (provide additional sheet if necessary):

******THIS SECTION FOR CITY USE ONLY******						
Verified via:	**Email:**	☐	**Verbal:**	☐	**Mail:**	☐
Verified by:	**Name:**				**Title:**	
	Department:				**Date:**	

VENDOR REFERENCE FORM

City of Hollywood Solicitation #: RFQ-042-23-JJ - Infrastructure Projects
Reference for: Stantec Consulting Services Inc.

Organization/Firm Name providing reference: City of Sunrise
Organization/Firm Contact Name: Guarionex De Los Santos
Title: Project Manager
Email: gdelossantos@sunrisefl.gov
Phone: 954-888-6077
Name of Referenced Project: Reuse WM and Raw WM
Contract No: 2018000340
Date Services were provided: April 2019 to March 2022
Project Amount: $9.1M (Cons) / $618,000 (Prof. Fee)

Referenced Vendor's role in Project: ☒ **Prime Vendor** ☐ **Subcontractor/ Subconsultant**

Would you use the Vendor again? ☐ **Yes** ☐ **No.** **Please specify in additional comments**

Description of services provided by Vendor (provide additional sheet if necessary):
Construction management services during construction i.e., construction contract administration, shop drawing/ submittal review,
RFI's response, construction oversight and inspections, change order review and recomendation, review of pay applications, ETC..

Please rate your experience with the Vendor	Need Improvement	Satisfactory	Excellent	Not Applicable
Vendor's Quality of Service				
a. Responsive	☐	☐	☒	☐
b. Accuracy	☐	☐	☒	☐
c. Deliverables	☐	☐	☒	☐
Vendor's Organization:				
a. Staff expertise	☐	☐	☒	☐
b. Professionalism	☐	☐	☒	☐
c. Staff turnover	☐	☐	☒	☐
Timeliness/Cost Control of:				
a. Project	☐	☐	☒	☐
b. Deliverables	☐	☐	☒	☐

Additional Comments (provide additional sheet if necessary):
Overall, the City was very satisfied with the services provided and the team assigned to the project.

****THIS SECTION FOR CITY USE ONLY****						
Verified via:	**Email:**	☐	**Verbal:**	☐	**Mail:**	☐
Verified by:	**Name:**				**Title:**	
	Department:				**Date:**	

TAB G.

Sub Consultant Information

TAB G. Sub Consultant Information

Our Team Partners

In addition to our own expertise, we have partnered with surveyors and mappers, geotechnical, water & wastewater, and electrical engineers firms to deliver the best solutions for the City of Hollywood.

Pangeo Consultants, LLC, with over 18 years of experience in the field of geotechnical and structural engineering, is a Broward County based consulting firm with a commitment to providing responsive, innovative, and cost effective solutions.

Pangeo Consultants specializes in the field of geotechnical engineering with a focus on the South Florida region. Their vast experience allows them to more effectively prescribe field studies from which their clients may anticipate and mitigate potential subsurface issues early in the project timeline, thereby avoiding time and cost overruns.

PGC also offers construction phase inspections of pile installation (auger cast, driven, and sheet piles), groundwork modification and chemical grouting procedures, quality control and quality assurance testing of construction materials, and structural inspections to verify methods of construction comply with the contract documents.

Stoner & Associates, Inc. was founded 1988 and has developed a reputation as a professional, reliable company that provides accurate surveys, legal documentation, and associated services combined with dependability for over two decades.

Today, Stoner & Associates has over fifteen employees, including four Licensed Professional Surveyor and Mappers, supervising four survey field crews. Stoner & Associates maintains an office in Fort Lauderdale, Florida.

Brizaga, Inc., founded in 2017, is a strategic consulting firm built to solve complex problems by leveraging science, communications, engineering, and policy. Their clients include private property owners, businesses, not-for-profit organizations, developers, and local governments. They work to plan for and address the impacts of rising seas, more frequent flooding, and a changing environment on property, infrastructure, community, and the local economy. They bring a unique perspective meshing physical science, engineering design, public policy, and community engagement to create innovative and practical solutions in the face of more frequent flooding, rising tides, and a changing environment.

Brizaga has seen firsthand that effective communication is critical to driving widespread positive change, especially when it relates to complicated topics like flooding and sea level rise. That is why communication is an essential part of their process. Not only does their staff specialize in flooding and sea level rise communication, but they also have unique and tested approaches to science communication and public outreach. They are experts at breaking down the complexities of flooding and sea level rise to provide a clear and concise message. They focus on presenting information in an equitable and dynamic way with a variety of tools to engage the audience, leading to greater participation and exchange of ideas. These may include town-hall meetings broadcast live via high-quality technology with the opportunity to ask questions and participate in polls, digital and physical mapping surveys to locate areas of concern, translations, and more.

PANGEO CONSULTANTS
GEOTECHNICAL ENGINEERING AND INSPECTIONS

Years of Experience:

- 18

Education:

- Louisiana State University-Baton Rouge
- BS in Civil Engineering –2003

Registrations:

- Professional Engineer State of Florida #68448

Professional Memberships:

- FES - Florida Engineering Society-Broward Chapter Past President
- ASCE

Awards:

- Outstanding Technical Achievement by the Florida Engineering Society Broward Chapter 2014

PAUL C. CATLEDGE, P.E.
PRINCIPAL 2017 - Present

Mr. Catledge is a graduate of Louisiana State University with a B.S. in Civil Engineering, with over eighteen (18) years of engineering experience including geotechnical analysis, design and inspection of deep and shallow foundation systems, and structural design. Mr. Catledge also has thirteen (13) years of experience overseeing and performing construction materials testing and structural inspections. He is registered in multiple states including Florida, New York, Indiana, Texas, Kentucky, Michigan and Louisiana. He is a member of ASCE and a past President of the Broward Chapter of the Florida Engineering Society. He is a founding principal of PanGeo Consultants.

The following is a partial listing of his project experience.

RELATED EXPERIENCE

Joint Government Center Campus, Fort Lauderdale, FL
This project called for the construction of a new 28 story state of the art Joint Government Center Campus to include a new bus transit terminal, a maintenance facility and administration offices for Broward County's Transportation Department, a multi-story parking garage, future office space, retail areas and other amenities. The Campus is anticipated to include a multi-story Class "A" office building or a series of buildings of approximately 700,000 sq. ft. inclusive of approximately 150,000 sq.ft. for City use in addition to the parking garage and bus terminal. Conducted soil borings and produced a geotechnical report for the construction.

Miami-Dade County Airports - Runway, Taxiway and Apron Rehabilitation, Miami-Dade County
Performed geotechnical sampling and studies at Miami International Airport, Opa Locka Airport, Tamiami Airport, Homestead Airport, and Dade Collier Airport in order to evaluate pavement condition as well as recommend repairs and/or pavement design for reconstruction of damaged structures. Included coordination of activities with airport staff for runway closures, determining necessary laboratory testing, analysis and design.

MDC Homestead Campus, Parking Lots 55, 56 & 57, Homestead, FL
This project called for the construction of a new parking lot with guard house, marquees, pedestrian and vehicular monuments and other amenities. Performed borings, exfiltration tests and produced a geotechnical report for the construction.

Homestead General Aviation Airport, Homestead, FL
The asphalt paved runway section was reviewed for serviceability. Performed borings and produced a geotechnical report.

Proposed Roundabout, North Miami Beach, FL
This project called for the construction of a new roundabout at NE 14th Ave & NE 151st St in North Miami Beach. Minor slope adjustments, driveway harmonizations and a new

drainage system were included in the construction. Performed borings, exfiltration tests and produced a geotechnical report for the construction.

Proposed Exit Road from Blue Garage (PG2), Miami, FL
This project called for the paving of an existing grass area for an at grade access road to the existing Blue garage (PG2) at the Modesto A. Maidique Campus in Miami. Performed borings, exfiltration tests and produced a geotechnical report for the construction.

Broward College Parking Garage, Davie, FL
Performed the site analysis and geotechnical design for the pile supported 6 story parking garage as well overseeing the pile load test, testing and inspections during construction.

42nd St. Bridge, Miami, FL
Conducted a geotechnical exploration and evaluation for the design and construction of the 42nd St. Bridge in Miami, Florida. Performed foundation analyses for the proposed bridge that included compression, tension, and lateral load capacity predictions of square driven precast prestressed concrete pile foundations, as well as settlement estimates and pile installation criteria and addressed the potential impact of pile driving vibrations on the existing structures including utilities.

College Avenue Phase II Roadway Improvements, Davie, FL
Conducted geotechnical analysis for the reconstruction approximately ½ mile of College Ave in Davie, FL. Provided analyses included soil preparation recommendations as well as suitable layer thicknesses and relevant LBR values.

Highlands Drive Roadway Improvements, North Miami, FL
Performed the geotechnical analysis and design plans for the reconstruction of Highland Boulevard as a two-lane boulevard from Biscayne Boulevard south to interface with a new roundabout that is currently being designed at NE 137th Avenue.

Interstate 10 Expansion Drilled Shafts, Lafayette LA
As an employee of the Louisiana Department of Transportation and Development (LaDOTD) monitored the installation of four, 60-inch diameter drilled shafts as part of Interstate 10 widening through Lafayette, La.

I-10 Crossover, Slidell, LA
Designed the alignment of a temporary crossover bridge for Interstate 10 over Lake Pontchartrain after Hurricane Katrina. Portions of 1-10 were washed out by the storm surge and traffic was rerouted to the least affected section in order to perform emergency repairs.

I-75 Express Lane Segment D, Miramar, FL
Determined scope of work and subsequent geotechnical analyses for the new roadway section to be located in the median of Interstate 75.

STONER & ASSOCIATES, Inc.
SURVEYORS - MAPPERS

James D. Stoner, P.S.M.
President

Professional Profile

Mr. Stoner is a second generation Land Surveyor, with over forty years of surveying experience in South Florida. He began his surveying career at Williams, Hatfield, & Stoner, Inc. working from the bottom as a Rodman, all the way up to Vice President of the Surveying Department.

Mr. Stoner founded Stoner & Associates, Inc. in 1988, based on the philosophy that attention to detail and quality work would create a successful firm. He manages all aspects of the firm's growth and development.

Mr. Stoner has supervised both small and large scale surveying projects. His firm has successfully completed numerous roadway and other various projects, while working directly with the clients and consultants.

Education

Associates of Science in Land Surveying
Palm Beach Community College in 1979

Professional Registrations

State of Florida Professional Surveyor and Mapper
License Number LS4039

Professional Affiliations

Florida Surveying and Mapping Society
Florida Surveying and Mapping Society – Broward Chapter
American Congress on Surveying and Mapping
Leadership Broward

BRIZAGA

Alec Bogdanoff, Ph.D.

PRINCIPAL

Alec Bogdanoff, Ph.D. is a policy-trained oceanographer and meteorologist with nearly two decades of policy and political experience, including managing campaigns and authoring legislation on a state and federal level. He is adept project manager, with experience leading complex multi-jurisdictional resilience assessments. He has an extensive background in simplifying and effectively communicating complex scientific processes for general audiences. For Brizaga, Alec is responsible for monitoring and identifying scientific research and advances in the areas of sea level rise and climate change, including datasets and models, to further develop internal technologies, as well as leading resilience and adaptation planning, strategic communications, and public outreach and engagement. Alec also serves as the Senior Scientist for the American Flood Coalition.

Education:

- Ph.D., Physical Oceanography, Massachusetts Institute of Technology (MIT)/ Woods Hole Oceanographic Institution (WHOI), 2016
- M.S., Meteorology, Florida State University, 2010
- B.S., Meteorology, Florida State University, 2008

Affiliations:

- Greater Fort Lauderdale Chamber of Commerce (Chair, Economic Resilience Council; Member, Board of Directors)
- American Meteorological Soc.
- American Geophysical Union
- American Society of Adaptation Professionals
- American Planning Association
- Urban Land Institute (Chair, District Resilience Committee; Member, District Management Committee)

Specializations:

- Climate Science
- Meteorology & Oceanography
- Resilience & Adaptation Planning & Strategy
- Public Policy & Communications
- Public Outreach & Engagement

Project Experience

HOLLYWOOD STORMWATER MASTER PLAN

City of Hollywood, Florida | 2020 – Ongoing

- Directing outreach and education associated with the City of Hollywood's Stormwater Master Plan.
- Serving as project director for the communications and outreach team, which included the development of a communication strategy, assistance with the creation of materials for print, social media, and newsletters, and planning and execution of the public outreach meetings. The materials developed were designed for consumption by the general public.
- Supporting grant applications for resilience planning and projects, including over $1 million in state resilience grants.

TOWN OF SURFSIDE STORMWATER & FLOOD HAZARD MITIGATION PLAN

Town of Surfside, Florida | 2022 – Ongoing

- Directing outreach and education associated with the Stormwater Master Plan.
- Serving as project manager for the communications and outreach team, which included the development of a communication strategy, assistance with the creation of materials for print, social media, and newsletters, and planning and execution of the public outreach meetings. The materials developed were designed for consumption by the general public.

ORMOND BEACH STORMWATER MASTER PLAN UPDATE

City of Ormond Beach, Florida | 2018 – 2020

- Led the development of requisite stormwater planning and management processes through the identification of future stormwater infrastructure needs and the selection of appropriate sea level rise curves.
- Effectively communicated relevant findings through outreach meetings and engaged with members of the public to educate them on the topic of sea level rise and flooding, the progression of the stormwater master plan, and to obtain community input through tools such as our interactive maps.

NORTH BAY VILLAGE STORMWATER MASTER PLAN

North Bay Village, Florida | 2020 – 2022

- Directed outreach and education associated with the City of North Bay Village's Stormwater Master Plan, which included the development of a communication strategy, assistance with the creation of materials for print, social media, and newsletters, and planning and execution of the public outreach meetings. All materials developed were designed for consumption by the general public.

2101 W. Commercial Blvd.
Suite 4600
Fort Lauderdale, Florida 33309
www.brizaga.com
(954) 834-3533 ext. 101 **P**
alec@brizaga.com **E**

A. Bogdanoff Resume

COCOA BEACH STORMWATER MASTER PLAN
City of Cocoa Beach, Florida | 2019 – 2020

- Evaluated courses of action in relation to future flood risk and the associated need for City wide resilient infrastructure investments.
- Delivered numerous long-term adaptation strategies and their applicability to the city.
- Developed a set of policies and procedures the City of Cocoa Beach can deploy as well as communicating the need for the capital improvement project.

BUSINESS CASE ANALYSIS OF THE STORMWATER RESILIENCY PROGRAM
City of Miami Beach, Florida | 2018 – 2021

- Led the individual adaptation portion of the project, examining and quantifying the cost/benefit of various resilience and adaptation measures for individual properties, independently and as part of the larger City-wide stormwater resiliency improvements.
- Developed the public communication for the entire project in coordination with City staff and other project consultants.
- Produced outreach and engagement materials disseminating project findings through stakeholder presentations, and additionally led the development of the final report and final 4-pager for public consumption.

BRINY BREEZES ADAPTATION PLAN
Town of Briny Breezes (Corporation), Florida | 2021 - 2022

- Project Manager for the Adaptation Plan, which assessed and identified top risk factors and vulnerabilities to create a prioritized list of at-risk assets with input from stakeholders supported by Brizaga's Adaptation Prioritization Exercise (APEx) tool.
- Considered risk exposure, sensibility, and adaptive capacity for the entire community concerning flooding and sea level rise.
- Devised a roadmap for adaptation with near-, medium-, and long-term strategies, ranging from raising seawalls to the replacement of water pumps, and furnish high-level cost estimates for all proposed resilience actions.

BUSINESS CASE FOR RESILIENCE IN SOUTHEAST FLORIDA
Broward, Miami-Dade, Palm Beach, and Monroe Counties, Florida | 2019 – 2020

- Served as Local Project Manager and assisted in coordinating the day-to-day activities across all teams and provided strategic development of first-of-its-kind project scope.
- Provide essential input on the topic of sea level rise and how future economic pertinent to climate change may impact the real estate market and local economy.
- Led stakeholder and public outreach engagement through webinars and roundtables highlighting the progression of the project, to both obtain feedback and provide an alignment on research findings for an industry-wide audience.

VULNERABILITY ASSESSMENT FOR VIZCAYA MUSEUM AND GARDENS
City of Miami, Florida | 2019 -2020

- Developed a conceptual design to optimize the material, systems, layout, and anchoring of the proposed flood protection measures.
- Assisted with acquiring the necessary and appropriate permits for the work.

VILLAGE OF KEY BISCAYNE RESILIENCY STRATEGY
Village of Key Biscayne, Florida | 2022 – Ongoing

- Developing a Resilience Strategy for the Village of Key Biscayne, including evaluating threats, developing goals, and ultimately working with the consultant team to build an implementation and integration plan that examines all projects across the Village.

Additional Professional Experience

- John A. Knauss Sea Grant Fellow for U.S. Senator Edward J. Markey (MA), 2016 – 2017

Awards and Recognition

- Urban Land Institute, Southeast Florida District Council, Young Leader of the Year, 2022

TAB H.

Legal Proceedings and Performance

TAB H. Legal Proceedings and Performance

Liquidated Damages

As a provider of professional services (as opposed to construction services) Stantec does not typically enter agreements with liquidated damages. Notwithstanding, in the interest of transparency, Stantec does not track liquidated damages and penalties.

Stantec performs work on thousands of discrete projects annually. All but a very few of these projects are completed successfully. Occasionally, issues arise on a project that prevents Stantec from completing an assignment. Such issues include failure of the client to secure or maintain financing; failure of the client to pay consultant invoices; and disagreements over scope of work. Stantec takes great pride in and places a high value on its long-term ongoing relationships with its clients. This is evident by the fact that the majority of our clients are repeat customers. Where issues arise on a project, Stantec makes every commercially reasonable effort to resolve matters in dispute amicably in the mutual interests of the client and Stantec. This serves both Stantec and our clients well.

To the best of our knowledge after reasonable inquiry, except for the following matters, Stantec has not been terminated for cause within the last 5 years:

On June 18, 2019, Stantec received a letter from its client, PLACE E-Generation One, LLC purporting to terminate for cause Stantec's services on its project located in Minneapolis, MN. Stantec has contested the termination for cause and the matter is not currently resolved.

In 2018, Stantec received a letter from its client, Hillsborough Area Regional Transit Authority ("HART"), terminating Stantec for cause on its project located in Tampa, FL. Stantec believes the termination was due to performance by a subconsultant of Stantec and not Stantec itself. Stantec disputed the allegation that cause existed to terminate the contract, but the matter was never formally appealed by Stantec beyond its administrative remedies.

Arbitrations

There are no unsatisfied judgments or arbitration awards outstanding against Stantec. Stantec does have some legal proceedings, lawsuits, or claims pending. These are a normal part of professional services industries. All have been reported to Stantec's insurers who are in the process of adjusting/managing them. None will have a material effect on the financial position of the company or its ability to undertake this assignment. Perhaps of greater comfort to our clients is the fact that Stantec seeks to deal with client concerns and claims promptly and fairly through its Risk Management group. As a public company, Stantec has substantial assets and maintains a high professional liability insurance limit. Stantec's claims history has resulted in relatively low insurance premiums when compared with firms of similar size and character.

Lawsuits

There are no unsatisfied judgments or arbitration awards outstanding against Stantec. Stantec does have some legal proceedings, lawsuits, or claims pending. These are a normal part of professional services industries. All have been reported to Stantec's insurers who are in the process of adjusting/managing them. None will have a material effect on the financial position of the company or its ability to undertake this assignment. Perhaps of greater comfort to our clients is the fact that Stantec seeks to deal with client concerns and claims promptly and fairly through its Risk Management group. As a public company, Stantec has substantial assets and maintains a high professional liability insurance limit. Stantec's claims history has resulted in relatively low insurance premiums when compared with firms of similar size and character.

Other Proceedings issues

In the interest of transparency, we do advise that we have been subject to a few administrative penalties, some orders and warning letters relating to regulatory matters. In each instance, our company cooperated fully with the applicable regulatory agency towards a prompt resolution. Further, our Risk Management team has taken proactive steps to review and update our practices and procedures to prevent future incidents from occurring.

Stantec also has been subject to a number of worksite investigations related to minor infractions of occupational health and safety laws that have resulted in citations or orders. However, Stantec has not been convicted of any violation of any federal or provincial occupational health and safety laws. Perhaps of greater comfort, no incidents have affected our ability to complete a project. In each instance, Stantec cooperated fully with the applicable regulatory agency towards a prompt resolution. Furthermore, Stantec's Risk Management team has taken proactive steps to review and update its practices and procedures to prevent future incidents from occurring.

Bankruptcies

There are no bankruptcies to report.

Contract Terminated by the Other Party

Stantec performs work on thousands of discrete projects annually. All but a very few of these projects are completed successfully. Occasionally, issues arise on a project that prevents Stantec from completing an assignment. Such issues include failure of the client to secure or maintain financing; failure of the client to pay consultant invoices; and disagreements over scope of work. Stantec takes great pride in and places a high value on its long-term ongoing relationships with its clients. This is evident by the fact that the majority of our clients are repeat customers. Where issues arise on a project, Stantec makes every commercially reasonable effort to resolve matters in dispute amicably in the mutual interests of the client and Stantec. This serves both Stantec and our clients well.

To the best of our knowledge after reasonable inquiry, except for the following matters, Stantec has not been terminated for cause within the last 5 years:

On June 18, 2019, Stantec received a letter from its client, PLACE E-Generation One, LLC purporting to terminate for cause Stantec's services on its project located in Minneapolis, MN. Stantec has contested the termination for cause and the matter is not currently resolved.

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Have you ever had to use bonding moneys to complete a project or to pay a subconsultant or supplier?

No

TAB I.

Required Forms

TAB I. Required Forms

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

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

1. This form statement is submitted to the City of Hollywood by Ramon Castella, PE, ENV SP, LEED AP for Stantec Consulting Services Inc.
(Print individual's name and title) (Print name of entity submitting sworn statement) whose business address is 800 Fairway Drive, Suite 195, Deerfield Beach, Florida 33441
and if applicable its Federal Employer Identification Number (FEIN) is 11-2167170. If the entity has no FEIN, include the Social Security Number of the individual signing this sworn statement.

2. I understand that "public entity crime," as defined in paragraph 287.133(1)(g), Florida Statues, means a violation of any state or federal law by a person with respect to and directly related to the transaction of business with any public entity or with an agency or political subdivision of any other state or with the United States, including, but not limited to, any bid, proposal, reply, or contract for goods or services, any lease for real property, or any contract for the construction or repair of a public building or public work, involving antitrust, fraud, theft, bribery, collusion, racketeering, conspiracy, or material misinterpretation.

3. I understand that "convicted" or "conviction" as defined in Paragraph 287.133(1)(b), Florida Statutes, means a finding of guilt or a conviction of a public entity crime, with or without an adjudication of guilt, in an federal or state trial court of record relating to charges brought by indictment or information after July 1, 1989, as a result of a jury verdict, nonjury trial, or entry of a plea of guilty or nolo contendere.

4. I understand that "Affiliate," as defined in paragraph 287.133(1)(a), Florida Statutes, means:

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

5 I understand that "person," as defined in Paragraph 287.133(1)(e), Florida Statues, means any natural person or any entity organized under the laws of any state or of the United States with the legal power to enter into a binding contract and which bids or applies to bid on contracts let by a public entity, or which otherwise transacts or applies to transact

business with a public entity. The term "person" includes those officers, executives, partners, shareholders, employees, members, and agents who are active in management of an entity.

6. Based on information and belief, the statement which I have marked below is true in relation to the entity submitting this sworn statement. (Please indicate which statement applies.)

__X__ Neither the entity submitting sworn statement, nor any of its officers, director, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity, nor any affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989.

_____ The entity submitting this sworn statement, or one or more of its officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity, or an affiliate of the entity, or an affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989.

_____ The entity submitting this sworn statement, or one or more of its officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity, or an affiliate of the entity has been charged with and convicted of a public entity crime, but the Final Order entered by the Hearing Officer in a subsequent proceeding before a Hearing Officer of the State of the State of Florida,

Division of Administrative Hearings, determined that it was not in the public interest to place the entity submitting this sworn statement on the convicted vendor list. (attach a copy of the Final Order).

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

`

_____
(Signature)

Sworn to and subscribed before me this 27th day of February, 2023.

Personally known X

Or produced identification ___ Notary Public-State of Florida

___ my commission expires November 27, 2023
(Type of identification)

_____
(Printed, typed or stamped commissioned name of notary public)

GRACE MORALES
Notary Public - State of Florida
Commission # GG 918389
My Comm. Expires Nov 27, 2023
Bonded through National Notary Assn.

STATEMENT OF QUALIFICATION CERTIFICATION

Please Note: All fields below must be completed. If the field does not apply to you, please note N/A in that field.

If you are a foreign corporation, you may be required to obtain a certificate of authority from the department of state, in accordance with Florida Statute §607.1501 (visit http://www.dos.state.fl.us/).

Company: (Legal Registration) Stantec Consulting Services Inc.

Name/Principal/Project Manager: Oscar Bello, PE, Project Manager

Address: 800 Fairway Drive, Suite 195

City: Deerfield Beach State: Florida Zip: 33441

Telephone No. 954-481-2812 **FEIN/Tax ID No**. 11-2167170 Email: oscar.bello@stantec.com

Does your firm qualify for MBE or WBE status: N/A MBE _____ WBE _____

ADDENDUM ACKNOWLEDGEMENT - Proposer acknowledges that the following addenda have been received and are included in the proposal:

Addendum No.	Date Issued	Addendum No.	Date Issued
1	January 18, 2023	3	January 19, 2023
2	January 19, 2023	4	January 24, 2023
		5	February 21, 2023

VARIANCES: State any variations to specifications, terms and conditions in the space provided below or reference in the space provided below all variances contained on other pages of bid, attachments or bid pages. No variations or exceptions by the Proposer will be deemed to be part of the bid submitted unless such variation or exception is listed and contained within the bid documents and referenced in the space provided below. If no statement is contained in the below space, it is hereby implied that your bid/proposal complies with the full scope of this solicitation. If this section does not apply to your bid/proposal, simply mark N/A. **If submitting your response electronically through OPENGOV you must click the exception link if any variation or exception is taken to the specifications, terms and conditions.**

N/A

The below signatory hereby agrees to furnish the following article(s) or services at the price(s) and terms stated subject to all instructions, conditions, specifications addenda, legal advertisement, and conditions contained in the bid/proposal. I have read all attachments including the specifications and fully understand what is required. By submitting this signed bid/proposal, I will accept a contract if approved by the City and such acceptance covers all terms, conditions, and specifications of this bid/proposal. The below signatory also hereby agrees, by virtue of submitting or attempting to submit a response, hereby agrees that in no event shall the City's liability for respondent's indirect, incidental, consequential, special or exemplary damages, expenses, or lost profits arising out of this competitive solicitation process, including but not limited to public advertisement, bid conferences, site visits, evaluations, oral presentations, or award proceedings exceed the amount of five hundred dollars ($500.00). This limitation shall not apply to claims arising under any provision of indemnification or the City's protest ordinance contained in this competitive solicitation.

Submitted by:

Ramon Castella, PE, ENV SP, LEED AP
Name (printed)

Signature

February 27, 2023
Date:

Vice President
Title

Authorized Representative Certificate

OFFICER'S CERTIFICATE
of
STANTEC CONSULTING SERVICES INC.
A **NEW YORK** CORPORATION

I, the undersigned, do hereby certify that:

1. I am the duly elected and acting **Secretary** of **Stantec Consulting Services Inc.**, a **New York** corporation (the "**Corporation**").

2. On **April 1, 2022**, the following resolution was adopted by the Corporation's Board of Directors:

BE IT RESOLVED THAT:

1. the Corporation hereby adopts the Signing Authority Policy, as modified or amended from time to time, of Stantec Inc.;

2. execution of any documents for and on behalf of the Corporation shall be governed by the Signing Authority Policy, as modified or amended from time to time, of Stantec Inc.; and

3. the Secretary or any of the Corporate Counsels of the Corporation be authorized, empowered and directed from time to time as required to facilitate the execution of contracts or submission of proposals, to sign, and to seal with the Corporate Seal, Certificates of the foregoing action evidencing the authority delegated in the Signing Authority Policy, as amended from time to time, of Stantec Inc.

Ramon Castella is a **Vice President** of the Corporation, and in that capacity is duly authorized to sign proposals for professional services in accordance with the Corporation's Signing Authority Policy in connection with the following project:

Request for Qualifications RFQ-042-23-JJ
Infrastructure Projects (Water, Sewer, Reuse and Stormwater)
City of Hollywood, Florida

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the seal of the Corporation, this 16th day of January, 2023.

Christopher O. Heisler
Secretary

STANTEC CONSULTING SERVICES INC. Corporate Seal

Form **W-9**
(Rev. October 2018)
Department of the Treasury
Internal Revenue Service

Request for Taxpayer Identification Number and Certification

▶ **Go to *www.irs.gov/FormW9* for instructions and the latest information.**

Give Form to the requester. Do not send to the IRS.

Print or type. See **Specific Instructions** on page 3.

1 Name (as shown on your income tax return). Name is required on this line; do not leave this line blank.

Stantec Consulting Services Inc.

2 Business name/disregarded entity name, if different from above

3 Check appropriate box for federal tax classification of the person whose name is entered on line 1. Check only **one** of the following seven boxes.

☐ Individual/sole proprietor or single-member LLC ☑ C Corporation ☐ S Corporation ☐ Partnership ☐ Trust/estate

☐ Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=Partnership) ▶ _____

Note: Check the appropriate box in the line above for the tax classification of the single-member owner. Do not check LLC if the LLC is classified as a single-member LLC that is disregarded from the owner unless the owner of the LLC is another LLC that is **not** disregarded from the owner for U.S. federal tax purposes. Otherwise, a single-member LLC that is disregarded from the owner should check the appropriate box for the tax classification of its owner.

☐ Other (see instructions) ▶

4 Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3):

Exempt payee code (if any) _____

Exemption from FATCA reporting code (if any) _____

(Applies to accounts maintained outside the U.S.)

5 Address (number, street, and apt. or suite no.) See instructions.

800 Fairway Drive, Suite 195 / (remit to) 13980 Collections Center Drive

Requester's name and address (optional)

6 City, state, and ZIP code

Deerfield Beach, FL 33441-1828 / Chicago, IL 60693-0139

7 List account number(s) here (optional)

Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the instructions for Part I, later. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN,* later.

Note: If the account is in more than one name, see the instructions for line 1. Also see *What Name and Number To Give the Requester* for guidelines on whose number to enter.

Social security number

			–		–				

or

Employer identification number

1	1	–	2	1	6	7	1	7	0

Part II Certification

Under penalties of perjury, I certify that:

1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and
2. I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and
3. I am a U.S. citizen or other U.S. person (defined below); and
4. The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions for Part II, later.

Sign Here | **Signature of U.S. person ▶** Lori L. Van Dermark Digitally signed by Lori L. Van Dermark Date: 2022.01.24 10:01:07 -05'00' | **Date ▶**

General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Future developments. For the latest information about developments related to Form W-9 and its instructions, such as legislation enacted after they were published, go to *www.irs.gov/FormW9.*

Purpose of Form

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) which may be your social security number (SSN), individual taxpayer identification number (ITIN), adoption taxpayer identification number (ATIN), or employer identification number (EIN), to report on an information return the amount paid to you, or other amount reportable on an information return. Examples of information returns include, but are not limited to, the following.

- Form 1099-INT (interest earned or paid)
- Form 1099-DIV (dividends, including those from stocks or mutual funds)
- Form 1099-MISC (various types of income, prizes, awards, or gross proceeds)
- Form 1099-B (stock or mutual fund sales and certain other transactions by brokers)
- Form 1099-S (proceeds from real estate transactions)
- Form 1099-K (merchant card and third party network transactions)
- Form 1098 (home mortgage interest), 1098-E (student loan interest), 1098-T (tuition)
- Form 1099-C (canceled debt)
- Form 1099-A (acquisition or abandonment of secured property)

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN.

If you do not return Form W-9 to the requester with a TIN, you might be subject to backup withholding. See What is backup withholding, *later.*

Insurance

CERTIFICATE OF LIABILITY INSURANCE

10/1/2023

DATE (MM/DD/YYYY) 9/19/2022

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).

PRODUCER Lockton Companies 444 W. 47th Street, Suite 900 Kansas City MO 64112-1906 (816) 960-9000	CONTACT NAME: PHONE (A/C, No, Ext): FAX (A/C, No): E-MAIL ADDRESS:
INSURED 1414100 STANTEC CONSULTING SERVICES INC. 370 INTERLOCKEN BOULEVARD, SUITE 300 BROOMFIELD CO 80021-8012 SCSI GENERIC - $3M	INSURER(S) AFFORDING COVERAGE — NAIC # INSURER A : Berkshire Hathaway Specialty Insurance Company — 22276 INSURER B : AIG Specialty Insurance Company — 26883 INSURER C : INSURER D : INSURER E : INSURER F :

COVERAGES **CERTIFICATE NUMBER:** 14181323 **REVISION NUMBER:** XXXXXXX

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.

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 CLAIMS-MADE OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: POLICY PRO-JECT LOC OTHER:			NOT APPLICABLE			EACH OCCURRENCE	$ XXXXXXX
							DAMAGE TO RENTED PREMISES (Ea occurrence)	$ XXXXXXX
							MED EXP (Any one person)	$ XXXXXXX
							PERSONAL & ADV INJURY	$ XXXXXXX
							GENERAL AGGREGATE	$ XXXXXXX
							PRODUCTS - COMP/OP AGG	$ XXXXXXX
								$
	AUTOMOBILE LIABILITY ANY AUTO OWNED AUTOS ONLY SCHEDULED AUTOS HIRED AUTOS ONLY NON-OWNED AUTOS ONLY			NOT APPLICABLE			COMBINED SINGLE LIMIT (Ea accident)	$ XXXXXXX
							BODILY INJURY (Per person)	$ XXXXXXX
							BODILY INJURY (Per accident)	$ XXXXXXX
							PROPERTY DAMAGE (Per accident)	$ XXXXXXX
								$
	UMBRELLA LIAB OCCUR EXCESS LIAB CLAIMS-MADE DED RETENTION $			NOT APPLICABLE			EACH OCCURRENCE	$ XXXXXXX
							AGGREGATE	$ XXXXXXX
								$
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY Y / N ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) N / A If yes, describe under DESCRIPTION OF OPERATIONS below			NOT APPLICABLE			PER STATUTE OTH-ER	
							E.L. EACH ACCIDENT	$ XXXXXXX
							E.L. DISEASE - EA EMPLOYEE	$ XXXXXXX
							E.L. DISEASE - POLICY LIMIT	$ XXXXXXX
A	Professional Liab	N	N	47-EPP-308810	10/1/2022	10/1/2023	$3,000,000 PER CLAIM/AGG	
A				NO RETROACTIVE DATE			INCLUSIVE OF COSTS	
B	Contractors Pollution Liab			CPO8085428	10/1/2021	10/1/2023	$3,000,000 PER LOSS/AGG	

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

CERTIFICATE HOLDER

14181323

TO WHOM IT MAY CONCERN

FL

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

Insurance

ACORD

CERTIFICATE OF LIABILITY INSURANCE

5/1/2023

DATE (MM/DD/YYYY) 4/22/2022

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).

PRODUCER Lockton Companies 444 W. 47th Street, Suite 900 Kansas City MO 64112-1906 (816) 960-9000	**CONTACT NAME:** **PHONE (A/C, No, Ext):** **FAX (A/C, No):** **E-MAIL ADDRESS:**
	INSURER(S) AFFORDING COVERAGE — **NAIC #**
	INSURER A : Berkshire Hathaway Specialty Insurance Company — 22276
INSURED 1415077 STANTEC CONSULTING SERVICES INC. 370 INTERLOCKEN BLVD SUITE 300 BROOMFIELD CO 80021-8012	**INSURER B :** Travelers Property Casualty Co of America — 25674
	INSURER C :
	INSURER D :
	INSURER E :
	INSURER F :

COVERAGES **CERTIFICATE NUMBER:** 14193567 **REVISION NUMBER:** XXXXXXX

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.

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/CROSS X XCU COVERED GEN'L AGGREGATE LIMIT APPLIES PER: POLICY X PRO-JECT X LOC OTHER:	N	N	47-GLO-307584-04	5/1/2022	5/1/2023	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG 	$ 2,000,000 $ 1,000,000 $ 25,000 $ 2,000,000 $ 4,000,000 $ 2,000,000 $
B B	**AUTOMOBILE LIABILITY** X ANY AUTO OWNED AUTOS ONLY HIRED AUTOS ONLY SCHEDULED AUTOS NON-OWNED AUTOS ONLY	N	N	TC2J-CAP-8E086819 (AOS) TJ-BAP-8E086820	5/1/2022 5/1/2022	5/1/2023 5/1/2023	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident) 	$ 1,000,000 $ XXXXXXX $ XXXXXXX $ XXXXXXX $ XXXXXXX
A	X **UMBRELLA LIAB** X OCCUR X **EXCESS LIAB** CLAIMS-MADE DED RETENTION $	N	N	47-UMO-307585-04	5/1/2022	5/1/2023	EACH OCCURRENCE AGGREGATE 	$ 5,000,000 $ 5,000,000 $ XXXXXXX
B B 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	N	UB-3P635310 (AOS) UB-3P533004 (MA, WI) EXCEPT FOR OH ND WA WY	5/1/2022 5/1/2022	5/1/2023 5/1/2023	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)

TO WHOM IT MAY CONCERN.

CERTIFICATE HOLDER

14193567
TO WHOM IT MAY CONCERN
FL

CANCELLATION See Attachment

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

Joseph M Agnello

ACORD 25 (2016/03) **The ACORD name and logo are registered marks of ACORD**

Company Certifications

State of Florida
Department of State

I certify from the records of this office that STANTEC CONSULTING SERVICES INC. is a New York corporation authorized to transact business in the State of Florida, qualified on November 14, 2001.

The document number of this corporation is F01000005948.

I further certify that said corporation has paid all fees due this office through December 31, 2022, that its most recent annual report/uniform business report was filed on April 29, 2022, and that its status is active.

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

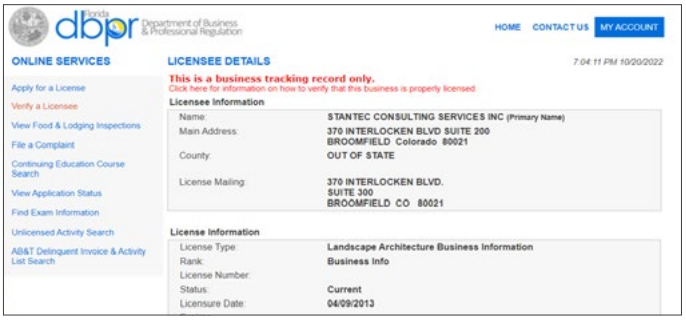
Given under my hand and the Great Seal of the State of Florida at Tallahassee, the Capital, this the Fifth day of May, 2022

Secretary of State

Tracking Number: 3959289683CU

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 Certifications

BROWARD COUNTY LOCAL BUSINESS TAX RECEIPT

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

VALID OCTOBER 1, 2022 THROUGH SEPTEMBER 30, 2023

DBA:
Business Name: STANTEC CONSULTING SERVICES INC

Receipt #: 315-274235
Business Type: ENGINEER (CERTIFICATE OF AUTHORIZATION)

Owner Name: STANTEC CONSULTING SERVICES INC
Business Location: 800 FAIRWAY DR STE 195 DEERFIELD BEACH
Business Phone:

Business Opened: 01/06/2016
State/County/Cert/Reg: 27013
Exemption Code:

Rooms	Seats	Employees	Machines	Professionals
		4		

For Vending Business 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	0.00	0.00	0.00	30.00

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 Address:

STANTEC CONSULTING SERVICES INC
1687 114TH AVE SE STE 100
BELLEVUE, WA 98004

Receipt #WWW-21-00261828
Paid 09/26/2022 30.00

2022 - 2023

Business Tax Office
150 NE 2nd Ave.
Deerfield Beach, FL 33441
Phone: (954) 480-4333
E-mail: web.btr@deerfield-beach.com

Deerfield Beach Florida

Business Tax Receipt License
2022 - 2023
License Number: 2023-464547
Date Issued: 9/30/2022
Expires: 9/30/2023

Classification: ENGINEERING SERVICES/ENGINEER

STANTEC CONSULTING SRVCS INC
11130 NE 33RD PLACE #200
BELLEVUE, Washington 98004

Business Location: 800 FAIRWAY DRIVE DFB 33441
Service(s): ENGINEERING FIRM - SUITE 195

Tax Amount: $117.60	Add Fees: $122.40	Penalty: $0.00	Total Amount Paid: $240.00

Notice: This tax receipt becomes *NULL* and *VOID* if ownership, business name, or address changed. Business owner **must** apply to Business Tax Office for Transfer.