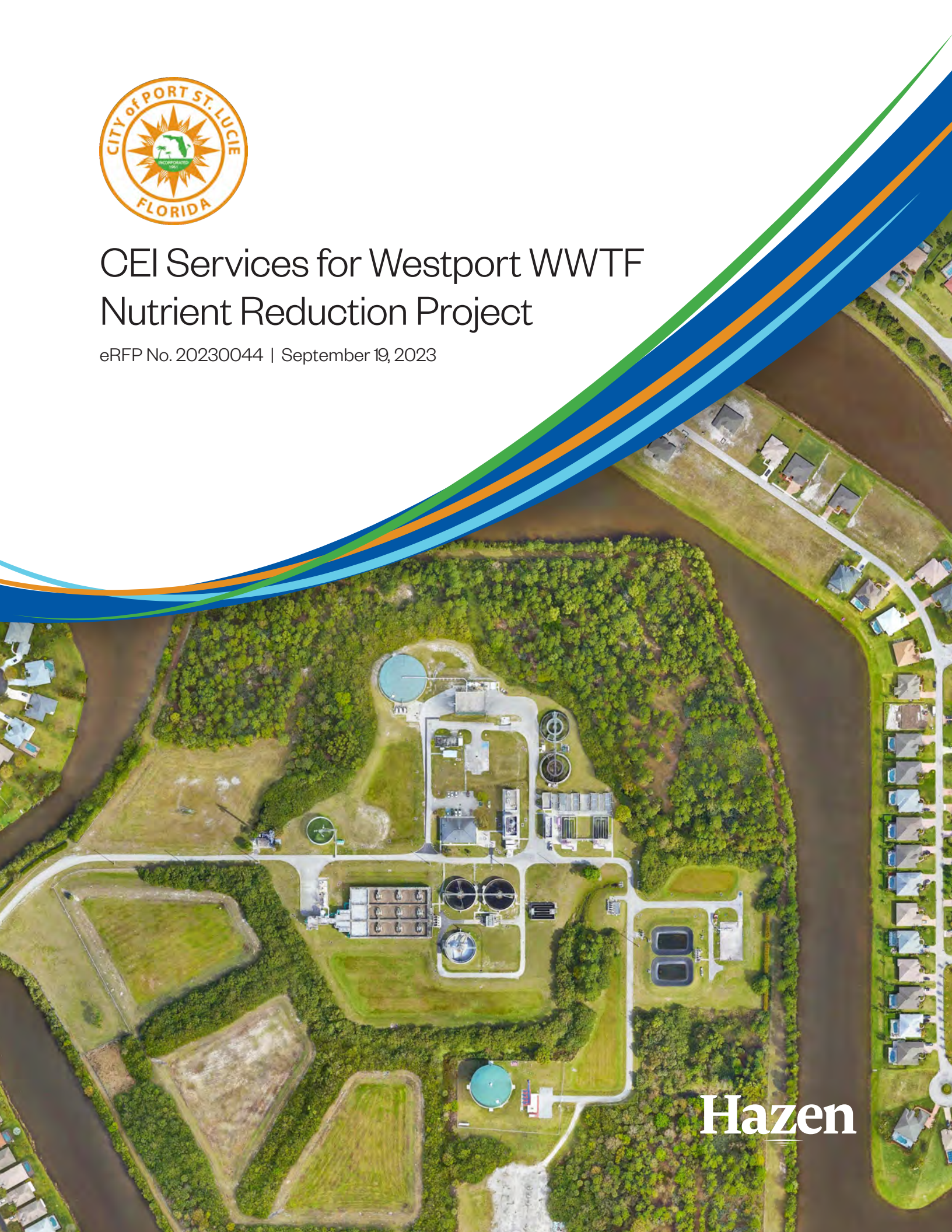
CEI Services for Westport WWTF Nutrient Reduction Project

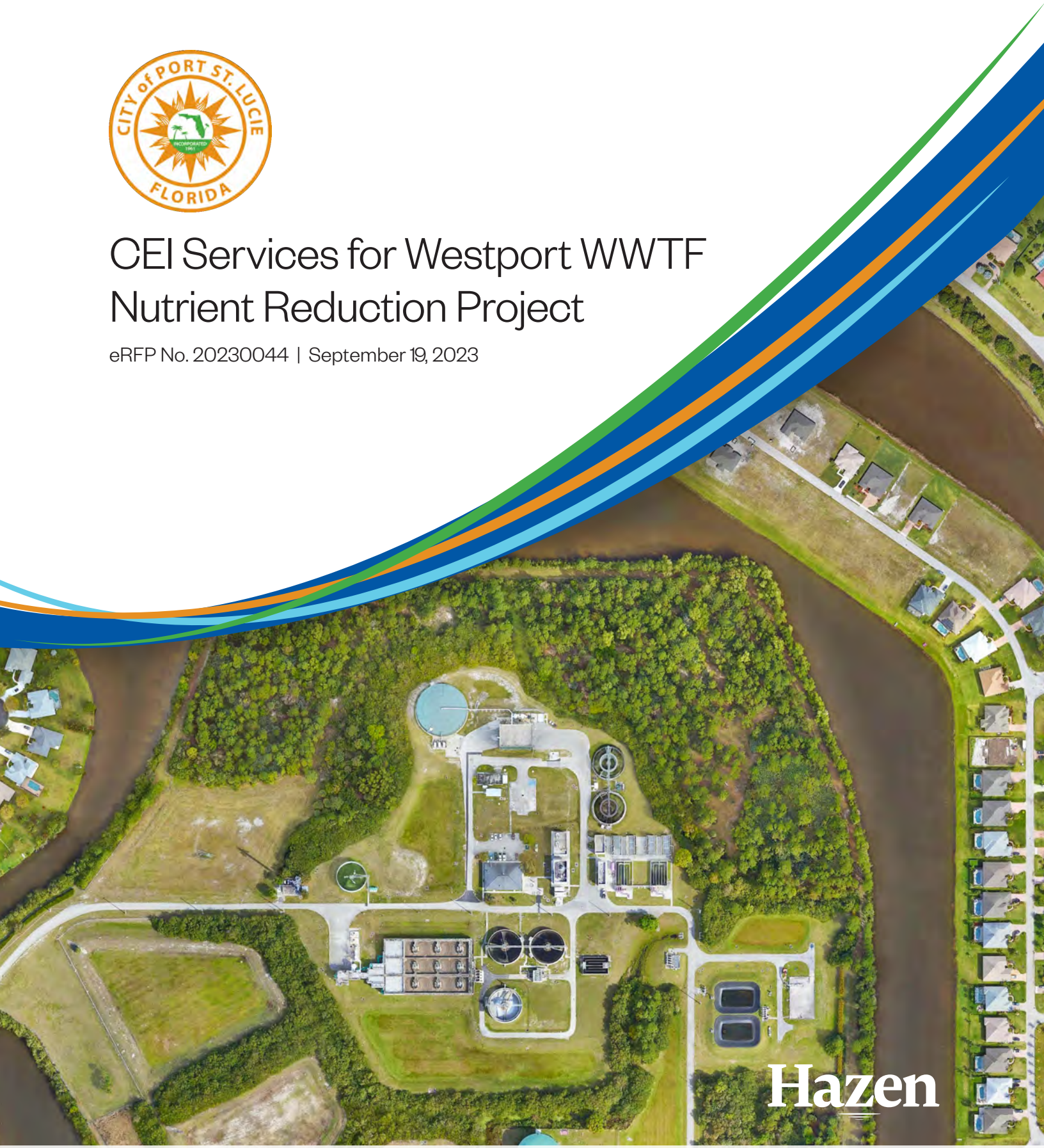
eRFP No. 20230044 | September 19, 2023



Hazen

CEI Services for Westport WWTF Nutrient Reduction Project

eRFP No. 20230044 | September 19, 2023



Hazen

Hazen and Sawyer
2101 NW Corporate Blvd., #301
Boca Raton, FL 33431
Orlando Castro (561) 997-8070

Hazen and Sawyer
2101 NW Corporate Blvd., #301
Boca Raton, FL 33431 • (561) 997-8070

September 19, 2023

City of Port St. Lucie
Electronic Request for Proposals ("eRFP")
Attention: Michelle Fentress, Procurement Agent I

Re: CEI Services for Westport WWTF Nutrient Reduction Project eRFP (Event) Number: 20230044

Dear Selection Committee Members,

Hazen and Sawyer (Hazen) is pleased to submit our team's qualifications to provide construction engineering inspection services for the City's Westport WWTF Nutrient Reduction Project.

The City of Port St. Lucie (City) is seeking the services of a consultant with significant and successful experience in all aspects of construction engineering inspections (CEI) of municipal wastewater treatment expansion projects, utilizing a CMAR (Construction Manager at Risk) type project delivery, for the Westport WWTF Nutrient Reduction Project. The proposed improvements include mechanical screens, grit removal equipment, an aeration treatment train, and fine bubble diffused aeration system. The design is expected to be completed and submitted to the Building Department for permitting in September 2023, and construction is expected to start in the first quarter of 2024.

Hazen, along with our partner Holtz Consulting Engineers (HCE), combine local knowledge and responsiveness with national wastewater expertise and resources to meet the City's needs.

The Hazen team has a proven track record of successfully delivering CMAR type projects of similar scope for municipalities throughout Florida and the rest of the country. Our team is also knowledgeable in implementing BioWin™ modeling for plant optimization and Maintenance of Plant Operations (MOPO) services during the planning and coordination of aeration basins upgrades for fine bubble diffused aeration. Our experience comprises numerous projects in wastewater treatment facilities, headworks, aeration basins, fine bubble diffused aeration systems, denitrification filters, force mains, pump stations, and treatment plant improvements.

Our team possesses the following attributes, which we believe are key to the effective and efficient completion of construction management projects:

CMAR Experience: The City will use CMAR to deliver this project. The Hazen team has served on over $1.2 billion in CMAR projects in the Southeast US in the last 15 years. The Hazen team will leverage the CMAR delivery method to mitigate project cost, risk, maintain schedule, and incorporate constructability from the chosen CMAR.

Communication and WWTF Expertise: Key attributes of our carefully-selected team include collaboration, open communication, and strong technical expertise in WWTF. These qualities are crucial to effectively address any challenges that may arise. Our firm's extensive experience, especially the collective experience of the individuals on our project team, is uniquely suited to minimizing conflicts with existing facilities and plant operations.

Third-Party CEI: Many agencies and municipalities have recently adopted a model in which the design and construction management phases of a project are led by different consultants. This approach requires an added collaboration effort among various parties involved. As a third-party construction manager, the Hazen team will leverage its extensive experience from past projects to establish the necessary level of collaboration to avoid conflicts and deliver a successful project to the City.

Wastewater Process and Construction Sequencing: Hazen has proven experience with MOPO planning and implementation. The Hazen team will review the contractor's baseline accepted schedule and will highlight major areas of coordination with the plant. With input from Plant staff, the Hazen team will set up a protocol on how shutdowns and tie-ins will be performed during the installation of fine-bubble diffused aeration system in the aeration basins to ensure that the Plant remains in compliance during construction.

Trusted Partner: Hazen has selected HCE as a subconsultant on this project. Hazen and HCE have a history of successfully teaming on a multitude of design and construction projects in South Florida. HCE brings to our team an extraordinarily complementary group of construction professionals, each with a wealth of individual and institutional WWTP CM experience.

We are excited about the opportunity to help the City with our CEI services in a CMAR delivery method and ensure the success of the project. The Hazen team's qualifications make us an ideal partner to support the City in managing the construction project and delivering tangible benefits to the City.

We appreciate your thoughtful consideration of our proposal and are available to provide any additional information you may need. If you have any questions, please contact Orlando Castro at (561) 997-8070 or ocastro@hazenandsawyer.com or Elie Andary at (954) 815-8473 or eandary@hazenandsawyer.com.

Very truly yours,

Orlando Castro, PE, DBIA
Associate Vice President/Proposed Project Director

1021-562

TABLE OF CONTENTS

1. Executive Summary 1-1

2. Project Team. 2-1

3. Experience 3-1

4. Schedule and Team Availability. 4-1

5. Performance Surveys 5-1

6. Methodology/Approach 6-1

7. Certified Minority Business Enterprise. 7-1

8. Additional Required Proposal Submittal Forms 8-1

Appendix (Additional Project Experience)

1 Executive Summary

1 Executive Summary

Hazen brings an unparalleled combination of CMAR project delivery experience and knowledge of large WWTF construction administration. Together with Holtz, you can count on the Hazen team to be a trusted partner who is ready to mobilize at a moment's notice to ensure high-quality constructed assets.

Firm History

Types of services provided by the firm, types of clients, and overview of the firm's service capabilities

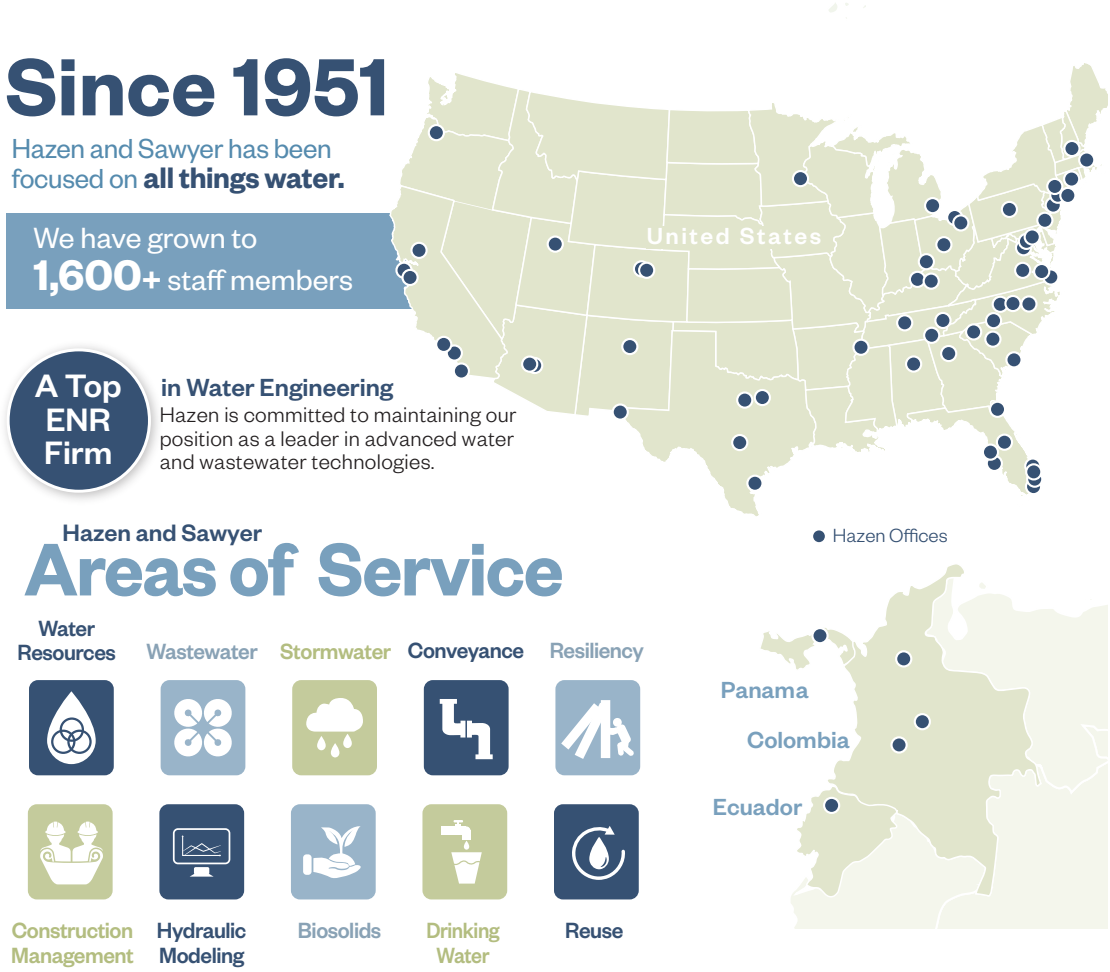
Established in 1951, Hazen has provided complete in-house engineering services in Florida since 1968. Our staff members have extensive expertise in water, wastewater, reclaimed water, stormwater, and related practices, services, and disciplines. Our Florida staff have been involved in the implementation of more than $2.5 billion in water-related projects in Florida over the past 10 years alone. These Florida projects include construction management, data collection, modeling, planning, design,

Firm Name

Hazen and Sawyer (Hazen)

Address (office location that will service this contract)

2101 NW Corporate Blvd., #301
Boca Raton, FL 33431



1021-562

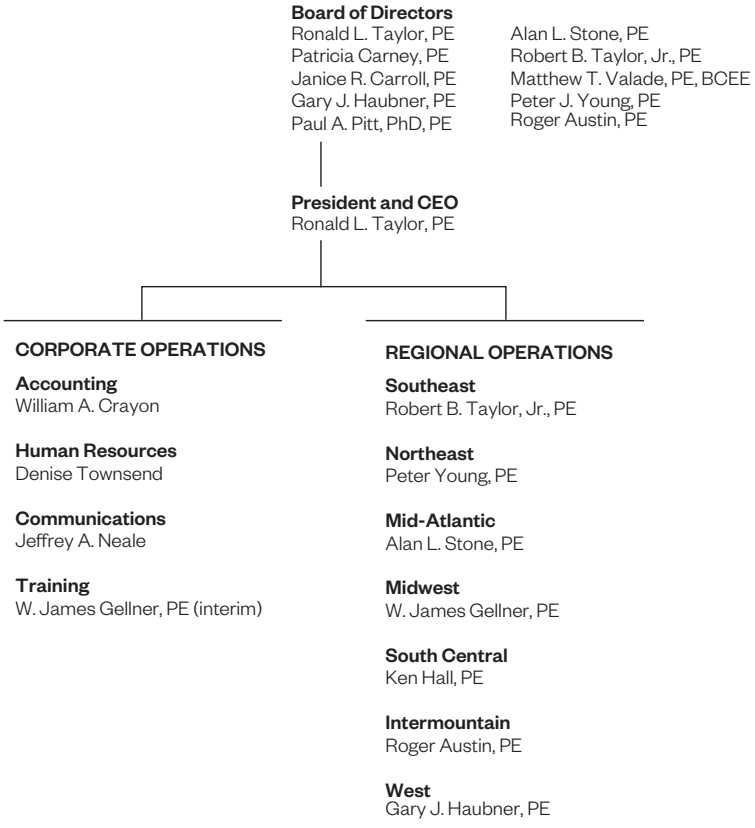
permitting, bidding, inspections, operations, funding, and public relations. Most of our team members are long-time Florida residents and offer considerable knowledge of Florida's current and historic issues with civil engineering and water-related matters.

Our Florida staff has designed and/or overseen construction of more than $2.5 billion in water-related projects in Florida over the past 10 years.

Our team has extensive local construction management experience. Hazen has successfully completed numerous construction management projects on time and within budget for various clients throughout Florida. These clients include municipalities, water management districts, as well as private and international clients. We have encountered and developed solutions to the multiple risks inherent in these types of projects, minimizing costs and maintaining operations. Our CM tasks range from full-service construction management for major plant upgrades to staff augmentation to providing master scheduling or claims analysis. For all projects, large and small, Hazen excels at providing solutions and value to our CM clients.

Firm's Organizational Structure

The firm is owned entirely by its employees, many of whom have been with the firm for 20+ years.



Contact Person Authorized to Execute Agreements with the City

Orlando Castro, PE, DBIA

Business Entity

Hazen and Sawyer is a corporation authorized to transact business in the State of Florida.

Ownership

Employee-owned

Corporate Headquarters

New York, NY

SE Regional Headquarters

4000 Hollywood Boulevard,
Suite 750 North
Hollywood, FL 33021

Project Manager Contact Information

Elie Andary, PhD, PE
2101 NW Corporate Blvd., #301
Boca Raton, FL 33431
(954) 967-7007
eandary@hazenandsawyer.com

Our experience providing CM services throughout Florida is unparalleled.

1021-562

2

Project Team

2 Project Team

Hazen has the expertise and depth of resources to deliver. We have a deep bench of local staff who have worked on CEI projects for Southeast Florida clients over many years.

Hazen has assembled a qualified team to serve the City of Port St. Lucie. We understand that clients select consultants based on team qualifications, and we have proposed individuals who will work on your projects—what you see is what you get.

Our team members are mostly local South Florida staff, which is a significant benefit to the City in that our experienced engineers are just a short drive away. Another unique feature offered by the Hazen team is cohesiveness, which is supported by the long-term relationships we have established over years of working together on numerous projects.

Our team leadership is further strengthened by seasoned technical experts who have performed numerous projects of similar nature. Our proposed Project Manager, **Elie Andary, PhD, PE,** is a Senior Associate of the firm with over 20 years of experience in the field of construction management and field inspection for water and wastewater infrastructure projects. Our Proposed Project Director, **Orlando Castro, PE, DBIA,** brings 16 years of experience in the planning, design, and construction of water and wastewater infrastructure.

Our team members are committed to providing quality, prompt, and responsive services while meeting the City's goals.

Orlando Castro, PE, DBIA
Project Principal

Elie Andary, PhD, PE
Project Manager

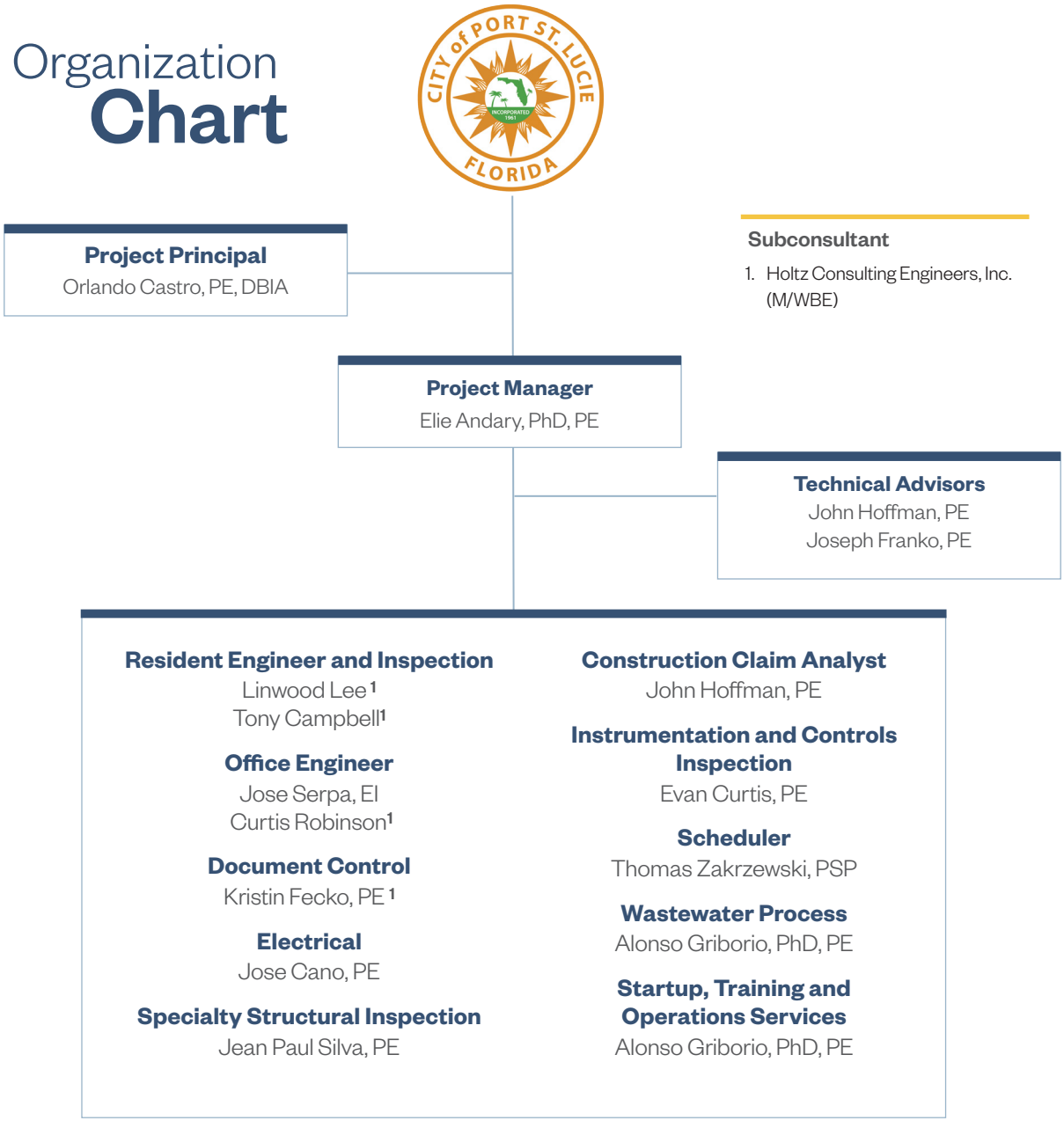
Mr. Castro and Dr. Andary will remain on the project throughout the term of the contract and will be responsible for the following:

- Project Administration for Contract Compliance
- Client Management Communication
- Contract Oversight
- Staff Assignments
- QC Process
- Resource Allocation
- Dispute Resolution

1021-562

Organizational Chart

Hazen's proposed organizational chart below stresses short and direct lines of communication and responsibility, allowing for simplified project coordination. It details the structure of the proposed team and primary areas of responsibility. Resumes that describe the educational background and experience of each team member in conducting similar projects are included at the end of this section.



1021-562

Our CMAR approach is powered by **five key attributes.**

1 CMAR Experience

Benefits to Port St. Lucie

- Extensive CMAR delivery experience focused on integrated and collaborative teams
- Ability to assist the Owner in a CMAR project through collaborative decision-making
- Successful implementation of CMAR and successful project outcomes

2 Communication and WWTF Expertise

Benefits to Port St. Lucie

- Minimizing conflicts with active existing facilities
- Ability to manage construction projects on an active WWTF
- Establish and maintain open communications with Operations

3 Third-Party CEI

Benefits to Port St. Lucie

- Provide unbiased and independent assessments from management and quality control perspectives
- Dedicated and focused to manage and administer the construction phase of the project

4 WW Process and Construction Sequencing

Benefits to Port St. Lucie

- Advanced process model to predict plant capacity and performance for units out of service
- Guarantee adequate treatment during construction
- Adjust operational parameters to improve performance

5 Trusted Partner

Benefits to Port St. Lucie

- Holtz is a trusted partner with a history of successful project delivery for PSL
- Holtz and Hazen have a strong history of working together and will join forces on this project
- Holtz and Hazen bring a wealth of individual and institutional WWTP CM experience

The Hazen team practices proactive risk management
to minimize cost and disruption to utility operations

1021-562

Key Staff
Project Management

Orlando Castro, PE, DBIA
Project Principal

Mr. Castro has 16 years of experience in the planning, design, and construction of water and wastewater infrastructure. He serves as Hazen's Regional Lead for the Collaboration Project Delivery practice group.

16
yrs exp

Mr. Castro provides expertise includes structural design, program and construction administration, and site inspection services for new and upgraded facilities in various forms of project delivery methods (design-build, design-bid-build, and CMAR).

He has been involved in numerous high-profile, significant, and award-winning projects in South Florida, including Miami-Dade Water and Sewer Department, Atlantic Sapphire Phase 2 CMAR Expansion ($450 million), South District Wastewater Treatment Plant High-Level Disinfection ($618 million), and Government Cut Utilities Relocation ($70 million).

Elie Andary, PhD, PE
Project Manager

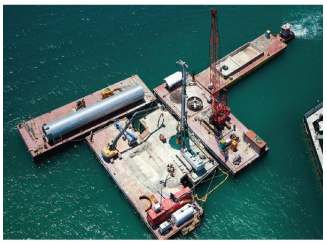
Dr. Andary is Regional Lead for Hazen's Construction Management practice group. His responsibilities include implementing a quality management plan, defining project scope to meet the client's expectations, and ensuring quality project deliverables.

21
yrs exp

Dr. Andary has a proven track record managing complex projects, resolving conflicts/issues, defining project requirements, coordinating life cycles, and maintaining quality control.

He served as a Construction Manager on numerous major construction projects including the Miami-Dade Water and Sewer Department's $618 million South District WWTP High-Level Disinfection Program, Springtree and Sawgrass WWTPS for the City of Sunrise, and for Seminole Tribe of Florida WWTP at Hollywood. Dr. Andary has also served as Construction Manager on several projects at Broward County North Regional WWTP.

Atlantic Sapphire Phase 2 CMAR Expansion
$450 million



Government Cut Utilities Relocation
$70 million

Miami-Dade Water and Sewer Department, South District High-Level Disinfection Program
$618 million

Seminole Tribe of Florida Wastewater Treatment Plant, Hollywood, FL
$54.3 million

1021-562

Key Staff
Chief Inspectors

Linwood Lee
Chief Inspector

Mr. Lee serves as HCE's primary construction manager and inspector. With over 31 years of experience in the construction industry, he has successfully managed many water and wastewater projects. Mr. Lee is a valuable asset to the HCE team who helps to facilitate communication by acting as a liaison between the client, engineer, and contractor.

31
yrs exp

Mr. Lee has extensive experience with Wastewater Treatment Plant construction projects, both as a contractor's project manager and Resident Project Representative. He also brings an in-depth knowledge of the Westport WWTP having previously served as a full-time special inspector working with the City and Contractor to provide quality assurance and construction oversight on the secondary treatment facility improvements project.

Tony Campbell
Chief Inspector

Mr. Campbell brings more than 14 years of experience in the management of construction, and operations and maintenance of water and wastewater treatment plants. At HCE, he serves as Construction Manager, and is primarily responsible for overseeing the construction of a project from start to finish and helps to ensure completion of the project as specified, on time, and within budget.

14
yrs exp

Mr. Campbell is a highly experienced and motivated individual and is an asset to HCE and its clients. Mr. Campbell is licensed as a Class A wastewater operator and his expertise and experience with utility operations helps ensure that construction activities do not interfere with ongoing system operations and maintenance. He also brings expertise with process control, physical, chemical and biological treatment processes, and working with plant operation managers and staff to test, optimize and troubleshoot water and wastewater plants.

City of Port St. Lucie Westport WWTF Expansion Phase
$2.2 million

East Central Regional Water Reclamation Facility Biosolids Improvements
$100 million

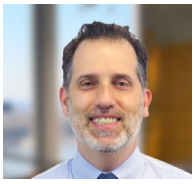
City of Port St. Lucie Glades to Tradition Reuse Water Main
$5.5 million

City of Stuart Water Treatment Plant Reverse Osmosis Treatment Facility
$16.7 million

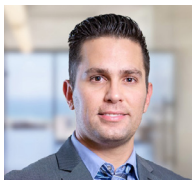
1021-562

Team Member/Title/Firm/Role	Project Tasks and Responsibilities	Employment Record (experience gained as it relates to this project)
Project Management		
 **Orlando Castro, PE, DBIA** Associate Vice President Hazen Role: Project Principal	Provide recommendations of macro-scale issues related to the overall scope	2007 - Present, Hazen
 **Elie Andary, PhD, PE** Senior Associate Hazen Role: Project Manager	Define the project's CEI scope to meet the City's expectations and ensure successful project deliverables. Provide construction schedule monitoring and review. Write change orders, review shop drawings, respond to contractor's request for information, process pay requests, coordinate construction with plant operations, hold job progress meetings	2003 – Present, Hazen 2007 – Present, Florida International University, Adjunct Professor
Resident Engineer and Inspector		
 **Linwood Lee** Construction Manager Holtz Role: Chief Inspector	Provide additional specialty inspection and construction oversight and quality assurance to support Tony Campbell and the construction management team	2016 - Present, Holtz 2006 - 2016, TLC Diversified, Inc. 2002 - 2006, Western Summit Constructors 1995 - 2002, The Industrial Company
 **Tony Campbell** Construction Manager Holtz Role: Chief Inspector	Observe and document work performed by the contractor and confirm that the work is generally conducted in accordance with the contract documents. He can also assist with coordination with plant managers and operators during construction and start-up of treatment processes	2022 - Present, Holtz 2020- 2022, Arapahoe County Water and Wastewater Authority (Colorado) 2015 - 2020, Loxahatchee River District

1021-562

Team Member/Title/Firm/Role	Project Tasks and Responsibilities	Employment Record (experience gained as it relates to this project)
Project Members		
 **John Hoffman, PE** Senior Associate Hazen Role: Technical Advisor; Construction Claim Analyst	Provide QA/QC advising and supporting team members in their technical activities	1995 - Present, Hazen 1988 - 1995, Man Con, Incorporated 1976 - 1988, Hazen
 **Joseph Franko, PE** Senior Associate Hazen Role: Technical Advisor	Provide QA/QC advising and supporting team members in their technical activities	1990 - Present, Hazen 1988 – 1989, University of Florida 1984 – 1985, St. Johns River Water Management District
 **Jose Serpa, EI** Assistant Engineer II Hazen Role: Office Engineer	Monitor construction management data files to check that data entry is current and accurate. This includes issues, disputed work, claims, payment tracking and correspondence	2021 - Present, Hazen
 **Curtis Robinson** Vice President Holtz Role: Office Engineer	Provide general project and client management and assist Hazen with construction contract management	2009 - Present, Holtz 2003 - 2009, AECOM
 **Jean Paul Silva,PE** Senior Associate Hazen Role: Specialty Structural Inspection	Construction inspection oversight with a focus on specialty structural inspections	2002 - Present, Hazen 2000 - 2002, Dewhurst Macfarlane and Partners Inc 1998 - 1999, City University of New York 1995 - 1997, Gilberto Areiza & Asociados
 **Evan Curtis, PE** Senior Associate Hazen Role: Instrumentation and Controls Inspection	Inspect and oversee of all instrumentation and controls systems. Coordinate manufacturer testing startup and commissioning	2004 - Present, Hazen 1997 - 2004, Gannett Fleming, Inc. 1994 - 1997, Hazen

1021-562

Team Member/Title/Firm/Role	Project Tasks and Responsibilities	Employment Record (experience gained as it relates to this project)
 **Alonso Griborio, PhD, PE** Associate Vice President Hazen Role: Wastewater Process, Startup, Training and Operations Services	Coordinate with the City during planning the decommissioning of aeration basins to prevent negative impact to ongoing plant operations	2006 - Present, Hazen 2004 - 2006, Center for Louisiana Inland Water Studies, University of Louisiana 2001 - 2004, University of New Orleans, LA 1995 - 2001, University of Zulia, Maracaibo, Venezuela, and Consuvial, C.A
 **Thomas Zakrzewski, PSP** Senior Associate Hazen Role: Scheduler	Monthly progress schedule reviews and ensure that project stays on schedule or schedule recovery is met	2004 – Present, Hazen 1999 - 2004, RailWorks Transit, Inc. 1998 - 1999, International Technology Corporation 1996 - 1998, Chemtex International, Inc. 1989 - 1996, Stone & Webster Engineering Corporation
 **Kristin Fecko, PE** Senior Engineer Holtz Role: Document Control	Document control	2022 - Present, Holtz 2019 - 2022, Cotleur & Hearing 2016 - 2018, Giangrande Engineering and Planning 2014 - 2015, Gonzalez Companies, LLC 2011 - 2013, Saint Louis University 2005 - 2011, AECOM
 **Jose Cano, PE** Electrical C&W Hazen Role: Electrical	Electrical engineering	2022 – Present, Hazen 2021 – 2022, EXP U.S. Services, Inc 2019 – 2021, CSA Group, Inc 2018 – 2019, HNTB Corporation 2017 – 2018, JALRW Engineering Group

1021-562

Subconsultants

Hazen will utilize locally-based partner Holtz Consulting Engineers, Inc. to complement the Hazen team.

Holtz Consulting Engineers, Inc.

Role: Resident Engineer and Inspector

Holtz Consulting Engineers, Inc (HCE) was founded in Palm Beach County in 2006 to provide quality, timely and cost-effective civil and environmental engineering and consulting services to water/wastewater utilities in Southeast Florida. HCE is a certified small-business and minority-owned business enterprise with several local municipalities and governing agencies including the City of Port St. Lucie, City of West Palm Beach, Palm Beach County, and the South Florida Water Management District. HCE is a full-service firm with 13 professional engineers, two project engineers, two civil/mechanical designer/drafters, and four construction managers/inspectors.

All of the members of HCE are actively involved in providing service to its clients, which allows HCE to provide efficient and cost-effective service to our clients, including the City of Port St. Lucie. HCE's staff specializes in water/wastewater engineering and has a comprehensive understanding of local regulatory requirements.

HCE specializes in providing cost-effective utility engineering services to local utilities. Our engineering and management expertise include the following areas of utility engineering and consulting:

- Wastewater treatment, reuse and disposal
- Biosolids treatment and handling systems
- Reclaimed water production, storage and distribution system
- Permitting of treatment facility and infrastructure improvements
- Wastewater collection and transmission systems

HCE provides significant experience and expertise in all phases of water and wastewater infrastructure improvement including planning, grant writing and administration, preliminary engineering and final design, permitting, procurement, construction services, and project start-up and close-out. HCE staff provide timely and cost-effective engineering and construction management services to local utilities, with an emphasis on understanding and delivering projects that meet the needs of its clients.

HCE Benefits to the City of Port St. Lucie

- HCE provides significant understanding of the facilities at the Westport WWTP and the utility system at the City, and has extensive prior experience at numerous other wastewater treatment plants in South Florida, including working with Hazen.
- Linwood Lee has experience with WWTP construction projects, as a contractor's project manager and HCE construction manager and inspector, including experience working with Hazen as a RPR for the City of West Palm Beach ECRWRF Biosolids Improvements project and the Palm Beach County Southern Region WRF Improvements.
- Tony Campbell has provided construction management and inspection services during construction of wastewater facility improvements for HCE's clients, and has experience with WWTP and utility management and operations.

1021-562

HCE Project Experience with Hazen

HCE has extensive prior experience with Hazen over the past 12 years working on major wastewater treatment plant improvement projects in South Florida, including:

- HCE was on the Hazen team for the planning, design, bidding, construction management and start-up of the $100+ Million Biosolids Improvements Project at the City of West Palm Beach's 70-mgd ECRWRF.
- HCE has provided full-time Resident Project Representative services for facility improvements projects at the Palm Beach County Southern Region WRF Improvements.
- HCE is providing full-time RPR services for a secondary treatment process improvements project at ECRWRF, with rehabilitation of aeration basins, anoxic selectors and influent flow equalization and headworks bypassing system.
- HCE has provided part-time inspection oversight and inspection services for projects for the Town of Jupiter, including a new stormwater pumping system and new raw water main.
- Hazen is working with HCE on several projects at the Loxahatchee River District Wastewater Treatment Plant.
- HCE and Hazen evaluated and will design a new Return Activated Sludge and Waste Activated Sludge pumping system for the Seacoast Utility Authority PGA Wastewater Treatment Plant.

1021-562

Orlando Castro, PE, DBIA

Project Principal

Mr. Castro has 16 years of experience in the planning, design, and construction of water and wastewater infrastructure. He is Hazen's Regional Lead for the Corporate Program Management/ Construction Management practice group.

Education

ME, Structural Engineering, University of Florida, 2006

BS, Civil Engineering, University of Florida, 2005

Certification/License

Professional Engineer: FL, NY, MS

Employment Record

2007 - Present, Hazen

Areas of Expertise

- Collaborative Project Delivery
- Structural Analysis and Design
- Construction Management
- Project Management

Experience

- 16 total years
- 16 years with Hazen

Professional Activities

American Society of Civil Engineers

Cuban American Association of Civil Engineers

American Water Works Association

Value to Port St. Lucie

- Proven expertise in construction administration for new and upgraded facilities in various forms of project delivery methods (design-build, design-bid-build, and CMAR)
- **Proposed role/ responsibilities:** As Project Principal, Mr. Castro will provide recommendations of macro-scale issues related to the overall scope

Atlantic Sapphire Miami Bluehouse Phase 2, Homestead, FL

Project Manager. Phase 2 consists of an additional 15,000 metric ton of annual land-based salmon production. As part of this $450 million project being delivered Construction Manager-at-Risk, Mr. Castro is leading a team of multiple design disciplines to develop the design of the Phase 2 Recirculating Aquaculture System (RAS) facility and the wastewater treatment plant. Design is being prepared in multiple packages that the CMAR is then bidding out and later constructing. **During the construction phase, he is also responsible for overseeing Hazen's design services during construction and the construction management and inspection services.**

South District Wastewater Treatment Plant High-Level Disinfection, Miami-Dade Water and Sewer Department, Miami-Dade County, FL

Participated in the design and construction of the $618 million WWTP HLD Project. Responsibilities included design and permitting of the structural, life safety, and plumbing disciplines for the Temporary Field Office building, the Transfer Pump Station and Electrical Building and the Electrical Distribution Building. He also assisted during the construction phase with shop drawing review, response to contractor's request for information, and specialty site inspections.

Government Cut Utilities Relocation Project, Miami-Dade Water and Sewer Department, Miami-Dade County, FL

Mr. Castro served as Resident Project Engineer for the relocation of a 20-inch water main and a 54-inch sanitary force main crossing underneath Government Cut. The relocation of the water main involved a 1,600-foot horizontal directional drill for a 30-inch, high-density polyethylene pipe and the installation of 500

1021-562

feet of 24-inch ductile iron pipe. The relocation of the sanitary force main involved 1,900 feet of micro-tunnel along with 1,900 feet of 60-inch fiberglass reinforced pipe and 650 feet of 60-inch pre-stressed concrete cylinder pipe. Mr. Castro was responsible for overseeing construction inspection, reviewing shop drawings, updating the design and construction schedule, and responding to questions and issues that arose during construction. The project won a 2014 Honor Award in the Water/Wastewater Category, Florida DBIA Design-Build Awards.

Bear Cut and West Bridge Emergency Water Main Replacement, Miami-Dade County, FL

In January 2013, Miami-Dade Public Works and Waste Management released a request for proposals to complete the project via design-build with a $31 million budget and a tight 300-day construction schedule. MD-PWWM selected the design-build team led by Kiewit Infrastructure South Company; Hazen led the design of the 16-inch HDPE water main horizontal directional drill installation and procured the fast-tracked environmental resource permits required to complete the project on time. The bridges were successfully opened to traffic in May 2014. This project is one of the most critical projects in Miami-Dade County and will provide a new water main, as well as safe and improved access to more than 10,000 residents, tourists, and visitors in Key Biscayne and the Bill Baggs Cape Florida State Park. The project won the DBIA 2014 Project of the Year and Infrastructure Honor Award.

Mr. Castro served as Resident Project Engineer for the relocation of a 12-inch water main across the Bear Cut and West Bridges. The relocation was accomplished by two subaqueous crossings via a 1,300-foot horizontal direction drill (HDD) for West Bridge and 3,000-foot HDD for the Bear Cut Bridge.

North District Wastewater Treatment Plant Electrical Distribution Building No. 3, Miami-Dade County, FL

Project Manager and Structural Engineer-of-Record. EDB 3 will replace the existing electrical distribution building for the plant and will house distribution switchgear and generators for up to 18 MW of generating capacity in a hardened facility. His roles included leading the multidisciplinary design team from preliminary design through final design and permitting.

Georgia Pacific Leaf River Cellulose Reactor Clarifier Design-Build, New Augusta, MS

Design Manager and Structural Engineer-of-Record for the design-build project of a new 180-foot-diameter raw water reactor clarifier. The project had a very aggressive schedule in order to meet a cold mill outage. Delays in design deliverables would have resulted in a large liquidated damaged to the design-builder. Responsible for managing all design disciplines to meet the aggressive schedule and served as the bridge to assist in the collaboration between the design and construction teams.

North and South Redundant Force Main, Fort Lauderdale, FL

In December 2019, the City of Fort Lauderdale had numerous breaks of large diameter force mains that spilled large volumes of raw sewage to the surrounding communities. The City retained Hazen to serve as the design criteria professional for two emergency design-build contracts to install a redundant sewer line and transfer the flows over to it. As the design criteria professional for Hazen, his roles included presenting at the emergency pre-bid meeting, answering RFIs during the 5-day solicitation, reviewing the design and construction submittals from the design-build teams, provide hydraulic modeling data to assist with permitting, leading biweekly progress meetings and managing all the project documentation for this fast-tracked project.

1021-562

Elie Andary, PhD, PE

Project Manager

Dr. Andary serves as Hazen's Southeast Region Lead for Construction Management Services. He has a proven track record managing complex projects, resolving conflicts/issues, defining project requirements, coordinating life cycles, and maintaining quality control.

Education

PhD, Civil Engineering, Florida International University, 2019

ME Civil Engineering, FIU, 2017

MS, Construction Management, University of Florida, 2003

BE, Civil Engineering, Lebanese American University, 2000

Certification/License

Professional Engineer: FL

Employment Record

2003 – Present, Hazen

2007 – Present, Florida International University, Adjunct Professor

Areas of Expertise

- Construction Management
- Program Management
- Water Treatment Process
- Wastewater Collection and Treatment

Experience

- 20 total years
- 20 years with Hazen

Professional Activities

American Society of Civil Engineers

American Water Works Association

Value to Port St. Lucie

- Proven experience managing projects of similar size and scope
- **Proposed role/ responsibilities:** As Project Manager, Dr. Andary will define the project's CEI scope to meet the City's expectations and ensure successful project deliverables

South District Wastewater Treatment Plant, Miami-Dade Water and Sewer Department, Miami-Dade, FL

Construction Manager. The secondary wastewater treatment plant was undergoing expansion from 225 mgd to 285 mgd, and meeting high level disinfection criteria and primary drinking water standards performed under fourteen contracts and in the total amount of $618 million.

Atlantic Sapphire Miami Blue House Phase 2, Homestead, FL

Construction Manager for construction of the fish farm facility located in Homestead, FL, which is built under a CMAR type delivery method. The work consists of a wastewater treatment plant, chiller plant, electrical distribution building (including but not limited to back-up power), and oxygen storage and interconnection with Phase 1 for fish movement and grading, fish harvesting, personnel movement, wastewater conveyance, processing, finished water from the water treatment systems. Responsibilities included identifying all key project team members and define roles and responsibilities to create project organization structures and develop communications plans; collaborate with internal teams; provide mentorship to teams; facilitate effective training programs, supervise staff, and foster a teamwork environment; improve team performance by building team cohesiveness; implement a quality management plan to ensure work was being performed according to quality standards and identify and document high level project risks, assumptions, and constraints.

North Regional Wastewater Treatment Plant, Broward County, FL

Construction Manager for the construction of septage receiving facility. The project included, concrete rehabilitation and coating work for existing septage facility, biofilter odor control system including all associated equipment, piping,

1021-562

and appurtenances. Also, a septage receiving facility including installation of a septage receiving complete plant provided with aerated grit chamber, grease removal and associated piping and appurtenances. Other responsibilities included site work, including new access way, fence, gate, pavement, drainage, site lighting improvements and landscaping.

Biosolids Management Improvements, Sunrise Utilities Department, City of Sunrise, FL

Construction Manager for construction of two dewatering facilities including centrifuges, polymer and odor control systems at the Springtree and Sawgrass WWTPs. Dr. Andary conducted progress meetings and meetings with utilities, prepared and issued meeting minutes, performed project quality control, issued RFPs and negotiated cost proposals, and coordinated startup and performance testing for all equipment.

Wastewater Treatment Plant, Seminole Tribe, FL

Project Quality Manager for construction of a new wastewater treatment plant, which will provide wastewater treatment services to the Reservation including the Hollywood Hard Rock Hotel and Casino as well as other STOF-operated casinos in the future. Duties included developing and maintaining a Quality Control Program to ensure that all work strictly conforms to all requirements of the Contract Documents. Observing the work activities and providing notifications when the work does not conform to the requirements of the Quality Control Program and the Contract Documents. Coordinating all testing and placing into operation all equipment , including temporary facilities as required, in conformance with the Contract Documents. Coordinating operations with STOF Public Works and notifying the Operations of any activity which may interfere with traffic or other onsite operations.

John Hoffman, PE

Technical Advisor; Construction Claims Analyst

Mr. Hoffman has 40 years of construction and design experience with public works infrastructure. He provides QA/QC services on construction of treatment plant and pipeline/pump station projects, and provides constructability reviews on design projects.

Education

BS, Civil Engineering Technology, Florida International University, 1980

Certification/License

Professional Engineer: FL, NY

Employment Record

1995 - Present, Hazen

1988 - 1995, Man Con, Incorporated

1976 - 1988, Hazen

Areas of Expertise

- Constructability Design Reviews
- Wastewater System Design
- Construction Management
- Design and Installation of Pipelines and Pump Stations
- Pipe Rehabilitation Technologies
- QA/QC Pipe/Pump Station Projects

Experience

- 47 total years
- 40 years with Hazen

Professional Activities

American Society of Civil Engineers

American Water Works Association

Value to Port St. Lucie

- 40+ years of experience directing or participating in the construction of numerous wastewater projects in South Florida
- **Proposed role/responsibilities:** Mr. Hoffman will serve as a Technical Advisor to the Project Management team and will assist in the review of any construction claims

285-mgd South District HLD Project, Miami-Dade Water and Sewer Department (MDWASD), Miami-Dade County, FL

As Senior Construction Manager for MDWASD's SDWWTP High-Level Disinfection (HLD) Facilities (Upgrade to 285 mgd), Mr. Hoffman directed all of Hazen's construction activities for the program. Construction activities implemented under his direction included, but were not limited to, reinforced concrete, reinforced masonry, and precast structures; underground piping ranging from small diameter PVC, CPVC, and DIP to 120-inch PCCP; pump installations with associated flange piping; seven 60-mgd screw pumps; electrical duct banks; seven 2.6 Megawatt (4000-hp) generators; Onsite Sodium Hypochlorite Generation (OSHG) facilities with seven 3,000 lb/day units; site work, electrical facilities, polymer building and system, deep bed wastewater filter facilities, and instrumentation and controls. In addition, Mr. Hoffman ran progress meetings and responded to RFI's, RFP's and RFC's. He coordinated construction activities with the Operations Department and monitored the testing program. His responsibilities also included supervision of the construction management staff, inspection staff and coordination with third-party inspectors; processing of monthly pay requests and negotiation of change orders. He routinely performed special inspections and provided certifications, coordinating with the County Building Department. He also provided project close out documentation, final certifications and signing and sealing of as-built drawings.

South District Wastewater Treatment Plant (SDWWTP) Electrical Distribution Building (EDB) 2, Miami-Dade Water and Sewer Department (MDWASD), Miami-Dade County, FL

Mr. Hoffman served as Senior Construction Manager for all the SDWWTP high-level disinfection facility projects, which included the SDWWTP EDB 2.

1021-562

SDWWTP EDB 2 is a 20-megavolt-amp electrical distribution building that provides 13.2-kilovolt medium voltage distribution to the high-level disinfection (HLD) facilities, including the transfer pumps, filter backwashing systems, on-site sodium hypochlorite generation systems, and effluent pumps. EDB 2 has seven 2,865-kilowatt backup generators, associated paralleling switchgear and above ground fuel tanks. The building design also includes fire and electrical protection.

I/E/I Flow Reduction Program, Miami-Dade Water and Sewer Department, Miami-Dade County, FL

Construction Manager of Miami-Dade County's $230 million I/E/I Flow Reduction Program Management Team. Responsibilities included field tasks and contractor activities, with all Miami-Dade County inspection crews (supplemented by consultant field staff) reporting to him. Repair methods included conventional and trenchless technologies. His responsibilities included preparing construction documents for the rehabilitation of 150,000 feet of 8 to 42-inch sanitary sewers. This involved selection of liner pipe (type, size and wall thickness), hydraulic calculation supporting the downsizing of the pipes I.D. and maintaining the required flow capacity, location of insertion pits, by-pass piping, manhole rehabilitation program (selection of material), permitting (state and local permits were required). Rehabilitation methods utilized on this project included dig and replace, CIPP lining, slip lining, sectional liners, and robotic repair. He was also a member of the Miami-Dade County "New Technology Review Committee," which evaluated innovative pipe repair technologies to be considered in the sewer system rehabilitation program.

Resident Inspection of the 15-mgd 201 Pump Station and Force Main, City of Tamarac, FL

Prepared construction documents for the rehabilitation of 10,000 feet of 36" to 72" RCP Sanitary Sewer. Responsibilities included selection of liner pipe (type, size and wall thickness), hydraulic calculation supporting the downsizing of the pipe's I.D. and maintaining the required flow capacity, location of insertion pits, bypass piping, manhole rehabilitation program (selection of material), permitting (state and local permits were required), MOT plans, etc. As Construction Manager, he directed pre-construction conference, progress meetings, and community outreach meetings; responded to RFI's, RFP's and RFC's; coordinated construction activities with the Operations Department; and monitored the testing program.

Biscayne Boulevard Interceptor Rehabilitation – CIPP / Slip Lining (36 to 72-inch), Miami-Dade Water and Sewer Department, Miami-Dade, FL

Prepared construction documents for the rehabilitation of 10,000 feet of 36" to 72" RCP Sanitary Sewer. Responsibilities included selection of liner pipe (type, size and wall thickness), hydraulic calculation supporting the downsizing of the pipe's I.D. and maintaining the required flow capacity, location of insertion pits, bypass piping, manhole rehabilitation program (selection of material), permitting (state and local permits were required), MOT plans, etc. As Construction Manager, he directed pre-construction conference, progress meetings, and community outreach meetings; responded to RFI's, RFP's and RFC's; coordinated construction activities with the Operations Department; and monitored the testing program.

Regional Wastewater Transmission System, Broward County, FL

While working for a local underground utility contractor, Mr. Hoffman assisted in pipeline route evaluation, along with pipe material selection and cost estimating. The project involved design of a $27 million regional wastewater transmission system project for Broward County.

Program Management of Right-of-Way Infrastructure Program, City of Miami Beach, FL

Oversaw the work of consultants working on the $410 million City of Miami Beach Right-of- Way Infrastructure Improvement Program. The Program consisted of the planning, design and construction of 29 individual projects throughout the City's 13 neighborhoods. Project components varied and included water, stormwater, and hardscape enhancements. His responsibilities included plan review for compliance with local codes and public works standards; verification of compliance with state and local permit requirements, and MOT plans. The project was recognized by the Construction Management Association of America for exceptional program management with a Project Achievement Honorable Mention Award in 2009.

1021-562

Joseph Franko, PE

Technical Advisor

Mr. Franko has 33 years of water resources expertise including planning, permitting, design, and construction of water and wastewater projects for Hazen in Florida.

Education

BS, Civil Engineering ,University of Florida, 1989

Certification/License

Professional Engineer: FL

Employment Record

1990 - Present, Hazen

1988 – 1989, University of Florida

1984 – 1985, St. Johns River Water Management District

Areas of Expertise

- Project Management
- Construction Management
- Pump Station and Pipeline Design
- Design of Water and Wastewater Facilities
- General Civil and Yard Piping
- Treatment Facility Permitting
- Hydraulic Modeling

Experience

- 33 total years
- 32 years with Hazen

Professional Activities

American Society of Civil Engineers

American Water Works Association

Value to Port St. Lucie

- Extensive experience directing or participating in the planning, permitting, design and construction of numerous water, wastewater and stormwater projects in South Florida
- **Proposed role/responsibilities:** Mr. Franko will serve as a Technical Advisor to the Project Management team with his experience of managing construction in an active treatment plant and past project experience with the City

East Central Regional Water Reclamation Facility (ECRWRF) Operations Board Biosolids Improvements, West Palm Beach, FL

Mr. Franko served as Lead Resident Engineer for this $96 million Biosolids project. Responsibilities include general oversight of all construction activities, coordination and oversight of all on-site inspections by three subconsultants for their portion of the work; and direct responsibility for construction oversight of all the anaerobic digestion facilities. He was also responsible for chairing progress meetings, negotiating change orders, reviewing pay request, loop test of I&C system, startup and testing of the anaerobic digestion facilities, and project closeout. Major components of the project include conversion of an existing aerobic digester to a fine bubble BNR aeration basin, restoration of an existing gravity belt thickening facility, two thermophilic digesters, four mesophilic digesters, two new electrical buildings, sludge handling and pumping facilities, FOG and septage receiving facilities, and sludge dewatering facilities.

Glades Booster Pump Station, City of Port St. Lucie, FL

Project Engineer for the City's 25.8-mgd Glades Booster Pump Station. This project included preparation of a preliminary engineering design report that included preliminary hydraulic analysis, modeling and surge analysis of the collection and transmission system as well as mechanical, structural, architectural, electrical, instrumentation and controls, and HVAC analysis and design criteria. Mr. Franko was responsible for preliminary civil and mechanical designs; determining permitting requirements; and assisting with preliminary project costs, preliminary project schedule, and development of the preliminary engineering report drawings for the civil and mechanical disciplines. Mr. Franko also

1021-562

prepared the civil and mechanical construction drawings and specifications during detailed design. Mr. Franko also participated in the design of two other in-line wastewater booster pump stations for the City of Port St. Lucie—the 10-mgd Northport Booster Pump Station and the 12-mgd Southport Booster Pump Station.

Sawgrass WWTP Effluent Injection Pumping System Expansion, City of Sunrise, FL

Project Manager for the City of Sunrise Sawgrass WWTP Effluent Injection Pumping System Expansion. This $3.6 million project consisted of expanding the City's injection well pump capacity from 36.7-mgd to 52.6-mgd. Hazen and Sawyer performed detailed hydraulic modeling and surge analysis along with evaluation of the gravity feed system to all three pump stations, modifications to pump stations one and two and design and construction of pump station three, new electrical facilities, integrated I&C system, pump and parts storage building, and all associated site work and yard piping.

Southwest WWTP Improvements - CMS, City of Sunrise, FL

Project Manager for the construction of the City of Sunrise Southwest WWTP Improvements. Responsibilities included full-time Resident Engineer Services, coordination of all Construction Management Services including distribution of shop drawings, O&M manuals, coordination with Contractor and Vendors for plant testing and startup and project closeout.

Lake Washington Surface Water Treatment Plant Improvements, City of Melbourne, FL

Project Manager Surface Water Treatment Plant Improvements 2A and 2B. This $12 million project consists of a new raw water pump station, ozone generator building, ozone contactor, filter backwash pump station and solids handling improvements. Mr. Franko is the Engineer of Record responsible for all construction management, part time RPR services, chairing progress meeting, submittal coordination, reviewing pay applications, negotiating change orders and project closeout and permitting certifications.

Wastewater Resiliency Plan/Climate Risk Assessment and Adaptation Study Phase II Flood Vulnerability & Adaptation Assessment, NYCDEP, New York, NY

Assisted in developing the NYC Wastewater Resiliency Plan, which identifies and quantifies the potential impacts of climate change on wastewater infrastructure and outlines an effective and proactive adaptation strategy to mitigate the associated risks. Following Hurricane Sandy, NYCDEP contracted with Hazen to study all 14 of its wastewater treatment plants. The study required rapid mobilization and systematic data collection and analyses. Through site visits, staff interviews, and drawing analyses, flood pathways and specific assets that should be targeted for protection against New York City specific projected climate conditions were identified and prioritized. Lead Engineer for the site assessment of three of the City's wastewater treatment plants; Newtown Creek 310 mgd, Tallman Island 80 mgd and Oakwood Beach 40 mgd.

1021-562

Linwood Lee

Resident Engineer and Inspection

Mr. Lee is a veteran construction manager with significant experience providing construction oversight and inspection services for many water and wastewater projects.

Education

Construction Management, WSU, WA

Certification/License

OSHA 30-Hour Hazard Recognition for the Construction Industry

Employment Record

2016 - Present, Holtz

2006 - 2016, TLC Diversified, Inc.

2002 - 2006, Western Summit Constructors

1995 - 2002, The Industrial Company

Areas of Expertise

- Construction management and inspection
- Experience as resident project representative
- Experience as liaison between the client, engineer, and contractor

Experience

- 31 total years
- 7 years with Holtz Consulting Engineers Inc.

Value to Port St. Lucie

- Valuable asset who helps to facilitate communication by acting as a liaison between the client, engineer, and contractor
- **Proposed role/responsibilities:** Mr. Lee will provide additional specialty inspection and construction oversight and quality assurance to support Tony and the construction management team

At Holtz Consulting Engineers, he serves in the role of Construction Manager, and is primarily responsible for overseeing the construction of a project from start to finish and helps to ensure completion of the project as specified, on time, and within budget. Linwood is very familiar with utility construction projects and proper means and methods of construction and is a valuable asset to Holtz Consulting Engineers and our clients.

Westport WWTP Improvements, City of Port St. Lucie, FL

Full-time special inspector working with the city and contractor to provide quality assurance and construction oversight on the secondary treatment facility improvements project.

ECRWRF Biosolids Improvements, West Palm Beach, FL

Provided construction management and inspection services for the waste activated sludge and centrate storage tanks, as well as the FOG receiving facilities that were constructed as part of the $100 million ECRWRF Biosolids Improvements project.

Southern Region Water Reclamation Facility Screening Improvement, Palm Beach County Water Utilities, Palm Beach County, FL

Resident Project Representative services for the SRWRF headworks screening improvements project. Activities included attending progress meetings, coordination of submittals in the field, interpretation and providing clarifications of the Contract documents during construction, review of monthly pay applications, acting as the County's liaison with the Contractor, verifying tests, and ensuring equipment and system startups were conducted properly and verification and certification that the constructed facilities operated properly, and preparation of daily construction reports.

1021-562

Tropical Farms Wastewater Treatment Plant Reclaimed Water Storage Tank & Pumping and Return Activated Sludge Pumping Improvements, Martin County Utilities, Stuart, FL

HCE provided design, permitting, and construction administrative services for a two-phase reclaimed water storage and pumping improvements project at the Tropical Farms WWTP. Phase I consisted of a new 1-MG prestressed concrete reclaimed water storage tank including vibro-flotation compaction beneath the tank, bypass piping, and piping relocations. Phase II included a new reclaimed water distribution pump station including 18-inch through 36-inch suction and discharge piping and three vertical turbine pumps. An effluent transfer pump station with three new vertical turbine pumps located at the chlorine contact basin was also included and the replacement of two existing Return Activated Sludge pumps with new dry-pit chopper-style pumps.

Tropical Farms and North WWTPs Headworks & Lift Station Improvements, Martin County Utilities, Stuart, FL

HCE provided design, permitting, bidding, and construction administrative services for headworks and lift station improvements at both the Tropical Farms and North WWTPs. The Tropical Farms WWTP improvements included a new mechanical self-cleaning bar screen, two solids dewatering presses, grit dewatering and handling system, isolation slide gates, odor control ductwork, and a new pump and above-grade piping at Lift Station No. 3. Improvements at the North WWTP included a new grit classifier, grit transfer pumps, grit flushing system, two solids dewatering presses, and a new duplex submersible Lift Station No. 302.

Martin Downs Master Lift Station & Force Main, Martin County Utilities, Stuart, FL

Project included decommissioning of an existing wastewater treatment facility, and the design and construction of a 4.0 mgd master lift station and approximately 35,000 lf of 16" force main and reclaimed water main, including horizontal directional drills beneath the Florida Turnpike and State Roads 76 and 714. The Master Lift Station included converting existing secondary clarifiers into equalization basins complete with covers and an odor control system, new pumps, yard piping, SCADA, and electrical systems.

1021-562

Tony Campbell

Resident Engineer and Inspection

Mr. Campbell brings 14 years of experience in the management of construction, operations and maintenance of water and wastewater treatment plants and collection/distribution systems and related utility infrastructure.

Education

Criminal Justice, Mott Community College, Flint, MI

Certification/License

Florida Wastewater License A

Colorado Wastewater C License

Georgia Wastewater C License

Georgia Distribution License

Michigan General Contractor License

Employment Record

2022 - Present, Holtz

2020- 2022, Arapahoe County Water and Wastewater Authority (Colorado)

2015 - 2020, Loxahatchee River District

Areas of Expertise

- Management of construction, and operations and maintenance of water and wastewater treatment plants

Experience

- 14 total years
- 1 year with Holtz Consulting Engineers Inc.

Value to Port St. Lucie

- Will help ensure completion of the project as specified, on time, and within budget
- Will help ensure that construction activities do not interfere with ongoing system operations and maintenance
- **Proposed role/responsibilities:** Mr. Campbell will observe and document work performed by the contractor and confirm that the work is generally conducted in accordance with the contract documents. He can also assist with coordination with plant managers and operators during construction and start-up of treatment processes

At Holtz Consulting Engineers, he serves in the role of Construction Manager, and is primarily responsible for overseeing the construction of a project from start to finish and helps to ensure completion of the project as specified, on time, and within budget. Mr. Campbell is a highly motivated individual and is an asset to Holtz Consulting Engineers and our clients. His expertise and experience with utility operations helps ensure that construction activities do not interfere with ongoing system operations and maintenance.

Glades-Tradition Reuse Water Main Project, City of Port St. Lucie

HCE is providing professional engineering services related to the survey, geotechnical exploration, modeling, design, permitting, bidding, and construction for an approximately 11,850 linear foot extension of the City's existing reuse water main originating from their Glades Wastewater Treatment Facility. The proposed extension will start from the reuse water main's existing termination near Glades Cut-off Road and extend to the Glades Force Main Repump Station site at the end of SW Tradition Parkway right-of-way. The reuse water main extension will allow the City to provide reuse water sales to the Tradition Irrigation Company and provide the transmission for future expansion of the reuse system to developments including Verano, Western Grove, Riverland-Kennedy, and Wilson Groves.

1021-562

Reverse Osmosis Water Treatment Plant, Stuart, FL

HCE is responsible for the design of the stormwater management, site work, and yard piping for this 1.5 mgd upgrade to the City of Stuart Water Treatment Facility. The project also included a design of an approximate one-mile 12" RO concentrate force main from the water treatment plant to a deep well injection at the wastewater plant. The site work consisted of new driveways, fencing, stormwater management including two rain gardens, and yard piping to connect the new and existing facilities. Permitting was required through FDEP for the stormwater management and the City of Stuart for the site plan and associated work. HCE is also responsible for the State Revolving Fund (SRF) administration during construction for this project.

Port St. Lucie Boulevard Utility Relocations-Naranja Low Pressure and Force Mains Improvements, Port St. Lucie, FL

HCE provided professional engineering services related to the survey, geotechnical exploration, design, permitting, bidding, and construction for approximately 7,050 linear feet of new low pressure and force main. The project was split into three phases with Phase 1 and 2 consisting of low-pressure main improvements in the neighborhood south of Prima Vista Blvd. between Floresta and Sandia Drives. Phase 3 consisted of 1,650 linear feet of force main replacement along Prima Vista Blvd.

Jupiter Inlet Lighthouse Septic to Sewer Conversion, Loxahatchee River District, Jupiter, FL

HCE is providing professional engineering services for the design, permitting, bidding and services during construction for the installation of 8" gravity sewer, gravity services, manholes, a commercial duplex lift station, discharge force main, residential grinder stations, low pressure force main, and connection to an existing force main at the Jupiter Inlet Lighthouse Park. The work also includes abandonment of existing septic tanks and removal of existing grey water tanks. The project also includes replacement of the existing private domestic potable water system on the property with new 8" and 6" water mains, hydrants, and services and site improvements including construction of stormwater swales, grading, demolition of existing stormwater catchment structures, and construction of new parking areas.

Jose Serpa, EI

Office Engineer

Mr. Serpa has experience in the planning, design, permitting, and construction management of water and wastewater infrastructure.

Education

BS, Civil Engineering, Florida International University, 2022

BS, Chemistry, University of Florida, 2011

Employment Record

2021 - Present, Hazen

Areas of Expertise

- Construction Management
- Project Management
- Project Quality Control

Experience

- 2 total years
- 2 years with Hazen

Value to Port St. Lucie

- Proven experience managing projects of similar size and scope
- **Proposed role/responsibilities:** Mr. Serpa will monitor construction management data files to check that data entry is current and accurate. He will also provide the City with monthly progress reports for internal reports to City Management

Atlantic Sapphire Miami Bluehouse Phase 2 Expansion, Homestead, FL

Mr. Serpa serves as an Assistant Engineer for the Phase 2 expansion of the Atlantic Sapphire Miami Bluehouse which is being constructed under a CMAR type delivery method. Mr. Serpa is aiding in the design of the Recirculation Aquaculture System (RAS) facility and the wastewater treatment plant. **Mr. Serpa is also responsible for performing design services during construction as well as performing construction management and inspection services.**

AE1-UPS Design-Build Pilot for Upstate Infrastructure, New York, NY

Hazen is serving as the design criteria professional (or AE-1) to the New York City Department of Environmental Protection (NYCDEP) on their first ever Design-Build Project. **Mr. Serpa helped with the pre-construction phase and assisted in developing the risk register for this project.**

Owner's Representative for New Water Treatment Plant, Delray Beach, FL

Hazen is serving as the City's Owner Representative and is developing the Design Criteria Package (DCP) for the design and construction of a 14.0 million gallons per day membrane Water Treatment Plant project which is being delivered using a Progressive Design-Build delivery method. Mr. Serpa serves as an Assistant Engineer and his role includes the development of the DCP and in the review of proposals as submitted by Design-Build teams.

North District Wastewater Treatment Plant Electrical Distribution Building No. 3, Miami-Dade County, FL

Mr. Serpa is serving as an Assistant Engineer in the development of design drawings for the Electrical Distribution Building No. 3 (EDB 3) at Miami-Dade Water and Sewer's North District Wastewater Treatment Plant.

1021-562

Curtis Robinson, PE

Office Engineer

Mr. Robinson has over 20 years of experience in the design, permitting and construction administration of water, wastewater, and reclaimed water projects. He has worked on projects in Saint Lucie County and neighboring counties totaling over $100 million.

Education

BS, Civil Engineering, Missouri S&T, 2001

MS, Engineering Management, Missouri S&T, 2003

Certification/License

Professional Engineer: FL

Employment Record

2009 - Present, Holtz

2003 - 2009, AECOM

Areas of Expertise

- Design, permitting and construction administration of water, wastewater, and reclaimed water projects

Experience

- 20 total years
- 14 years with Holtz Consulting Engineers Inc.

Value to Port St. Lucie

- Serves as Holtz's Client Service Manager for the City
- Has an excellent relationship with managers and staff at the City and the utility and plant managers, as well as an excellent understanding of the Westport WWTP and this facility improvement project
- **Proposed role/responsibilities:** Will provide general project and client management and assist Hazen with construction contract management

Tropical Farms and North WWTPs RAS/WAS Pump Stations, Martin County Utilities, Stuart, FL

HCE provided design, permitting, contractor procurement, and services during construction for the replacement of the existing Return Activated Sludge (RAS)/ Waste Activated Sludge (WAS) Pump Station at the North WWTP, and replacement of two RAS pumps and the addition of two WAS pumps at the Tropical Farms WWTP. All of the new RAS/WAS pumps were dry-pit mounted chopper-style pumps. The projects included hydraulic calculations to allow the WAS pumps to discharge to two different treatment locations. The pump stations and piping were designed to allow the new pump stations to be placed into operation prior to the demolition of the existing pump station, and to minimize disruptions to plant operations.

PGA WWTP NRCY Pump Station, Blower Building, and Electrical Modifications, Seacoast Utility Authority, Palm Beach Garden, FL

HCE provided survey, preliminary and final design, permitting, bidding, and construction administration services to demolish existing buildings at their wastewater treatment plant, construct a new blower building, including the installation of six new blowers (two turbo and four centrifugal), replace the existing nitrified recycle pump station, and improve various electrical components at the site including VFDs, motor control centers, and lighting. This project also includes the replacement of an internal recycle pump station consisting of three chopper-style pumps. This project serves to replace and upgrade existing plant infrastructure to increase operational flexibility, decrease

1021-562

electric power consumption, and maintain reliable production of reclaimed water.

WWTP Headworks Rehabilitation, Martin County Utilities, Stuart, FL

HCE provided design, permitting, bidding, and construction administrative services for headworks and lift station improvements at both Martin County WWTPs. The Tropical Farms WWTP improvements include a new mechanical self-cleaning bar screen, two solids dewatering presses, grit dewatering and handling system, isolation slide gates, odor control ductwork, and a new pump and above-grade piping at Lift Station No. 3. Improvements at the North WWTP include a new grit classifier, grit transfer pumps, grit flushing system, two solids dewatering presses, and a new duplex submersible Lift Station No. 302.

Filter And Chlorine Contact Basin Improvements South Martin Regional Utility, Hobe Sound, FL

Project Manager for the design, bidding, permitting, and construction management services for a new chlorine contact basin (CCB) and new disc filter at the SMRU wastewater treatment plant. The new CCB replaced the plant's existing series of chlorine contact chambers and provide the plant with greater disinfection capacity in anticipation of greater future flows. The new chlorine contact basin was designed to include pH, chlorine residual, and turbidity monitoring instrumentation. Additionally, this project included the installation of a third disc filter and associated piping to expand the plant's filtration capacity. This project included significant re-routing of existing plant piping, demolition of existing structures, and construction of new facilities. In addition to providing engineering design, HCE assisted the utility in obtaining a minor permit modification for the project through the FDEP and provided construction oversight.

ECRWRF Waste Activated Sludge & Centrate Storage Tanks West Palm Beach, FL

HCE prepared the design and performed construction services for the conversion of Decant Tank Nos. 1 & 2 to new Waste Activated Sludge (WAS) and dewatering centrate storage and equalization tanks. The WAS storage tank is provided with coarse-bubble diffusers fed by two positive-displacement blowers for mixing and aeration. The centrate storage tank is provided with vertical-shaft hyperboloid mixers and variable-speed pumps to convey centrate from the equalization tank to the plant for treatment.

Kristin Fecko, PE

Document Control

Ms. Fecko has over 15 years of experience in providing grant research, application, and management experience.

Education

BS, Civil Engineering, Syracuse University, 2003

MS, Civil Engineering, The Pennsylvania State University, 2005

Certification/License

Professional Engineer: FL

Employment Record

2022 - Present, Holtz

2019 - 2022, Cotleur & Hearing

2016 - 2018, Giangrande Engineering and Planning

2014 - 2015, Gonzalez Companies, LLC

2011 - 2013, Saint Louis University

2005 - 2011, AECOM

Areas of Expertise

- Grant research, application, and management

Experience

- 15 total years
- 1 year with Holtz Consulting Engineers Inc.

Value to Port St. Lucie

- Extensive experience in providing grant research, application, and management
- **Proposed role/responsibilities:** Ms. Fecko will provide document control

Sewer System Pipe Lining and Vacuum Truck Purchase, City of Lake Worth Beach, FL

HCE is providing planning, design, bidding, and loan application assistance to the City of Lake Worth Beach for their pipe lining remediation program. HCE researched capital purchase regulations to help the City optimize the replacement of their existing vacuum truck. This is a phased program, and HCE is assisting the City to prioritize areas for lining and repair based on a Wastewater Inflitration & Inflow Study of its system.

FDEP Resilient Florida, City of Port St. Lucie, City of West Palm Beach, City of Lake Worth Beach, City of Riveria Beach, FL

HCE submitted planning and implementation funding applications on behalf of several clients to the FDEP Resilient Florida Program. Projects included vulnerability assessments, adaptation planning, stormwater and wastewater improvements to help cities adapt to sea level rise and climate changes. To date, multiple applications have been funded, including nearly $9 million in wastewater improvements.

Fire Department Support Grants, City of Riveria Beach, FL

HCE has submitted applications for funding assistance for the Riviera Beach Fire Rescue department, including applications to the Solid Waste Authority of Palm Beach County, the Firehouse Subs Public Safety Foundation, and FEMA Assistance to Firefighters Grant programs. HCE met extensively with Fire Rescue staff to understand equipment and facility needs.

1021-562

FDEO Fire Station Nos. 5 and 6 Hardening, West Palm Beach, FL

HCE submitted a successful application for more than $4 million in hardening and mitigation improvements to two of the City's fire stations. HCE assists the City and coordinates with FDEO staff to help manage these funded projects from the establishment of City's policies to support FDEO funding, and throughout the project design and construction phases.

FDEM Residential Undergrounding of Power Lines, Village of Golf, FL

HCE is responsible for the grant application and management for a nearly $2.2 million power line undergrounding initiative throughout the Village. HCE coordinates with the project engineer, manager, Village staff, and State personnel to manage reimbursements to the Village, maintain documentation, and provide closeout services at the completion of project construction.

FDEM Low Pressure Grinder Electrical Panel Replacements, City of Port St. Lucia, FL

HCE provided design, bidding, construction management, and grant application and management support to replace nearly 1,000 residential electrical panels with generator receptacles. This allows for residential sewage stations to pump immediately after storm events and prevent sewage overflows at multiple low pressure grinder locations.

Funding Research, City of Port St. Lucie, City of Lake Worth Beach, Seacoast Utility Authority, City of Riveria Beach, FL

HCE provides research and networking support to assist clients in finding funding opportunities and encourage regional partnerships, in order to help realize planned capital projects and system analyses.

1021-562

Jose Cano, PE

Electrical

Mr. Cano specializes in the design of electrical power distribution systems for water and wastewater treatment facilities, and the evaluation of existing electrical systems at operating facilities. His experience also includes SCADA design and cybersecurity.

Education

BS, Florida International University, 2017, Electrical Engineering

Certification/License

Professional Engineer: FL

Employment Record

2022 – Present, Hazen

2021 – 2022, EXP U.S. Services

2019 – 2021, CSA Group, Inc

2018 – 2019, HNTB Corporation

2017 – 2018, JALRW Engineering Group

Areas of Expertise

- Low and medium voltage power distribution systems
- Power system analysis
- Electrical construction administration
- Existing electrical equipment data collection
- SCADA design
- Cybersecurity

Experience

- 6 total years
- 1 year with Hazen

Professional Activities

American Water Works Association

Value to Port St. Lucie

- Experience providing electrical, control and instrumentation interface design and construction management
- **Proposed role/responsibilities:** Electrical engineering

Miami-Dade Water and Sewer Department North District Wastewater Treatment Plant Electrical Distribution Building No. 3 Design, Miami-Dade County, FL

Responsible for design of the new Electrical Distribution Building No. 3, which will replace the existing Electrical Distribution Building No. 1 at the wastewater treatment plant.

South Florida Water Management District S-8 Upgrades, West Palm Beach, FL

Responsible for design of all electrical improvement at the existing pump station.

Atlantic Sapphire Salmon Farm Project, New Wastewater Treatment Plant, Homestead, FL

The project includes design of the new WWTP at Atlantic Sapphire's fish farm. Design includes low voltage distribution equipment to supply power to other facilities in the site with provisions for a portable generator.

Springtree Water Treatment Plant Electrical Improvements, City of Sunrise, FL

Responsible for the construction phase services associated with the project.

Sawgrass Wastewater Treatment Plant - DAF Thickening Process Improvements Design and Bidding Services, City of Sunrise, FL

Responsible for design of all electrical improvements at the City's WWTP's existing dissolved air flotation (DAF) thickening building.

East Central Regional Water Reclamation Facility Headworks Bypass and AB5, West Palm Beach, FL

Electrical Engineer. Responsible for review of electrical related shop drawings and RFIs. The project is currently under construction.

1021-562

Jean Paul Silva, PE

Specialty Structural Inspection

Mr. Silva brings extensive experience in structural analysis and design as well as construction administration of diverse projects related to water and wastewater, stormwater collection, storage tanks, and pump stations.

Education

MSCE, Civil / Structural Engineering, City University of New York, 2000

BSCE, Civil Engineering, Universidad del Valle, Republic of Colombia, 1996

Certification/License

Professional Engineer: FL

Employment Record

2002 - Present, Hazen

2000 - 2002, Dewhurst Macfarlane and Partners Inc

1998 - 1999, City University of New York

1995 - 1997, Gilberto Areiza & Asociados

Areas of Expertise

- Structural Analysis and Design
- Steel Design and Detailing
- Concrete Design
- Shop Drawing Review
- CAD Drafting
- Specialty Inspection

Experience

- 28 total years
- 21 years with Hazen

Value to Port St. Lucie

- Provides experience with design of new facilities as well as structural condition assessments, rehabilitation and upgrade of existing facilities, and construction administration with a focus on structural and special inspections
- **Proposed role/responsibilities:** Mr. Silva will provide construction inspection oversight with a focus on specialty structural inspections

Wastewater Treatment Plant High Level Disinfection, Water and Sewer Department South District, Miami-Dade, FL

Participated in the design and construction of the 285-mgd, $618 million WWTP HLD project. He was part of the structural design team for several of the 14 bid packages and also assisted during the construction phase with shop drawing review, response to contractor's request for information and site inspections.

Thomas P. Smith Water Reclamation Facility Improvements, Tallahassee, FL

Lead Structural Engineer and provided specialty construction inspections. Project included the design of headworks, clarifiers, deep bed filters, chlorine contact tanks, sludge storage tanks, an anaerobic digestion complex, a centrifuge dewatering facility and ancillary buildings. The site contained Karst features, so several of the structures required foundation improvements including micro-piles and soil pre-loading.

ECRWRF Biosolids Improvements Project, East Central Regional WRF Operations Board, West Palm Beach, FL

Lead Structural Engineer. Design of improvements to the $96.8 million biosolids treatment and management program including conversion of existing decant tanks into WAS storage and Centrate EQ tanks, conversion of existing digester into aeration basin, and design of new 43 ft high digester tanks, digester process buildings, sludge holding tanks, centrifuge building, several electrical buildings, and septage and fog facilities. As the Lead Structural Engineer, Mr. Silva provided coordination with subconsultants.

1021-562

Southern Region Water Reclamation Facility (SRWRF) TR08 Phase I, Headworks and Effluent Transfer Pumping Improvements, Palm Beach County Water Utilities Department, Palm Beach County, FL

Hazen was retained by the Palm Beach County Water Utilities Department for the SRWRF Headworks and Effluent Transfer Pumping Improvements project. The project aims to enhance operational efficiency by replacing aging infrastructure in the pretreatment building and the effluent pump station. Hazen provided professional engineering services including detailed design; cost estimating; permitting; bidding for the project which included the expansion of the 4 story pretreatment building with a 2-story add-on. With in-depth knowledge of the existing headworks facility, Hazen developed a detailed sequence of construction for the facility's headworks improvements, including project constraints allowing for construction while still maintaining plant operations.

North Regional Wastewater Treatment Plant Fine Bubble Aeration Basin Improvements (Modules A, B, and D), Broward County, FL

Project includes design, bidding/award, permitting, and construction administration of improvements to the NRWWTP for conversion of Modules A, B, and D mechanical aeration systems to fine bubble aeration systems as well as upgrades to existing blower system, related air piping, and new electrical building. Mr. Silva was responsible for Structural Design and is currently providing construction administration services in the form of shop drawing reviews and specialty inspections.

Biosolids Management Improvements, City of Sunrise, FL

Lead Structural Engineer for the project and was Engineer of Record on several of the structures. The project includes upgrades to the Sawgrass WWTP and Springtree WWTP. Design included upgrades to an existing dewatering building at the Sawgrass WWTP and design of new dewatering building at the Springtree WWTP, new sodium hypochlorite storage facility, new polymer storage facility, and miscellaneous ancillary structures. Mr. Silva provided CMS services in the form of shop drawing review, specialty structural inspections as well as Florida Building Code Special Inspections.

Wastewater Reclamation Facility Design, City of Miramar, FL

Structural Engineer through design and construction for the Miramar reuse expansion. For this project, the reuse facilities were expanded from 4 mgd to 7.5 mgd. Hazen also assisted in obtaining a paper uprating of existing facilities from 4 mgd to 5 mgd. New facilities included two filter feed pumps, sand filters, expansion to the existing sodium hypochlorite system, a ground storage tank, and high service pumps.

Pineda Causeway Ground Storage Tank and Booster Pump Station, Melbourne, FL

Structural Engineer. Services include design, permitting, bidding and construction management for a new potable water booster pump station and a 2 MG above ground storage tank. The new station will be the first completely automated remote booster pump station for the City. It will be monitored and controlled from the City's WTP via a radio telemetry system. The pumps include VFDs, and the design includes back-up power and fuel storage with provisions to chemical feed in the future.

JEA Arlington East Water Reclamation Facility Biological Nutrient Removal (BNR) Modifications, Jacksonville, FL

Structural Engineer for the structural design of the expansion of the JEA Arlington East Water Reclamation Facility from 20 to 25 mgd and upgrade to BNR. Modifications and additions to the facility included concrete rehabilitation of several existing structures, a new primary influent splitter box, a new 105-foot diameter primary clarifier, a new primary sludge and scum pump station, hydraulic improvements throughout the facility, primary effluent and RAS flow splitting modifications, addition of aeration basin baffle walls, and implementation for step feed process for BNR. Mr. Silva also provided inspection services assistance during construction.

D.L. Tippin WTP Chemical Feed System Upgrades, Tampa, FL

Structural Engineer for design and construction administration for modifications to the ammonia feed system, and improvements to the chlorine gas facility to enhance system reliability and safety. This included modifications to the existing chlorine gas storage facilities to replace the roll up door with a wall and structural repairs to address major cracking on the east wall.

Evan Curtis, PE

Instrumentation and Controls Inspection

Mr. Curtis has extensive experience designing and commissioning various water and wastewater utility projects, most significantly in the area of instrumentation and controls.

Education

BSCE, Carnegie Mellon University, 1994

Certification/License

Professional Engineer: FL, NY

Employment Record

2004 - Present, Hazen

1997 - 2004, Gannett Fleming, Inc

1994 - 1997, Hazen

Areas of Expertise

- Project Management
- Instrumentation and Controls Design
- Radio Communication Studies
- SCADA System Design
- Construction Phase Services
- PLC and HMI Programming
- Design/Build Services

Experience

- 28 total years
- 21 years with Hazen

Professional Activities

Instrumentation, Systems and Automation Society

American Water Works Association

Value to Port St. Lucie

- As Hazen's Corporate I&C Discipline Group Leader, Mr. Curtis is an expert in the design of instrumentation and controls (I&C) for water and wastewater treatment and pumping facilities
- **Proposed role/responsibilities:** Mr. Curtis will inspect and oversee all instrumentation and controls systems. He will also coordinate manufacturer testing startup and commissioning

ECRWRF Aeration Basin 5 and Blower Building Upgrades, West Palm Beach, FL

I&C Engineer responsible for design of improvements to Aeration Basin 5 and Blower Buildings at the 70-mgd East Central Regional Water Reclamation Facility. The design included instrumentation and controls related to the addition of fine bubble diffusers, process air piping and valves, anaerobic zone and swing zone vertical mixers, automatic dissolved oxygen (DO) control, and automatic ammonia based control to optimize DO set points. The project also included the design of new/rehabilitated blowers and integration into the existing plant control system.

Biosolids Management Improvements, City of Sunrise, FL

I&C Engineer responsible for design of improvements to the solids handling systems for the Sawgrass Wastewater Treatment Plant and the Springtree Wastewater Treatment Plant. The project included the design of centrifuge dewatering systems, polymer feed conditioning systems, and associated improvements to sludge pumping stations.

North Regional Wastewater Treatment Plant SCADA System Replacement, Broward County, FL

Project Manager and I&C engineer responsible for design, bidding, and construction phase services for the replacement of a distributed control system operating a 95-mgd wastewater treatment plant. The design includes the replacement of all distributed controllers and workstations with programmable logic controllers, computer systems, human-machine interface (HMI) software, network equipment, and integration of the existing radio telemetry

1021-562

system. The HMI software design features modern concepts to maximize the operator's situational awareness such as providing high level dashboard style overview displays in accordance with ISA-10.

North Regional Wastewater Treatment Plant Facility Improvements - Biologicals, Broward County, FL

I&C Engineer. Responsible for design of improvements at a 95-mgd wastewater treatment plant, including replacement of influent venturi flow meters, replacement of return activated sludge pumps, waste activated sludge pumps, and scum pumps.

South District Wastewater Treatment Plant Electrical Distribution System, Miami-Dade Water and Sewer Department, Miami-Dade, FL

I&C Engineer responsible for design of instrumentation and controls related to the primary and backup power systems serving the high-level disinfection improvements throughout the wastewater treatment plant. The plant improvements include the addition of Electrical Distribution Building 2, the addition of electrical loads in excess of 15,000 hp including transfer pumps, filter backwashing systems, on-site sodium hypochlorite generation systems, and effluent pumps. The electrical distribution system includes redundant 13.2-KV electrical distribution wiring throughout the plant, seven 2.8-MW medium-voltage backup power generators, transformers, motor controls, 200,000 gallons of diesel fuel storage, and an automated I&C system.

Regional Wastewater Treatment Plant Aeration and Controls Improvements, Plantation, FL

I&C Engineer responsible for preliminary design of various treatment plant improvements including aeration basin fine bubble diffusion, pumping systems, sodium hypochlorite system, control room renovations and a new plant-wide SCADA system.

Thomas P. Smith Water Reclamation Facility Improvements, Tallahassee, FL

I&C QA/QC Reviewer. Provided quality control review of instrumentation drawings and specifications for the design of a new plant-wide SCADA system including fiber optic, copper, and wireless networks.

Sawgrass Wastewater Treatment Plant Effluent Injection Well Pumping System Expansion, City of Sunrise, FL

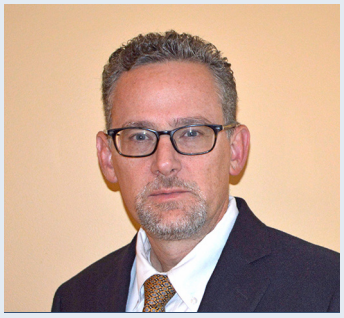
I&C Engineer. Responsible for design and construction inspection of instrumentation and controls related to the expansion of an existing injection well pumping system and replacement of the control systems. The control system design features fully automated wet well level and pump controls including 3 wet wells, 7 constant speed pumps, 5 variable speed pumps, and two discharge headers. The control system design integrates a new GE PLC and local touchscreen HMI into the existing plant control system via fiber optic interface to the plant control room.

General Wastewater and Water Engineering Services, Broward County, FL

I&C Engineer. Provided general professional consulting services to Broward County Water and Wastewater Services two General Consulting agreements in the following areas: water and wastewater treatment plants, water collection and wastewater distribution, hydraulic modeling, pumping stations, water wells and effluent disposal wells, water reclamation, ocean science and marine engineering, financial studies and regulatory assistance.

Wastewater Consulting Engineering Services, Delray Beach, FL

I&C Engineer. Provided wastewater consulting engineering services to the South Central Regional Wastewater Treatment and Disposal Board. The projects completed or are currently working on are: Sludge Dewatering Facilities; Contractor at Risk; Administration Building Interior Improvements; 2 mgd Reclaimed Water Storage Tank; 6 mgd Reclaimed Water System Expansion; Deep Injection Well System; RAS, Sludge and Headworks Upgrade; Reclaimed Water Expansion to 24 mgd; Improvements to Sludge Management Facility; Headworks and Stormwater System Improvements and Secondary Clarifiers and Stormwater System Rehabilitation.



Thomas Zakrzewsk, PSP

Scheduler

Mr. Zakrzewski has extensive experience in project controls management, which includes considerable scheduling and project planning.

Education

BS, Industrial Engineering, Trenton State College, 1989

Certification/License

Planning and Scheduling Professional (PSP)

Employment Record

2004 - Present, Hazen

Areas of Expertise

- Project Controls Management
- Construction/Program management
- Project Planning and Scheduling
- Cost Control and Earned Value Analysis
- Delay/Claims Analysis
- Primavera P6, P3 and Microsoft Project

Experience

- 37 total years
- 19 years with Hazen

Professional Activities

AACE International

Construction Management Association of America

Value to Port St. Lucie

- His significant experience in scheduling and project planning will play a crucial role in ensuring that the project is completed according to the established timeline
- **Proposed role/responsibilities:** As scheduler, Mr. Zakrzewski will review monthly progress schedule, provide reports on project schedule status and provide any time impact schedule analysis required for construction claim review

H6/H7 CSO LTCP Phase 1, North Hudson Sewerage Authority, Hoboken, NJ

Project Controls Manager for the initial phase of construction of a high-level sewer system in the H6/H7 drainage basin, which includes a pump station and wet well, mechanical and electrical control building, hydro-dynamic separation pretreatment units, and piping and appurtenances. The CSO long-term control plan (LTCP) is crucial to protecting public health, minimizing public disruption, and protecting the environment by reducing stormwater flooding in the lowest-lying areas within the City of Hoboken. Responsible for critical path method (CPM) schedule analysis and reporting, delay analysis with associated documentation, and claims and delay resolution assistance.

Rye Lake Water Filtration Plant Design, Westchester Joint Water Works, Harrison, NY

Project Controls Manager. The water filtration plant is located on Westchester County property adjacent to the County airport, due to its proximity to the Rye Lake Pump Station and source water transmission main, and the Purchase Street Booster Pump Station and storage tanks. The facility is a 30-mgd dissolved air flotation/filtration (DAFF) plant capable of handling the water utility's current and near-future demands. The design will also integrate provisions for potential future expansion to 40 mgd. Responsible for construction critical path method (CPM) schedule development, and development of Basis of Schedule reporting.

1021-562

Putnam Water Treatment Plant Design and DAF/Filter Upgrade, Aquarion Water Company, Greenwich, CT

Project Controls Manager. The overall project includes the construction of a new DAF building in the footprint of existing Sedimentation Basin No. 2, and a new filter building in the footprint of existing Sedimentation Basin No. 1. Both will be designed for the plant's maximum design capacity of 22.8 mgd. The project also includes modifications to the existing chemical feed and solids handling facilities. The project is to be constructed in two distinct phases: (1) construction of the new DAF Building during Phase 1; and (2) construction of the new filter building during Phase 2. Responsible for construction CPM schedule development and development of Basis of Schedule reporting.

Great Neck Wastewater Treatment Plant Expansion/Upgrade, Nassau County, NY

Master Scheduler for Contract 08-01 ($44M) upgrades, which included influent screening system, grit removal system, primary sludge pumping systems, oxidation ditch and associated pumping station, final settling tanks, WAS/RAS pumping station, UV disinfection system, gravity belt thickener system, and electrical systems, as well as demolition of existing structures and facilities.

Tarrytown Pump Station and Force Main, Westchester County, NY

Project Controls Manager for reconstruction of the Tarrytown Pump Station and replacement of associated force main. Responsible for CPM schedule review, analysis and reporting, delay analysis with associated documentation, and assisting with claims and delay resolution.

Gowanus Pumping Station, NYCDEP, Brooklyn, NY

Master Scheduler. Responsible for schedule reviews and delay analyses for the construction of $170 million CSO pumping station. Work includes the reconstruction of the Gowanus Canal Flushing Tunnel and building and pumping stations; replacement of mile-long sewer force main within the flushing tunnel; reconstruction of the CSO screenings area; and construction of new electrical service building and wastewater pumping station.

Decant Rehabilitation Project, PVSC, Newark, NJ

Scheduling Lead for both design and construction phases. The decant facility is located immediately downstream of the Zimpro wet-air oxidation process and separates processed solids from liquid supernatant. The project consists of the rehabilitation of six 1-mgd covered concrete decant tanks as well as the supporting ancillary systems and infrastructure for the facility. The year-long design phase of the project culminated with bid-ready documents and permitting approvals. The construction phase of the project has begun; it is anticipated to last four years and will involve careful planning for the maintenance of plant operations. Hazen coordinated requirements and approvals for NJ I-Bank funding.

Design and Design Services During Construction, NYCDEP, New York, NY

Project Controls Manager for various NYCDEP design contracts. Responsible for all aspects of the project controls program, including Master Schedule preparation and reporting, construction critical path method (CPM) schedule development, and development of Basis of Schedule reporting, in accordance with NYCDEP SOPs and procedures. Representative projects include: CAT 213E Chemical Addition Facility at Ashokan Screen Chamber, CAT 213F Chemical Addition Facility at Pleasantville Alum Plant, DEL-415 Valve Replacements at the East Delaware Release Chamber, and RLCY-BB-01 Bowery Bay SMLP Storm Resiliency.

1021-562

Alonso Griborio, PhD, PE

Wastewater Process; Startup, Training and Operations Services

Dr. Griborio is an internationally recognized expert in wastewater treatment plant assessment and optimization. He is responsible for evaluation, analysis, and design of water and wastewater facilities with particular focus on wastewater treatment process engineering, plant optimization, and operations assistance.

Education

PhD, University of New Orleans, Engineering and Applied Sciences, 2004

MS, Universidad del Zulia, Venezuela, Environmental Engineering, 2000

BS, Universidad Rafael Urdaneta, Civil Engineering, 1994

Certification/License

Professional Engineer: FL, LA, NY

Employment Record

2006 - Presen, Hazen

2004 - 2006, Center for Louisiana Inland Water Studies, University of Louisiana

2001 - 2004, University of New Orleans, LA

1995 - 2001, University of Zulia, Maracaibo, Venezuela, and Consuvial, C.A

Areas of Expertise

- Wastewater Treatment Process and Design
- Process Modeling
- Computational Fluid Dynamics
- Hydraulic and hydrologic
- 2Dc, BioWin™ and InfoWorks

Experience

- 28 total years
- 17 years with Hazen

Value to Port St. Lucie

- Provides expertise in wastewater treatment design and water quality assessments
- Provides expertise in MOPO with a strong understanding of operational concerns
- **Proposed role/responsibilities:** Dr. Griborio will coordinate with the City during planning the decommissioning of aeration basins to prevent negative impact to ongoing plant operations and will assist during plant startup and commissioning

Regional Wastewater Treatment Plant Diffused Aeration Upgrades,
City of Plantation, FL

Project Manager and Process/Mechanical Engineer for different WWTP upgrades that included the conversion of mechanical surface aerated basins to fine-bubble diffused aeration. The project included installation of four multi-state centrifugal blowers, process air piping, fine bubble membrane disc diffusers, automatic dissolved oxygen control, swing/selector zones and activated sludge diffusion for the treatment of the headworks foul air. At the time of design, it was estimated that this project would result in electrical and chemical cost savings of over $200,000 per year. After project construction, the energy bill for the plant confirmed the estimated savings.

East Central Regional WWTP Process Evaluations,
City of West Palm Beach, FL

Hazen completed process evaluations for the upgrade at the 70-mgd water reclamation facility. Dr. Griborio served as Process Engineer for evaluation of solids processing options to maximize solids destruction and minimize biosolids disposal quantities. The evaluation considered 30 combined treatment/disposal options, life-cycle cost analyses of short-listed options, and a conceptual design of the recommended facilities.

1021-562

Ocean Outfall Legislation Program, Miami-Dade Water and Sewer Department, Miami-Dade County, FL

Lead Process Engineer for the evaluation of the different improvements required at the three Miami Dade pure oxygen plants (SDWWTP, CDWWTP and NDWWTP) in order to comply with the Ocean Outfall Legislation (OOL) Rule and with projected peak flows. Among others, the expected plant expansions include the following additions to the unit processes: headworks, oxygenation trains, secondary clarifiers, RAS pumping stations, chlorine contact tanks, filtration, effluent pump stations and injection wells. Led a team that developed process models for the three treatment plants using the software BioWin and computational fluid dynamics models for the plant clarifiers.

West District Wastewater Treatment Plant, Miami-Dade Water and Sewer Department,
Miami-Dade County, FL

Process Selection Advisory Board (PSAB) for the new 100-mgd Miami-Dade County West District Wastewater Treatment Plant (WDWWTP). The PSAB was responsible for overseeing selection of the proposed process configuration of the WDWWTP liquid and solids trains, including thickening and dewatering facilities, and to advise the County on the design features to be included so that the plant complies with the County's overarching goals such as treatment reliability, energy efficiency and resource recovery.

North Regional WWTP Facilities Improvements and Fine Bubble Conversion, Broward County, FL

Mechanical and Process Engineer for the North Regional WWTP's Facilities Improvements Project and for the Fine Bubble Conversion Project. The Fine Bubble Conversion project includes conversion of three 20-mgd activated sludge modules (Modules A, B, and D) from surface aerators to fine bubble aeration including the implementation of selector zones and ammonia-based aeration control. The North Regional WWTP's Facilities Project includes capacity evaluation of the WWTP for different upgrade scenarios. This project included development of calibrated BioWinTM and CFD clarifier models that were used for the evaluation of the different scenarios including the evaluation of Modules C and E.

JEA Arlington East WRF Clarifier Project and BNR Modification, Jacksonville, FL

Lead Process Engineer and Designer for the design of a new 160-foot secondary clarifier and for the rehabilitation of four existing secondary clarifiers at the JEA Arlington East WRF. The project included field evaluation and stress testing of the existing secondary clarifiers as well as development of a CFD model to be used to define the optimum configuration for the existing units and for the rehabilitation of the existing clarifiers. Hazen provided design, bidding and construction administration for the new 160-foot secondary clarifier, new RAS/WAS Pump Station, modifications to the existing RAS/WAS Pump Station, and rehabilitation of existing secondary clarifiers and a mixed liquor distribution channel. Dr. Griborio also participated a project engineer in the BNR modification project that included modifications to the existing facility to incorporate BNR for TN less than 6.0 mg/L and to rerate the facility from 20 to 25 mgd. The project included BioWin™ modeling and full-scale stress testing.

Secondary Clarifier Rehabilitation and RAS Pump Station Upgrad, City of Saint Augustine, FL

Provided consulting services for preliminary engineering design, final design, permitting, and bidding services for the two existing secondary clarifiers and the RAS pump station. Hazen provided services during construction, including construction administration, submittal review, record drawing, meetings, Specialty Inspection Services, and Resident Project Representative. Dr. Griborio served as Lead Project Engineer for the rehabilitation of the clarifiers.

3

Experience

3 Experience

Hazen brings an unparalleled combination of CMAR project delivery experience and knowledge of large WWTF construction administration. Together with Holtz, you can count on the Hazen team to be a trusted partner who is ready to mobilize at a moment's notice to ensure high-quality constructed assets.

Understanding of the Agency, its Mission, and Future Goals

The City of Port St. Lucie (City) is seeking the services of a consultant with significant and successful experience in all aspects of construction engineering inspections (CEI) of municipal wastewater treatment expansion projects, utilizing a CMAR (Construction Manager at Risk) type project delivery, for the Westport WWTF Nutrient Reduction Project. The proposed improvements include mechanical screens, grit removal equipment, an aeration treatment train, and fine bubble diffused aeration system. The design is expected to be completed and submitted to the Building Department for permitting in September 2023, and construction is expected to start in the first quarter of 2024.

Hazen, along with partner HCE, combine local knowledge and responsiveness with national wastewater expertise and resources to meet the City's needs.

As construction manager on over $5 billion worth of recent projects, we have managed programs spanning multiple sites and involving dozens of contractors and hundreds of subcontractors.

Hazen has successfully completed numerous construction management projects on time and within budget for various clients throughout Florida. We have encountered and developed solutions to the multiple risks inherent in these types of projects, minimizing costs and maintaining operations. In addition to offering experienced construction managers and resident engineers to keep projects on schedule and minimize change orders, we use proven methods such as prebid reviews, partnering, disputes review boards, and the timely handling of all documents and requests. We incorporate best-practice technologies to expedite requests for information (RFI), review and markup of drawings, and permitting, reducing delays and preventing errors. We approach construction services with a goal to provide effective communication to help keep the project moving forward.

1021-562

Our experience providing CM services throughout Florida is unparalleled.

Our CM tasks range from full-service construction management for major plant upgrades to staff augmentation to providing master scheduling or claims analysis. For all projects, large and small, Hazen excels at providing solutions and value to our CM clients. **Detailed project sheets for three of our projects are provided at the end of this section. Additional project sheets are provided in the Appendix.**

Hazen provided services during construction engineering and startup of a 9-mgd capacity sequencing batch reactor wastewater treatment plant for the Seminole Tribe of Florida.

Seminole Tribe of Florida

Hazen assisted during bid and provided services during construction and startup of a 9-mgd-capacity sequencing batch reactor wastewater treatment plant (WWTP) for the Seminole Tribe of Florida. This WWTP services additional flows from the Hard Rock hotel and casino. In addition to the new WWTP, the project included a new 24-inch force main to convey effluent water and a new Injection Well Pump Station. The force main was installed utilizing Horizontal Directional Drilling (HDD) technology in two sections.

Hazen provided MDWASD with engineering design during construction, construction management, and owner's representative services on the largest High-Level Disinfection project in the U.S.

Miami-Dade Water and Sewer Department South District WWTP High-Level Disinfection Project

- $440 million of comprehensive upgrades and new facilities
- Fast-track planning, design, and construction administration for a 285-mgd high-level disinfection facility to meet a landmark FDEP Consent Decree
- **Coordinated 15 construction contracts**
- Worked closely with owner to deliver program ahead of schedule and under budget
- Awarded the 2014 Florida Grand Conceptor Award from FICE (Florida Institute of Consulting Engineers)

1021-562

Hazen provided construction oversight for fine bubble designs under multiple contracts.

Fine Bubble Aeration Modules A, B, and D and NRWWTP Updating, Broward County, Florida

Hazen provided construction oversight for the Hazen fine bubble designs under multiple contracts including the NRWWTP Updating Project (Modules C and E) and Fine Bubble Modules A, B, and D. Following completion of the Fine Bubble construction in 2023, the entire 95-mgd NRWWTP will operate as fine bubble diffused aeration, fully replacing the original surface aerators, saving over $1 million annually in electrical costs.

Hazen provided construction engineering and inspection for this project.

Plantation Regional Wastewater Treatment Plant Improvements, Plantation, Florida

Hazen provided construction management services for the conversion of the surface aerators to fine bubble at the Regional Wastewater Treatment Plant. This project resulted in immediate energy savings upon startup of the first train, with an ultimate savings of $200,000 per year following conversion of all three trains.

Hazen provided construction engineering and inspection services for this biosolids improvements project.

ECRWRF Biosolids Improvements and Aeration Basin 1 Conversion, City of West Palm Beach, Florida

The East Central Regional Water Reclamation Facility Operations Board retained Hazen to provide design, permitting, bidding and construction period services for the ECRWRF Biosolids Improvements Project.

1021-562

Hazen's experience using CMAR and progressive design-build delivery methods

The Hazen team has served on over $1.2 billion in CMAR projects in the Southeast US in the last 15 years. The Hazen team will leverage the CMAR delivery method to mitigate project cost, risk, maintain schedule, and incorporate constructability from the chosen CMAR. The following projects showcase two examples of Hazen's CMAR experience.

CMAR

Thomas P. Smith Water Reclamation Facility (TPSWRF) Improvements Project

After Year 3 improvements were operational, each existing secondary treatment train was removed in sequence (one at a time) for BNR upgrades. Hazen worked closely with the City and Construction Manager-at-Risk to identify, design and release for bidding various "early work" and procurement packages to expedite construction to meet the initial Year 3 deadlines. **Construction completed on schedule and nutrient limits met 14 months ahead of FDEP Consent Order schedule**

CMAR

Atlantic Sapphire - Salmon City Bluehouse

Atlantic Sapphire is pioneering Bluehouse (land-raised) salmon farming. Atlantic Sapphire has been operating its innovation center in Denmark since 2011. Atlantic Sapphire has selected Hazen to be the design engineer and to provide CEI services in a CMAR project delivery to construct its Bluehouse in Homestead, Florida. The Company has completed Phase 1 construction, which provides the capacity to harvest approximately 10,000 tons (HOG) of salmon. Phase 2 started in early 2021 and Hazen has been providing design and CEI services.

Minimizing Schedule Delays

One of the most common causes of delays during construction projects are unforeseen conditions. In the case of projects within property lines, such as treatment plants and master pump stations, conflicts are typically related to insufficient coordination with operations staff. This can result in inadequate maintenance of operations.

1021-562

In these cases, it is imperative that the construction management team be responsive and react immediately once a conflict is identified to develop a plan and implementation sequence that reduces schedule delays. The Hazen team has a proven record of maintaining open communication with the operations staff to foresee and avoid conflicts with the existing WWTF. We have assembled a team for the Westport WWTF project that will maintain the required level of open communication with the operations staff. Additionally, our staff includes discipline experts that can address not just mechanical or civil conflicts, but also those associated with structural, electrical or instrumentation disciplines. These experts are all based locally, ensuring the prompt service the City has come to expect from Hazen.

North and South Redundant Force Main Emergency Pipeline Procurement (EPP) Projects, City of Fort Lauderdale, Florida

As Technical Advisor and Design Criteria Professional, Hazen assembled a team of pipeline designers, hydraulic modelers, and construction managers to assist the City with the evaluation of potential alternatives, including the different routes for the new force main, construction technology, and the type of contract required to **complete the project in record time. The project's original schedule was 49 months. The EPP approach reduced this time to 19 months.**

Schedule Control

Time is money. Invariably with any time extension a contractor will typically request extended general conditions on a project the size and type of the City of Port Saint Lucie's Westport WWTF Nutrient Reduction Project. From day one our team will be immersed in the project schedule. We will evaluate the schedule per the contract documents and ensure that it is cost loaded when the baseline is submitted and accepted. Our team is proficient in using Primavera P6 scheduling software, which is an industry standard.

Our team will review the baseline schedule to determine whether it meets the contract requirements for structure, milestones, construction sequencing etc. Our team will either return the schedule with comments or accept (not approve) the schedule as it is the contractor's tool for completing the project. The initial baseline is extremely important as it will be used as a tool to measure potential change order values and time extension requests. The schedule must correlate to the bid items on the bid sheet and to the contractor's schedule of values.

The contractor is also required to submit the progress schedule with each payment application. Our team will evaluate this schedule in two ways structurally to make sure no changes were made to the accepted baseline logic and based on work, "Did the amount of work that the contractor claims was completed in the period actually occur". Typically, the contractor will update the project schedule with percent complete for each activity.

Our team will review the schedule and narrative together to determine whether what occurred in the field is being projected on the update. Our schedule analysis will also include a review of the structure of the document in the scheduling software. This analysis also evaluates the structure of the schedule and identifies what changes are made so that our team can determine if the contractor made any changes to the logic which is not allowed unless agreed to by the client. Any deviations not agreed to are sent back to the contractor and a revised schedule is requested.

Other scheduling techniques

Our field team will act proactively to coordinate plant shutdowns and outages during the project. These actions will mitigate cost and time overruns and ensure that the plant operates properly during construction. Our team will first meet with the plant to understand its operating practices and needs.

Maintenance of Plant Operations (MOPO) and Outages

The most critical operational aspect of a major plant upgrade is MOPO. The Hazen team will play a critical role in coordinating these efforts to ensure that the plant continues to be able to properly operate while accommodating the contractor in the performance of his work. Knowledge of the plant's operations, the construction taking place, how the systems will be constructed, and the effects of that on the plant process are keys to successful MOPO. Planning will be critical. Our team will direct the contractor to engage plant staff early and often based on scheduled activities to ensure no disruptions.

Our proposed start-up manager, **Alonso Griborio, PhD, PE**, has successfully managed MOPO on numerous large WWTP upgrades. Dr. Griborio will coordinate with the City during planning the decommissioning of aeration basins to prevent negative impact to ongoing plant operations.

MOPO Sequencing and Planning

When retrofitting existing plants with diffused aeration, planning and sequencing of the work is critical to maintain plant operations and permit compliance. Although every plant and project is unique, Hazen typically considers the following in MOPO sequencing and planning:

Hazen's project experience and project successes in the modeling and design conversion of activated sludge aeration treatment at secondary wastewater treatment plants from mechanical to fine bubble while minimizing the impact to treatment operations is highlighted on the following pages.

Process modeling to determine requirements to take one aeration basin out of service

Sequencing of construction and testing activities (blowers, diffused aeration, automated controls) using CPM scheduling software (Primavera P6 or Microsoft Project)

Startup protocols for transferring mixed liquor to put basins offline for construction and online following upgrades

Process control spreadsheets to coordinate operations during each sequence

Project Examples

The following project sheets demonstrate Hazen's experience with three wastewater treatment facility projects, each of which the contract value exceeds $6,000,000 and at least two of which were expansion or rehabilitation.

1021-562

Hollywood Wastewater Treatment Plant Improvements

Seminole Tribe, Florida

Hazen provided design, permitting, bidding, construction management and process startup services for a new WWTP at the Hollywood reservation.

The new WWTP facility, rated at 3 mgd of annual average daily flow, was constructed on a greenfield site approximately 0.5 miles from the existing WWTP site. The layout of the facility was tailored to increase the capacity to 6 mgd in the future.

Relevance to Port St. Lucie

- New WWTP
- Design and construction administration
- Grit removal system
- Blowers with electrical distribution building
- Diffused air system
- BioWin™ and MOPO implementation

The WWTP utilizes a sequencing batch reactor (SBR) treatment process for secondary treatment. The facility includes a headworks structure, SBR basins, aerobic digesters, dewatering area, effluent pump station, new electrical and operations buildings, plant site pump station, plant service water pump station, and other ancillary facilities.

Schedule/Duration (during construction)

Construction Schedule: 03/2018-07/2020

Construction Duration: 03/2018-07/2020

Owner's Budget and Duration

Budget: $54,237,000

Duration: 03/2018-07/2020

Contract Value and Duration

Contract Value: $54,237,000 (construction services)

Duration: 03/2018-07/2020

Final Project Costs and Duration

Final Project Cost: $54,237,000 (construction)

Duration: 03/2018-07/2020

Name and Location of Client/ Contact Person

Emran Rahaman
Director
Public Works Department
Seminole Tribe of Florida
3107 North State Road 7 Hollywood, FL 3302
(954) 894-1060 ext. 10923
EmranRahaman@semtribe.com

1021-562

Hazen

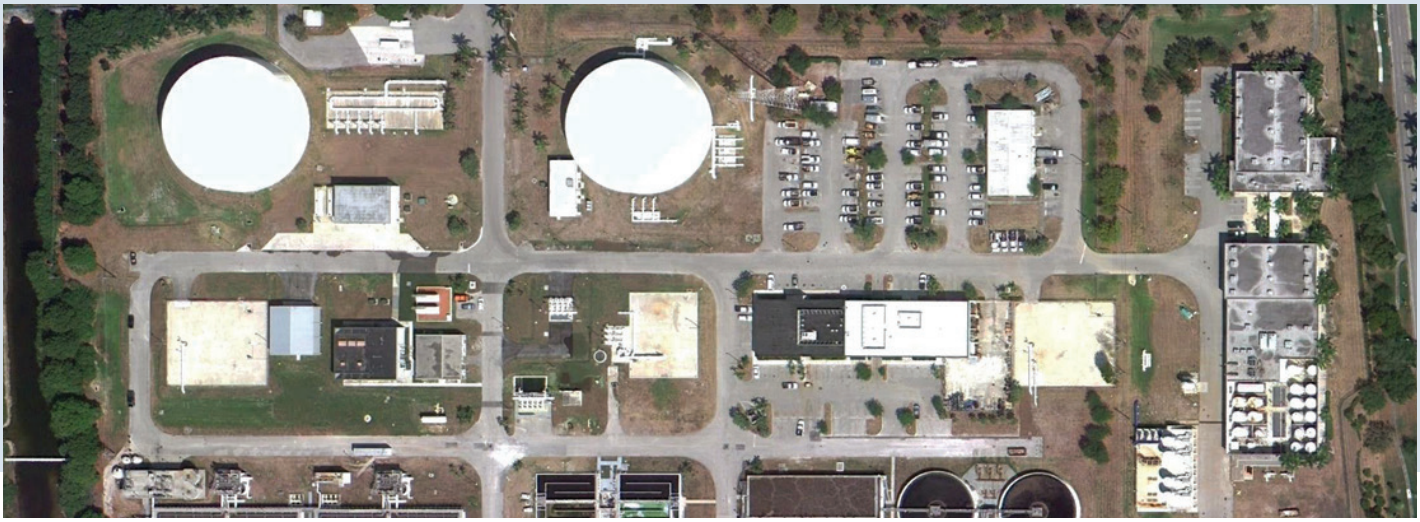
The project also included construction of a new 24-inch effluent force main under the Florida's Turnpike installed with horizontal directional drilling. Moreover, a new Injection Well Pump Station (IWPS) was constructed at the existing WWTP site to receive the effluent water of the new WWTP and membrane concentrate from the existing WTP. The IWPS is used to dispose the water via two new deep injection wells installed under a separate project.

The bid construction cost was $54,237,000, including the new WWTP, Effluent Force Main and IWPS. The project construction started in March 2018, and the plant startup was completed in July 2020.

Upon initial startup, the booster systems installed on the six existing injection wells increased the aggregate disposal capacity by approximately 60 percent.

Team Member	Role	Contribution
Elie Andary, PhD, PE	Project Quality Manager	Project Quality Manager for construction of a new wastewater treatment plant
John Hoffman, PE	Construction Quality Control	Provided quality control during construction
Alonso Griborio, PhD, PE	Process Engineer and QC Reviewer	Provided quality control for the design of the SBR system and services during start-up
Jean Paul Silva, PE	Structural Engineer	Structural Engineer for the design of a new 3-mgd wastewater treatment facility

1021-562



Sunrise Utilities Biosolids Management Improvements

Sunrise, Florida

Hazen provided design, permitting, and construction engineering services for Biosolids Management Improvements at the Sawgrass WWTP (20 mgd) and the Springtree WWTP (10 mgd).

Hazen developed a biosolids improvements plan to transition from the City's current practice of landfilling and liquid land application to a facility that can ultimately produce a thermally dried residual product. This plan includes immediate implementation of centrifuge dewatering at both plants, followed by sludge thickening upgrades and new anaerobic digestion facilities at both plants, and long-range conceptual design of a regional thermal dryer system at the Sawgrass WWTP. Preliminary design criteria and design drawings were prepared for all planned facilities. Hazen then completed detailed design, permitting, bidding assistance, construction engineering, startup and operator training services for the centrifuge dewatering facilities. At the Sawgrass WWTP, the project included retrofit of new centrifuge dewatering equipment within an existing belt press dewatering building. New facilities included two high solids centrifuges, dewatered sludge cake screw conveyors, dewatered cake truck loading, polymer storage and dosing system, and an odor control system.

Relevance to Port St. Lucie

- Major WWTP improvements
- Design and construction administration
- MOPO implementation

At the Springtree WWTP, a new dewatering building was constructed to house two high solids centrifuges, dewatered sludge cake screw conveyors, a dewatered cake truck

Schedule/Duration (during construction)

Construction Schedule:
01/2014 - 10/2016

Construction Duration:
12/2014 - 12/2016

Completed within budget. Completion impacted by construction delays due to unforeseen conditions and contractor's delays.

Owner's Budget and Duration

Budget: $15.6 million

Duration: See above

Contract Value and Duration

Contract Value: $12,287,000

Duration: See above

Final Project Costs and Duration

Final Project Cost: $11,670,000

Duration: See above

Name and Location of Client/ Contact Person

Timothy A. Welch, PE
Director of Utilities
City of Sunrise
777 Sawgrass Corporate Parkway
Sunrise, Florida 33325
(954) 888-6055
twelch@cityofsunrise.org

1021-562

Hazen

loading, polymer storage and dosing system, and odor control system. Additional facilities included retrofit of a coarse-bub-ble aeration system for existing sludge storage tanks and a new sodium hypochlorite disinfection facility.

Project Highlights

- Retrofit of new sludge dewatering equipment within an existing dewatering building at Sawgrass WWTP
- New dewatering building constructed to accommodate the dewatering facilities at Springtree WWTP
- Significant reduction in biosolids disposal quantities
- Reduction in odor potential
- Design was completed on schedule
- Construction bid price was below Engineer's construction cost estimate
- Centrifuges at both plants are operational and are achieving specified performance requirements

Team Member	Role	Contribution
Elie Andary, PE	Construction Manager	Construction Manager for construction of two dewatering facilities including centrifuges, polymer and odor control systems at the Springtree and Sawgrass WWTPs
Evan Curtis, PE	I&C Engineer	Responsible for design of improvements to the solids handling systems for the Sawgrass Wastewater Treatment Plant and the Springtree Wastewater Treatment Plant
Jean Paul Silva, PE	Lead Structural Engineer and Engineer-of-Record on several structures	Provided CMS services in the form of shop drawing review, specialty structural inspections as well as Florida Building Code Special Inspections

1021-562

Thomas P. Smith Water Reclamation Facility Improvements Project

Tallahassee, Florida

In 2007, the City of Tallahassee retained Hazen to provide design, permitting, bidding and construction engineering services to upgrade the 26.5-mgd Thomas P. Smith Water Reclamation Facility (TPSWRF) from secondary treatment to advanced wastewater treatment (AWT) standards.

Relevance to Port St. Lucie

- Activated Sludge
- Odor Abatement
- Instrumentation
- Process Control
- Sludge Processing
- Digestion
- Reuse Water
- Deep Injection Well
- GIS / Mapping
- Filtration and Disinfection
- Structural
- Flow Equalization System Upgrades

The vast majority of effluent is stored in on-site ponds and pumped to the Southeast Farm Sprayfield for crop irrigation. Increased nitrogen levels in nearby Wakulla Springs (one of the largest natural springs in the country) had been attributed to multiple sources, including the Southeast Farm Sprayfield. As a result, the City of Tallahassee entered into a Settlement Agreement with the State of Florida, Wakulla County, the Florida Wildlife Federation, and the Florida Department of Environmental Protection, to establish wastewater treatment and management conditions to protect the natural water quality in Wakulla Springs.

Schedule/Duration (during construction)

Construction Schedule: 06/2009-01/2015

Construction Duration: 06/2009 - 01/2015

Owner's Budget and Duration

Budget: $180 million

Duration: 06/2009-01/2015

Project completed on schedule

Contract Value and Duration

Contract Value: $180 million

Duration: 06/2009-01/2015

Project was completed under budget.

Final Project Costs and Duration

Final Project Cost: $174M

Duration: 08/2007 - 01/2015

Name and Location of Client/ Contact Person

Sondra Lee, PE
Project Manager
City of Tallahassee, Underground Utilities & Public Infrastructure, Water Resources Engineering
300 S. Adams Street, B-26
Tallahassee, Florida 32301
(850) 891-6123
sondra.lee@talgov.com

The TPSWRF Improvements Project includes the following new and/or upgraded facilities:

- **New Headworks**, including center-flow band screens and stacked-tray, free vortex grit chambers.
- **New Primary Treatment,** including three 110-foot primary clarifiers, primary sludge pump station, and a new 53-mgd Primary Effluent Pump Station).
- **Secondary Treatment** upgrades, including:
  - Conversion of six existing aeration basins for biological nutrient removal.
  - New aeration blower building with single-stage blowers to work in tandem with existing multi-stage blowers.
  - One new secondary clarifier; and upgrades to six existing secondary clarifiers.
  - Two new RAS pumping stations, and a new WAS pump station.
- **New High-Level Disinfection Facilities,** including 10 new deep-bed denitrification filters; four new chlorine contact basins; and a new sodium hypochlorite storage/feed facility.
- **New Dual-media biofiltration odor control systems** to serve the headworks, primary treatment, and solids processing facilities.
- **New Solids Processing Facilities,** including primary sludge thickening/fermentation; WAS storage and gravity belt thickening; anaerobic digestion; centrifuge dewatering; and thermal sludge drying.
- **New electrical power distribution system,** including a 15-KV service building, multiple 480-volt load centers, and intelligent motor control centers
- **Process instrumentation and control,** including new D.O. analyzers and nutrient process analyzer systems for fully automated process aeration control.

Process Modeling

Biowin™ process simulation software was used to construct a whole-plant model. Special sampling and wastewater characterization provided data to calibrate the Biowin™ process model. The model was then used to design the secondary treatment process, and to develop construction sequencing and operational adjustments to ensure interim nitrogen limits were met. Computational Fluid Dynamics modeling was developed and calibrated through field stress tests to evaluate predicted performance of the existing secondary clarifiers and establish requirements for additional secondary clarifiers to ensure that secondary effluent quality was satisfactory for tertiary treatment facilities.

Implementation Phasing

The Settlement Agreement included interim milestone requirements for reducing effluent total nitrogen. New headworks, primary treatment, deep-bed denitrification filters, chlorine contact basins, disinfection systems and methanol facilities were phased to meet Year 3 limits. After Year 3 improvements were operational, each existing secondary treatment train was removed in sequence for BNR upgrades. Hazen worked closely with the City and Construction Manager-at-Risk to identify, design, and release for bidding various "early work" and procurement packages to expedite construction.

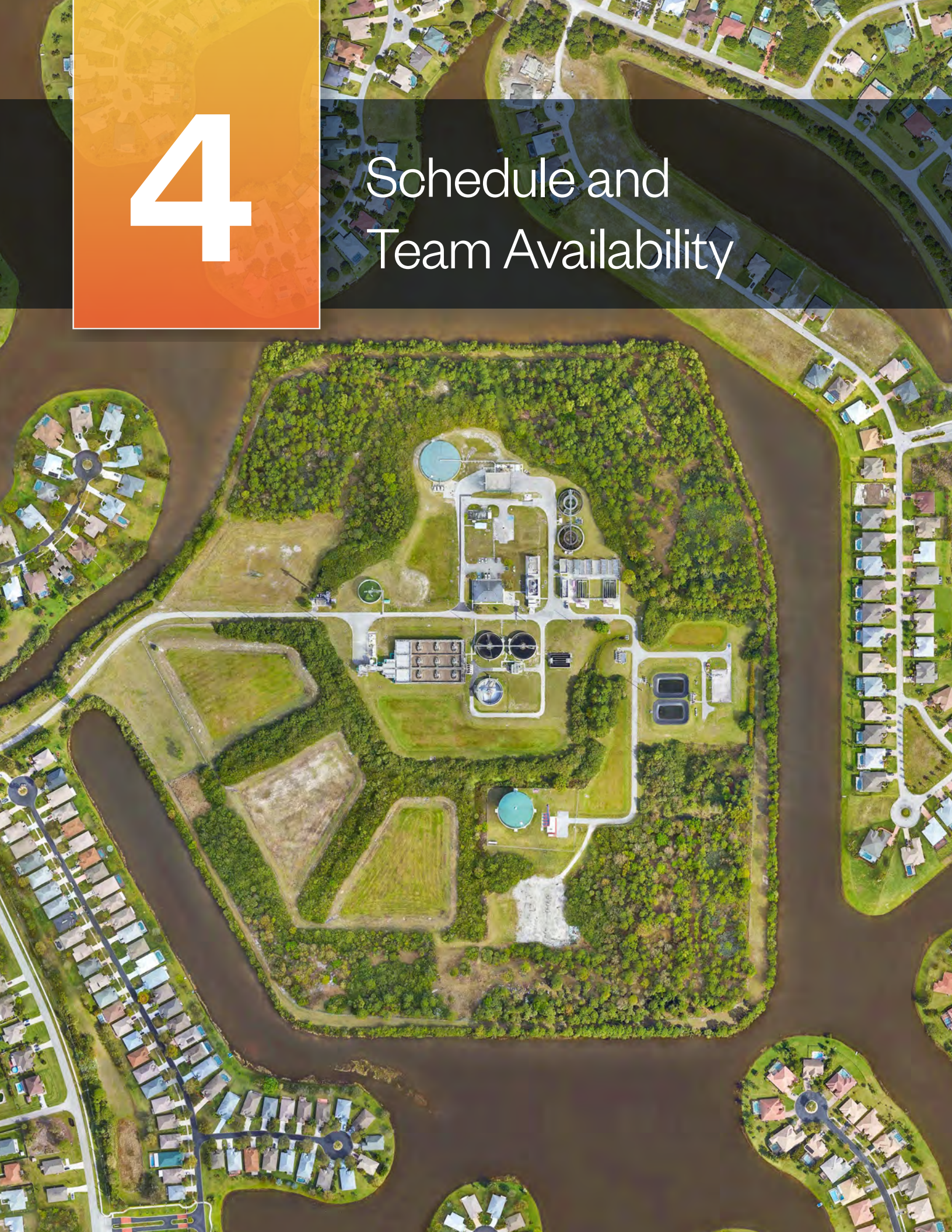
Construction began in June 2009. "Year 3" improvements were operational in January 2011. Final effluent nitrogen limits were met 14 months earlier than the January 2015 compliance deadline.

Team Member	Role	Contribution
Jean Paul Silva, PE	Lead Structural Engineer	Lead structural engineer and provided specialty construction inspections
Alonso Griborio, PE,	Clarifier CFD Modeling	Optimization of clarifier and RAS pumping performance
Evan Curtis, PE	Instrumentation and SCADA QC Review	Provided quality control review of instrumentation drawings and specifications for the design of a new plant-wide SCADA system

1021-562

4

Schedule and Team Availability



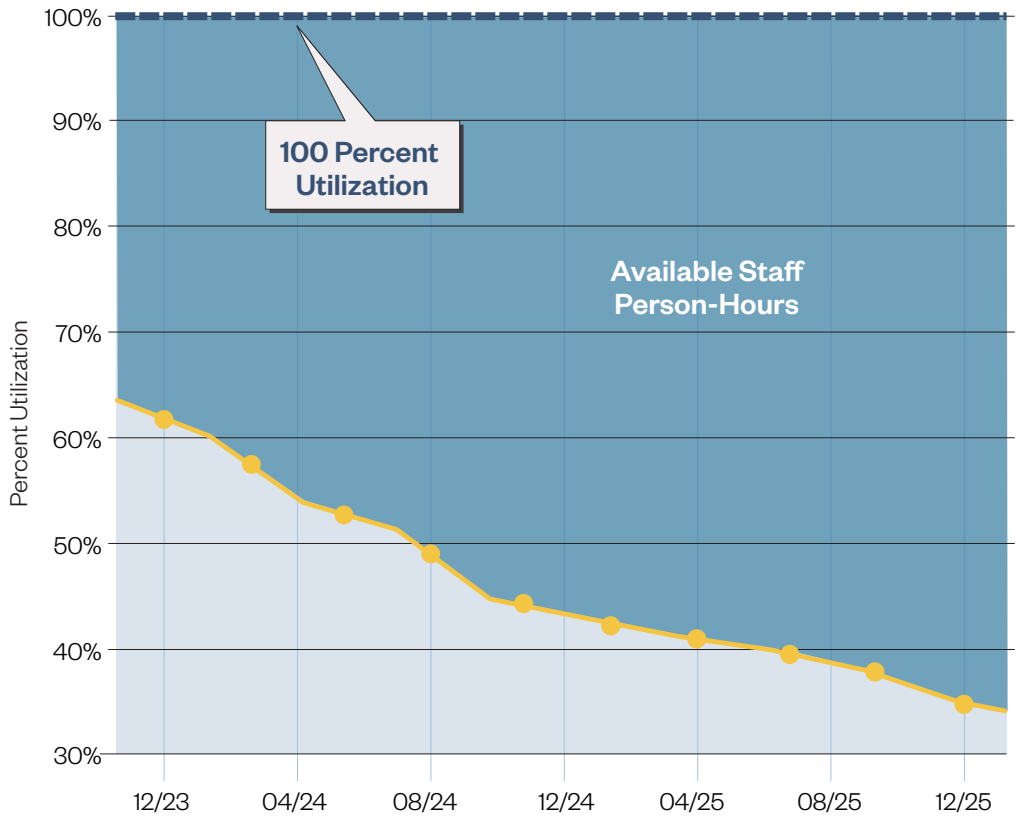
4 Schedule and Team Availability

Hazen's current and projected workload is such that we do not anticipate any work that would prevent us from completing your assignments within schedule.

Hazen management has a conservative approach of typically undertaking new assignments only when workload permits. Should we be selected for this contract, we commit that the individuals identified on the organizational chart will serve the City. The figure below illustrates our team's projected current and future workload capacity. We do not anticipate any work that would prevent us from completing your assignment within schedule.

Should unforeseen circumstances occur, our team has the necessary support and backup staff at all levels with experience in all aspects of engineering. If additional resources are necessary to support our team, Hazen maintains sufficient staff in our seven Florida offices and also has the capacity to draw upon our firmwide staff members should an unforeseen circumstance occur or if specific expertise is required at the City's request.

Our team's current and anticipated workloads and availability are included on the graphic on the next page.



With the selection of the Hazen team, the City can be assured that projects will always be staffed appropriately with the most qualified personnel **to deliver the highest-quality project.**

1021-562

Team members
Availability

Orlando Castro, PE, DBIA
Project Principal
20% Availability

Tony Campbell
Resident Engineer and Inspection
100% Availability

Elie Andary, PhD, PE
Project Manager/ Construction Manager
70% Availability

Kristen Fecko, PE
Document Control
70% Availability

Jose Serpa, EI
Office Engineer
50% Availability

Jose Cano, PE
Electrical
20% Availability

Joseph Franko, PE
Technical Advisor
10% Availability

Jean Paul Silva, PE
Specialty Structural Inspection
20% Availability

John Hoffman, PE
Technical Advisor
20% Availability

Evan Curtis, PE
Instrumentation and Controls Inspection
10% Availability

Linwood Lee
Resident Engineer and Inspection
100% Availability

Alonso Griborio, PhD, PE
Wastewater Process/ Startup, Training, Operations Assistance
30% Availability

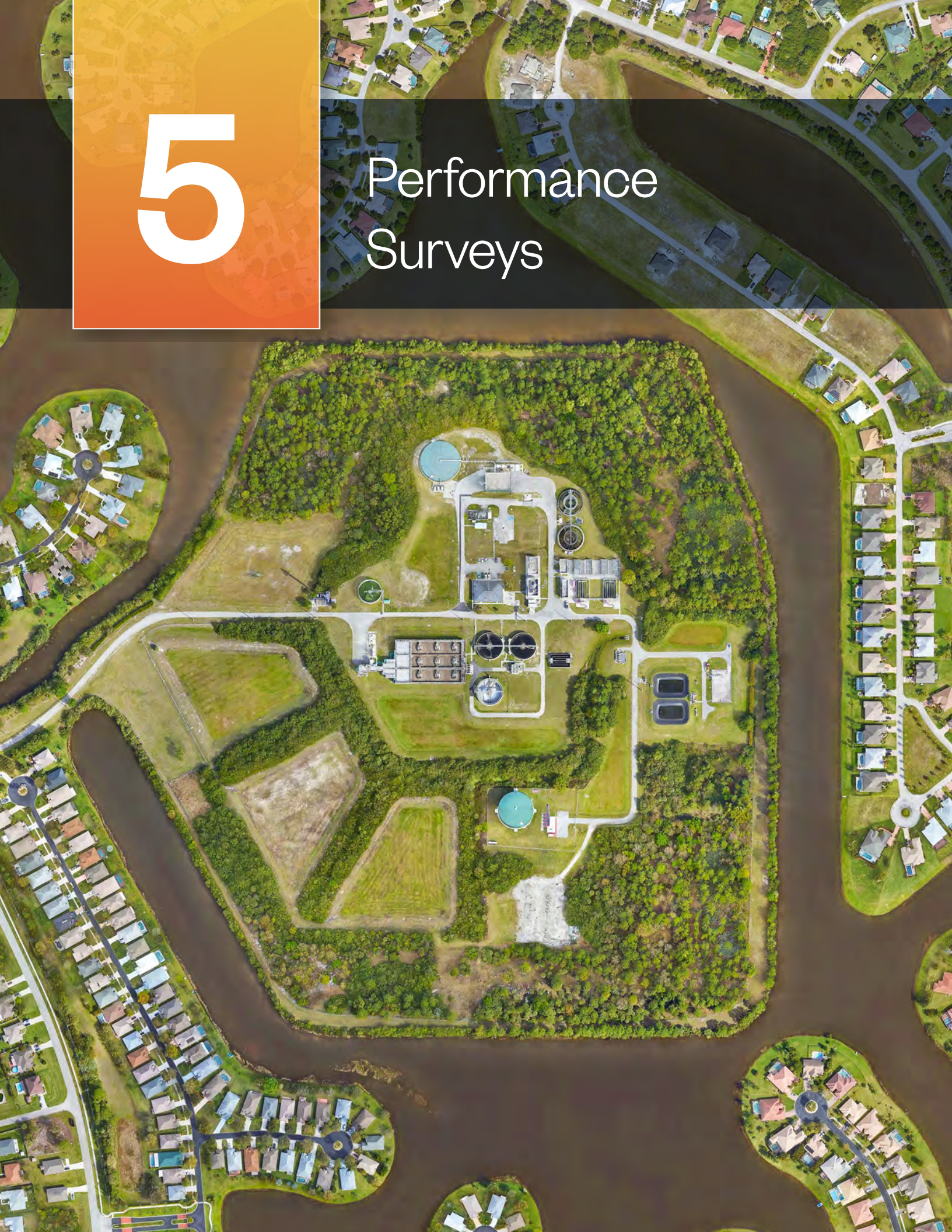
Curtis Robinson
Resident Engineer and Inspection
20% Availability

Tom Zakrzewski, PSP
Scheduler
20% Availability

Note: Availability percentages are estimated averages based on construction (12-18 months) durations outlined in the RFP. Shorter interval availability can be adjusted as needed based on actual scheduling of work order assignments.

1021-562

5 Performance Surveys



5 Performance Surveys

As per your request, we have furnished performance surveys to assess Hazen's previous accomplishments in projects of a similar nature. The Hazen team has consistently achieved project objectives and successfully met client requirements in the past. Our performance surveys substantiate these assertions.

Performance surveys correlate to all project sheets identified under Tab 3:

- Seminole Tribe of Florida
- City of Sunrise
- City of Tallahassee

PERFORMANCE SURVEY

CLIENT NAME	Seminole Tribe of Florida (STOF)
FIRST NAME	Emran
LAST NAME	Rahaman
PHONE NUMBER	(954) 894-1060 Ext: 10923
EMAIL ADDRESS	emranrahaman@semtribe.com
PROJECT NAME	STOF Hollywood Wastewater Treatment Plant Improvements
PROJECT DELIVERY METHOD	Hard Bid
COST OF SERVICES	$55,716,000
DATE COMPLETE	12/15/2020

1021-562

Survey Questionnaire – City of Port St. Lucie

RFP #20230044 – Westport Wastewater Treatment Facility, Nutrient Reduction Improvements

To: Emran Rahaman (Name of Person completing survey) Seminole Tribe of Florida (Name of Client Company/Firm)

Phone Number: (954) 894-1060 Ext: 10923

Email: emranrahaman@semtribe.com

Subject: Past Performance Survey of:

STOF Hollywood Wastewater Treatment Plant Improvements
(Project Name)

Cost of Services: $55,716,000 Date Complete: 12/15/2020

Hazen and Sawyer

Rate each of the criteria on a scale of 1 to 10, with 10 representing that you were very satisfied (and would hire the firm/individual again) and 1 representing that you were very unsatisfied (and would never hire the firm/individual again). Please rate each of the criteria to the best of your knowledge. If you do not have sufficient knowledge of past performance in a particular area, leave it blank.

NO	CRITERIA	UNIT	SCORE
1	Ability to manage cost	(1-10)	10
2	Ability to maintain project schedule (complete on-time/early)	(1-10)	10
3	Quality of workmanship	(1-10)	10
4	Professionalism and ability to manage	(1-10)	10
5	Overall Client satisfaction and comfort level in hiring	(1-10)	10
6	Ability to facilitate consensus and commitment to the plan of action among staff	(1-10)	10

Emran Rahaman
Printed Name of Evaluator

Emran Rahaman
Signature of Evaluator

Please fax or email the completed survey to: rraffo@hazenandsawyer.com

1021-562

PERFORMANCE SURVEY

CLIENT NAME	City of Sunrise Utilities Department
FIRST NAME	Timothy
LAST NAME	Welch, PE
PHONE NUMBER	954-888-6055
EMAIL ADDRESS	twelch@sunrisefl.gov
PROJECT NAME	Biosolids Management Improvements - Sawgrass and Springtree WWTP
PROJECT DELIVERY METHOD	Hard Bid
COST OF SERVICES	$12,300,000
DATE COMPLETE	11/22/2015

1021-562

PERFORMANCE SURVEYS
ADDENDUM #1

Survey Questionnaire – City of Port St. Lucie

RFP #20230044 – Westport Wastewater Treatment Facility, Nutrient Reduction Improvements

To: Timothy Welch, PE (Name of Person completing survey) City of Sunrise Utilities Department (Name of Client Company/Firm)

Phone Number: 954-888-6055

Email: twelch@sunrisefl.gov

Subject: Past Performance Survey of:

Biosolids Management Improvements - Sawgrass and Springtree WWTP
(Project Name)

Cost of Services: $12,300,000 Date Complete: 11/22/2015

Hazen and Sawyer

Rate each of the criteria on a scale of 1 to 10, with 10 representing that you were very satisfied (and would hire the firm/individual again) and 1 representing that you were very unsatisfied (and would never hire the firm/individual again). Please rate each of the criteria to the best of your knowledge. If you do not have sufficient knowledge of past performance in a particular area, leave it blank.

NO	CRITERIA	UNIT	SCORE
1	Ability to manage cost	(1-10)	10
2	Ability to maintain project schedule (complete on-time/early)	(1-10)	9
3	Quality of workmanship	(1-10)	10
4	Professionalism and ability to manage	(1-10)	10
5	Overall Client satisfaction and comfort level in hiring	(1-10)	10
6	Ability to facilitate consensus and commitment to the plan of action among staff	(1-10)	10

Timothy A. Welch
Printed Name of Evaluator

Signature of Evaluator

Please fax or email the completed survey to: rraffo@hazenandsawyer.com

1021-562

PERFORMANCE SURVEY

CLIENT NAME	City of Tallahassee
FIRST NAME	Sondra
LAST NAME	Lee, PE
PHONE NUMBER	(850) 891-6123
EMAIL ADDRESS	sondra.lee@talgov.com
PROJECT NAME	Thomas P. Smith Water Reclamation Facility Improvements Project
PROJECT DELIVERY METHOD	CMAR
COST OF SERVICES	$174 million
DATE COMPLETE	01/2015

Survey Questionnaire – City of Port St. Lucie

RFP #20230044 – Westport Wastewater Treatment Facility, Nutrient Reduction Improvements

To: Sondra Lee, PE (Name of Person completing survey) City of Tallahassee (Name of Client Company/Firm)

Phone Number: (850) 891-6123

Email: sondra.lee@talgov.com

Subject: Past Performance Survey of:

Thomas P. Smith Water Reclamation Facility Improvements Project (Project Name)

Cost of Services: $174 million Date Complete: 01/2015

Hazen and Sawyer

Rate each of the criteria on a scale of 1 to 10, with 10 representing that you were very satisfied (and would hire the firm/individual again) and 1 representing that you were very unsatisfied (and would never hire the firm/individual again). Please rate each of the criteria to the best of your knowledge. If you do not have sufficient knowledge of past performance in a particular area, leave it blank.

NO	CRITERIA	UNIT	SCORE
1	Ability to manage cost	(1-10)	9
2	Ability to maintain project schedule (complete on-time/early)	(1-10)	8
3	Quality of workmanship	(1-10)	9
4	Professionalism and ability to manage	(1-10)	10
5	Overall Client satisfaction and comfort level in hiring	(1-10)	10
6	Ability to facilitate consensus and commitment to the plan of action among staff	(1-10)	10

Sondra W. Lee
Printed Name of Evaluator

Sondra W Lee
Signature of Evaluator

Please fax or email the completed survey to: rraffo@hazenandsawyer.com

1021-562

6 Methodology/ Approach

6 Methodology/ Approach

Hazen, along with our partner HCE, combine local knowledge and responsiveness with national wastewater expertise and resources to meet the City's needs.

Hazen has assembled a local, responsive, and knowledgeable team with a proven track record of successfully delivering CMAR type projects of similar scope for municipalities throughout Florida and the rest of the country. Construction projects typically contain inherent challenges, and as the CEI consultant it is our duty to define all obstacles and determine the best approach to address them for the overall success of the project.

After a thorough review of the City's proposed project, Hazen has defined four challenges:

1. Conflicts with Operations and Interruptions to the Facility's Process
2. Delivering a successful CMAR
3. The use of a third-party CEI
4. Wastewater process and construction sequencing

Through Hazen's experience and lessons learned from previous projects, our team has defined the best approach to address the challenges and minimize potential risks to the City of Port St. Lucie.

Understanding of the City's Challenges

The City's Challenge

Conflicts with Operations and Interruptions to the Facility's Process

The Hazen team is aware that construction will occur in an existing WWTF where structured coordination with operations staff is key for the project's success.

The Hazen Team Approach

Establishing Open Lines of Communication with Operations and Facility Staff

Hazen will utilize team members who have worked together and implemented effective open lines of communication with plant operations. Our team will schedule structured meetings, encourage daily communication, and other methods of exchanging information.

The City's Challenge

Delivering a Successful CMAR Delivery Method

The Hazen team is aware that for the Westport WWTF Nutrient Reduction Project, the City has chosen a CMAR delivery method. This is the first time the City has implemented a CMAR delivery method, which can be challenging and require a knowledgeable CEI team to assist the City.

The Hazen Team Approach

Implement Hazen's Strategy and Experience with CMAR Delivery

Hazen has selected team members who have successfully implemented CMAR on several projects. The Hazen team will implement a collaborative decision-making process with the team members, including the City, which is key for a successful project.

The City's Challenge

Third-Party CEI

In any third-party CEI project, the challenge comes from the addition of an outside party which requires an added collaboration effort among the parties involved to avoid delays, conflicts, and deliver a successful project.

The Hazen Team Approach

Responsible and Knowledgeable Team

As a third-party construction manager, the Hazen team will bring experience from previous projects to implement the required collaboration level to avoid conflicts on this project. Our team will schedule structured meetings, encourage daily communication, and have proper documentation to implement collaboration with all parties.

The City's Challenge

WW Process and Construction Sequencing

A high level of coordination is needed with the City for the decommissioning of the aeration basins and installation of the fine- bubble diffused aeration.

The Hazen Team Approach

Experience with BioWin and MOPO

The chosen Hazen team is knowledgeable in implementing BioWin modeling for plant optimization and Maintenance of Plant Operations (MOPO) services during the planning and coordination of aeration basins upgrades for fine-bubble diffused aeration.

1021-562

Proposed Methodology

The construction phase of a project is the pinnacle of the City's extensive efforts and investment. It is also the phase of the project that is most visible and presents the most risk. It is essential that the construction management team is local, responsive and knowledgeable.

Hazen will utilize team members who have worked together on previous wastewater projects and are experienced with the CMAR project delivery. Hazen will also team up with Holtz Consulting Engineers, who are familiar with the City's procedures and policies. This will allow the implementation of "lessons learned" from current construction projects, as well as provide established working relationships with other consultants, City staff, and contractors.

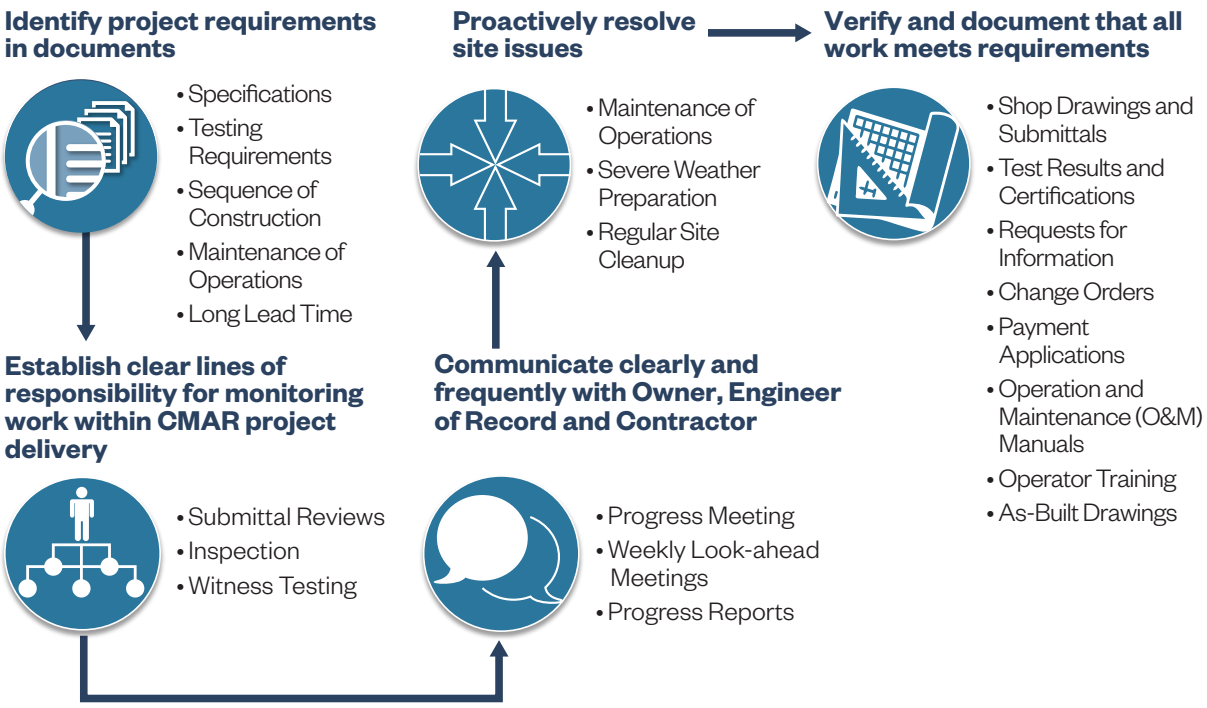
Generally, with preconstruction activities. These activities may include assistance in securing permits from applicable agencies. We will also conduct a preconstruction conference with the City and the CMAR team to establish lines of communication. During this meeting, we will also identify and discuss any long lead items that require early submittals.

Once permits are obtained and construction commences, the Hazen team will provide ongoing services through final completion. These services include submittal review, daily inspection, review and approval of payment applications, respond to requests for information, review and process change orders, conduct regularly scheduled progress meetings, and confirm that construction is proceeding in accordance with the documents.

Startup and testing activities are also included as part of this work. Our team is also qualified to provide training on new equipment of processes and review Operation and Maintenance (O&M) Manuals. Once the project has reached completion, the Hazen team will issue lists of deficiencies and proceed with other project closeout activities. Hazen will certify both substantial and final completion.

With assistance from the Engineer of Record, permits will be finalized and closed out. Approval of as-built record drawings and completion of related activities for the City's asset management system are an important part of this task.

Construction Management Approach



1021-562

Change Orders

Hazen's approach to minimizing change orders is based on our extensive construction management experience. Our team believes that proper planning is an integral part of this approach, which is based on the six principles described below.

1 Qualified CM Staff

Our staff performed CM services on some of the most complex WWTP and utility projects in the region. Our team understands the pitfalls to be expected and areas of concern to be noted on facility construction projects. With this experience, our team will properly prepare for and correct construction issues in the field. Our planning and preparation will mitigate or eliminate opportunities for the development of change conditions during construction.

2 Pre-Construction Activities

We will perform a constructability review on the contract design documents that will bring to bear the collective experience of our firm in providing construction management for billions of dollars of facility and utility construction. This will be crucial to the mitigation of change orders and will commence as soon as practicable. **An early proactive identification of the issue allows for cost and time mitigation in evaluating the solutions.**

3 Partnering

A project is more likely to be a success if all stakeholders, the owner, contractor, supplier, and construction manager are working together toward a common goal. Hazen encourages our team to initiate partnering in a project as soon as possible as it has proven extremely successful for our clients.

4 Risk Management

Another key partnering activity, which begins in the pre-construction phase and carries through construction, is the development of a **risk management plan.** A key component of this plan is the creation of a project risk register. The City, Hazen, and the engineer-of-record can develop the register through risk management meetings. **Through our knowledge of water and wastewater infrastructure design and construction, we will recognize, understand, and help identify ways to mitigate potential risks.**

5 Quality Management Plan

This plan ensures that the systems of equipment and processes procured by the City work as designed and as intended. Our quality management plan will ensure that the operations and maintenance staff have a properly working and finely tuned system, and will assist in the mitigation of potential change orders. **Our team of inspectors and construction managers will ensure that the contractor plans for construction quality rather than reacting to deficiencies.**

6 Document Control

Our staff of inspectors and construction managers use specific tools to ensure proper construction documentation, which limits the need for change orders and claims by the contractor. Through years of experience, we have developed checklists and verification documentation that will be implemented on the City's projects to ensure quality and will mitigate the opportunity for change-order requests. Documents include inspection reports, concrete placement tickets and logs, and equipment storage logs.

1021-XXX

Technical Approach

Our approach builds upon best practice and Hazen's hands-on experience to proactively manage risk. We provide innovative solutions to difficult project issues. Effective planning, thorough communication, documentation and a dedication to high-quality delivery are the foundation of our CM model.

We have demonstrated throughout our proposal that our CM team has been structured to align with the project scope and effectively manage the Westport WWTF Nutrient Reduction Project's most critical risk: an absolute need to maintain minimum interruptions with the active WWTF during the construction. We will now demonstrate how that will be carried into practice.

Project Understanding

The Westport WWTF Expansion project plans and specifications are expected to be completed and submitted for to the Building Department for permitting in September 2023 and construction is expected to start in the first quarter of 2024. The City is seeking the services of a consultant that has significant and successful experience with all aspects of construction engineering inspections (CEI) of municipal wastewater treatment expansion projects in a CMAR type project delivery of the Westport Wastewater Treatment Facility Expansion project.

The proposed improvements to the Westport WWTF include the following:

- Installation of two (2) new 3mm mechanical screens
- Construction of one (1) new grit removal equipment concrete basin
- Installation of one (1) new tray-separation grit removal system
- Construction of one (1) new concrete anoxic / aeration treatment train (no.4)
- Installation of three (3) new anoxic submersible mixers (no.4)
- Removal of existing mechanical surface aeration equipment (no. 1-3)
- Construction of new blower / electrical building
- Installation of three (3) new turbo blowers
- Installation of four (4) new fine bubble diffused aeration systems (no. 1-4)
- Installation of new stainless steel process air piping, values, and appurtenances
- Removal of existing IR pumps (no. 1-3)
- Installation of eight (8) new IR pumps (no. 1-4)
- Upgrades to existing filtration system
- Construction of one (1) new denitrification filter system with glycerol storage and feed
- Electrical and I&C upgrades

Project Approach

We have discussed our 'Proactive Approach' to Construction Management and how our delivery of Construction Management is aligned with the City's core values of Quality, Client Service, Budget and Schedule. But how is that applicable to the City's goals on the Westport WWTF Nutrient Reduction Project?

Our proven CM approach is based upon thoughtful planning, proactive execution, and regimented follow up. We have incorporated best practices and lessons learned delivering similar scopes into our CM approach and process.

Roadmap for **Successful Project Delivery**

Thoughtful Planning

- Establishment of structure and pathways for a future Asset Management system.
- Coordination with Operations, Engineer-of-Record, and the Contractor to facilitate a smooth CMAR project delivery.
- Participation in the development and review of the project baseline schedule.
- Proctive review of project work locations and scope with the parties involved to develop listing of potential hazards and conflicts from the contractor.
- Proactive review and discussions with the Contractor to establish framework for delivery schedules in advance of shop drawing submission and approvals.
- Prep work with field staff tablets to incorporate contract documents and specifications, and shop drawings.

Proactive Execution

- Weekly site coordination meetings with all contractors and plant operations to discuss and coordinate work and delivery requirements. Opportunities to minimize impacts to Plant Operations, perform the work more efficiently will be explored.
- Bi -weekly look ahead meetings to review status of ongoing and upcoming work, any quality or unusual coordination requirements. Particular attention is focused on concurrent work activities, especially in overlapping work or access areas.
- Regular reviews of shop drawing status. If a drawing is not approved by cycle number 2, the CEI will call a meeting with the contractor, vendor and design engineer to resolve the remaining comments.
- Weekly meetings with project team to discuss, highlight and track each stakeholder's critical issues.
- Regular RFI review meetings with applicable team members to discuss and obtain consensus on proposed resolution.
- Tracking of contractor cash flow to reconcile "work in place" with schedule expectations and provide insight into potential trouble areas.
- Maintenance of construction schedule to track progress, highlight current and potential impacts and to explore schedule recovery options should delays occur.
- Regular start up meetings to establish schedules for submission and review of O&M manuals, training documents, testing procedures and as work progresses the results and lessons learned from initial testing.
- Updating of field tablets with current shop drawing, RFI and as built information.

Regimented Follow-up

- Documentation will be constantly maintained and uploaded to the MIS system.
- Regular notifications of permit status will be sent to the contractor.
- Delivery dates, installation records, quantity records, daily inspection reports and as built information will the tracked on the field tablets and the information uploaded into the MIS.

Project Closeout

At Hazen, we have adapted the use of technology to facilitate project closeout, this process has been developed and honed over the course of many projects based on our experience, best practices, and lessons learned.

For Hazen, close-out starts on day one. Among the initial tasks carried out by our team on every project is the development of an equipment/submittal list. The Hazen team review the contract documents to develop a tracking list for all required submittals which focuses on equipment and items requiring testing and training prior to turnover to the client. All key submittals are listed and tracked including shop drawings, testing parameters and results, O&M manuals, training submittals, spare part requirements. This log is constantly updated and utilized to push the contractor for required deliverables well in advance of schedule critical items such as installation, start up, testing and commissioning. Open and delayed items are easily noted and this log is readily available to field staff via their tablets or phones to be used during their normal inspection activities to instantly know the status of any piece of equipment and to constantly remind the contractor of any open or lingering issues.

This submittal log is refined and used throughout the project to provide direction for different aspects of the project. As the work transitions into start up and acceptance, the log evolves and becomes more focused on equipment and systems. It is used to track and push for submission and approval of vendor check-out documents, training lesson plans, spare part and warranty documentation. This will be essential to the City of Port St. Lucie's project where the entire schedule is dependent upon the successful, continuous turnover and acceptance of newly installed equipment.

And finally, the log evolves to be the basis used to develop the project close-out plan, which allows the smooth transition of the project to the City at completion. At this point the log will indicate submittals that are complete and ready for conversion to final working documents as well as those needing correction. It will note missing certifications, status of warranties, spare parts, permits, etc.

The CM staff will use these various tracking tools to continue to push the contractor for close-out deliverables, throughout all phases of the project, addressing open items as part of each progress meeting and where applicable as part of the CPM update meetings.

As the project moves closer to completion, the Hazen team will begin to hold "Close-out Meetings."

We will explain in detail all the close-out requirements in the contract documents. We will then focus on open items and work with the contractor to explain steps needed to obtain missing information, to achieve final approval on open items and to compile the information in the format required by the City.

As-Built Management

Our field inspection staff also assists with project close-out from the initiation of the project by maintain "red line" as built information on any modifications to the contract drawings on their field tablets, as installations progress. This information is constantly compiled and an aggregate document of all field changes is maintained by the CEI as a means of verification of as built information later in the project.

Start-up and Commissioning Focus

As part of our CM process our field inspection staff also record all test, start up and commissioning data through their tablets ensuring that the CM has reliable check points for as built and vendor submitted close-out documentation. We also compile all relevant equipment data into a searchable format for turnover to the operating bureau so that any operator with access to a pdf reader can easily click on any piece of equipment and instantly obtain information related to shop testing, start up, training, O&M manuals, spare parts.

As part of our CM process our field inspection staff also record all test, start up and commissioning data through their tablets insuring that the CM has reliable check points for as built and vendor submitted close-out documentation. We also compile all relevant equipment data into a searchable format for turnover to the operating bureau so that any operator with access to a pdf reader can easily click on any piece of equipment and instantly obtain information related to shop testing, start up, training, O&M manuals, and/or spare parts.

We understand that the contractor plays a key role in the close-out of every project. They are responsible for updating and providing the key submittal, permit, payment and as built information. Frequently, contractors change out personnel at the end of the project, preferring to move key personnel to newer and more profitable projects. The result is often a loss of continuity and historical knowledge of the project.

While we cannot make the close-out submittals required by the contract documents for the contractor, the records maintained by the Hazen team, through the tracking logs and field inspection records discussed earlier, will allow us to update and/or supplement most documents required from the contractor, providing the City with accurate, up to date as-built information.

Acknowledging that we cannot obtain final documents, especially from equipment vendors, due to contractual limitations, we can, in most cases, provide The City's client bureaus with actionable as built and close-out information.

Commitment to Port St. Lucie's Core Values

We understand and are committed to your core values: Client Service, Quality, Budget and Schedule. Our Construction Management approach has been refined through experience to align with these goals.

Quality: Our approach to quality is based on continual improvement, informed by lessons learned, ongoing training and documented procedures. We don't just say it, we do it.

Client Service: We understand your commitment to deliver a world-class project for the City of Port St. Lucie, and we are sensitive to their needs and concerns: no impact to ongoing operations during construction and a quality installation that will deliver as designed and provide reliable service for many years to come. Our dedication is clear, and we are first to respond when Operations have an emergency.

Schedule: We will watch for, identify, quantify and mitigate risks. Hazen will track potential risks, allowing the project team to address risks before they impact the project. If impacts are identified, we will work with the project team and the contractor to identify potential schedule recovery steps. We continually work to identify opportunities to shorten the schedule or create additional float on planned activities.

Budget: We will apply our project insight to work with the contractor to develop a detailed estimate breakdown that is thorough, complete and ties to the cost loaded schedule. We will work proactively with the contractor to provide payment applications that are complete and easily audited and processed. Cash flow will be essential to a successful outcome. If issues arise, we will carefully assess and track responsibility and exposure, keeping the City constantly informed as to potential budget risks.

Why Hazen?

Hazen has provided the City a Construction Management team for Westport WWTF Nutrient Reduction Project with:

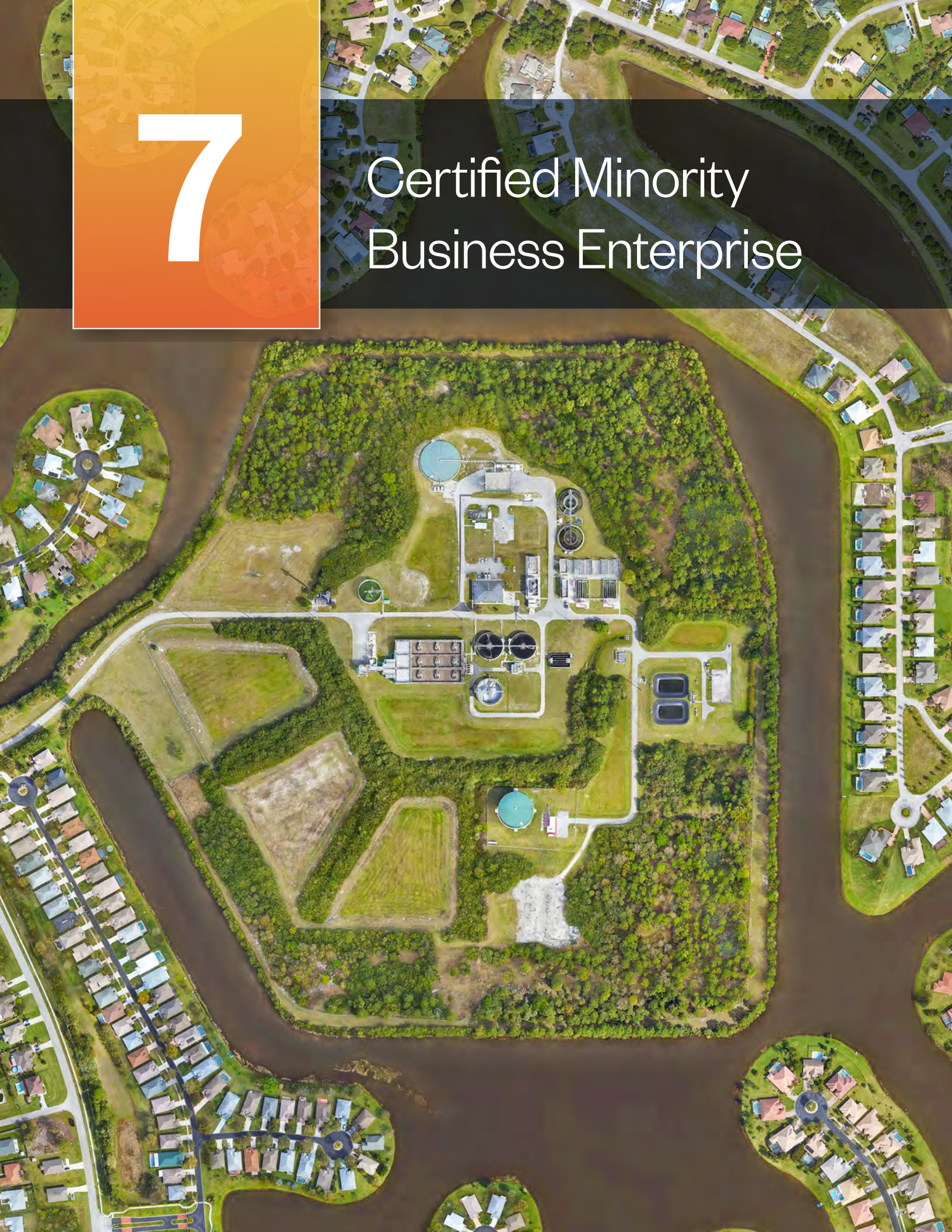
- Proven CMAR experience
- WWTF expansion experience
- Wastewater process and construction sequencing experience
- Experience with nutrient reduction improvements

This combined insight makes Hazen the logical choice as the City's partner to successfully deliver the Westport WWTF Nutrient Reduction Project.

1021-562

7

Certified Minority Business Enterprise



7 Certified Minority Business Enterprise

Hazen has a strong commitment to including minority/women business enterprises (M/WBEs) on our project teams.

Hazen is not a certified minority business enterprise as defined by the Florida Small and Minority Business Assistance Act of 1985. However, we have a strong commitment to including M/WBEs on our project teams.

Our team includes certified State of Florida M/WBE subconsultant Holtz Consulting Engineers, Inc. (Resident Engineer and Inspection). Their minority certificate is provided on the following pages.

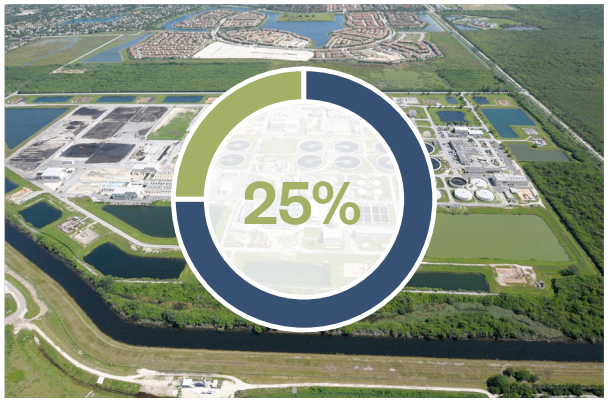
Subconsultant Holtz is an M/WBE.

Some of Hazen's previous M/WBE, CBE, and SBE efforts are also highlighted below.

Although no specific goal is identified in the RFQ, **Hazen commits to maximizing M/WBE participation on this project.**

Broward County Water and Wastewater Contracts

Hazen has continuously employed county business enterprises (CBE)/small businesses on County contracts per Broward County requirements since the 1990s and continues to do so today for our active contracts. Presently, Hazen has committed over 25% of the total contract value for four active Broward contracts to CBE firms. To date, we have earned approximately over half ($37.7 million) of the total contracted amount and have already **paid out $9.5 million to the local CBE firms, demonstrating the reality of our overall 25% commitment.**



MDWASD South District Wastewater Treatment Plant High Level Disinfection Contract

For the Miami-Dade Water and Sewer Department South District Wastewater Treatment Plant High Level Disinfection contract (2004-2014), **approximately $10.7 million of Hazen's $42.9 million fee was paid to Miami-Dade County certified small businesses.**

1021-562

State of Florida

Woman & Minority Business Certification

Holtz Consulting Engineers, Inc.

Is certified under the provisions of
287 and 295.187, Florida Statutes, for a period from:
August 31, 2022 to August 31, 2024

J. Todd Inman
Florida Department of Management Services

FLORIDA DEPARTMENT OF MANAGEMENT SERVICES
SUPPLIER DIVERSITY

Office of Supplier Diversity
4050 Esplanade Way, Suite 380
Tallahassee, FL 32399
850-487-0915
www.dms.myflorida.com/osd

1021-XXX

WEST PALM BEACH
Procurement

Office of Equal Opportunity
M/WBE Program
P.O. Box 3366
West Palm Beach, FL 33402
Tel. (561) 822-2100
Fax (561) 822-1564
TTY: 1-800-955-8771
www.wpb.org/procurement

"The Capital City of the Palm Beaches"

November 3, 2022

Holtz Consulting Engineers Inc.
Attention: Andrea Holtz
270 South Central Blvd Ste #207
Jupiter, Florida 33458

Dear Mrs. Holtz:

Congratulations! Your company has been certified as a Minority/Women Business Enterprise with the City of West Palm Beach. Your certification will remain in effect until **November 2, 2025.**

There are many benefits to certification with the City, which include:

- Notification of opportunities to participate in City contracts in your business area of specialty;
- Providing your business and contact information to contractors who are selected for major bids;

Please notify us of any changes in ownership, control of your company or contact information during the period of your certification. If we can assist you in any way, please do not hesitate to call on us.

Sincerely,

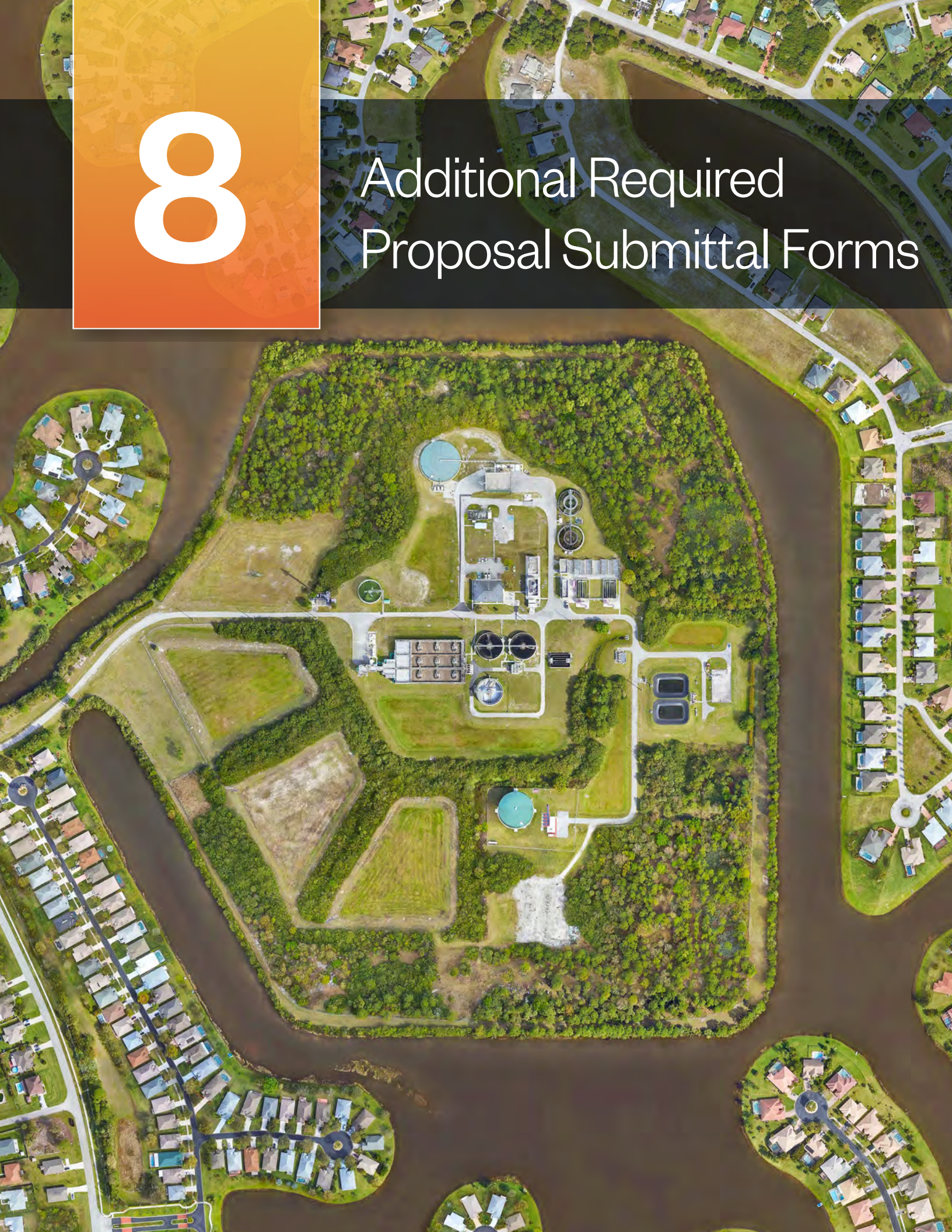
Frank Hayden
Director Office of Equal Opportunity

Encls.

1021-XXX

8

Additional Required Proposal Submittal Forms



CONTRACTOR'S GENERAL INFORMATION WORK SHEET
eRFP #20230044

It is understood and agreed that the following information is to be used by the City to determine the qualifications of prospective Contractor to perform the work required. The Contractor waives any claim against the City that might arise with respect to any decision concerning the qualifications of the Contractor.

The undersigned attests to the truth and accuracy of all statements made on this questionnaire. Also, the undersigned hereby authorizes any public official, Engineer, Surety, bank, material or equipment manufacturer, or distributor, or any person, firm or corporation to furnish the City any pertinent information requested by the City deemed necessary to verify the information on this questionnaire.

Dated at Boca Raton, FL (Location), this 7th day of Aug., 2023

Name of Organization/Contractor: Hazen and Sawyer

By: Orlando Castro, PE, DBIA, Associate Vice President
Name and Title

1. Corporation, Partnership, Joint Venture, Individual or other? C Corporation

2. Firm's name and main office address, telephone and fax numbers

Name: Hazen and Sawyer
Address: Project Office Address: 2101 NW Corporate Boulevard, Suite 301, Boca Raton, FL 33431
Corporate Office: 498 Seventh Avenue, 11th Floor, New York, NY 10018

Telephone Number: Project Office Number: 561-997-8070; Corporate Office: 212-539-7000
Fax Number: Corporate Central FAX: 1-800-304-8791

3. Contact person: Orlando Castro, PE, DBIA Email: ocastro@hazenandsawyer.com

4. Firm's previous names (if any). None.

5. How many years has your organization been in business? 73

6. Total number of staff at this location: 21 (Boca) 1,711 (Firmwide) Total number of staff on the Treasure Coast: 0

7. Is the Firm a minority business: YES / (NO)
If no, is your company planning to implement such a program? We hire minority firms to participate in a substantial part of all of our projects.

8. List the license(s) that qualifies your firm to construct this project:
Florida Professional Engineer Certificate Number 2771
Florida Secretary of State Document Number 841657.
Authorized to do business in the State of Florida on October 18,1978.

9. **ADDENDUM ACKNOWLEDGMENT** - Bidder acknowledges that the following addenda have been received and are included in its proposal/bid:

Addendum Number	Date Issued	Addendum Number	Date Issued
1	8/15/2023		
2	8/23/2023		
3	9/7/2023		
4	9/12/2023		

10. Has the Contractor or any of its principals ever been declared bankrupt or reorganized under Chapter 11 or put into receivership?

Yes ( ) No (✓)

If yes, please explain:

_____

_____

_____

11. List any lawsuits pending or completed within the past five (5) years involving the corporation, partnership or individuals with more than ten percent (10 %) interest:

None in the past five years.

(N/A is not an acceptable answer - insert lines if needed)

12. List any judgments from lawsuits in the last five (5) years:

None in the past five years.

(N/A is not an acceptable answer - insert lines if needed)

13. List any criminal violations and/or convictions of the Proposer and/or any of its principals:

None.

(N/A is not an acceptable answer - insert lines if needed)

Orlando J. Castro

Signature Orlando Castro, PE, DBIA

Associate Vice President

Title

Survey Questionnaire – City of Port St. Lucie

RFP #20230044 – Westport Wastewater Treatment Facility, Nutrient Reduction Improvements

To: Emran Rahaman (Name of Person completing survey) Seminole Tribe of Florida (Name of Client Company/Firm)

Phone Number: (954) 894-1060 Ext: 10923

Email: emranrahaman@semtribe.com

Subject: Past Performance Survey of:

STOF Hollywood Wastewater Treatment Plant Improvements
(Project Name)

Cost of Services: $55,716,000 Date Complete: 12/15/2020

Hazen and Sawyer

Rate each of the criteria on a scale of 1 to 10, with 10 representing that you were very satisfied (and would hire the firm/individual again) and 1 representing that you were very unsatisfied (and would never hire the firm/individual again). Please rate each of the criteria to the best of your knowledge. If you do not have sufficient knowledge of past performance in a particular area, leave it blank.

NO	CRITERIA	UNIT	SCORE
1	Ability to manage cost	(1-10)	10
2	Ability to maintain project schedule (complete on-time/early)	(1-10)	10
3	Quality of workmanship	(1-10)	10
4	Professionalism and ability to manage	(1-10)	10
5	Overall Client satisfaction and comfort level in hiring	(1-10)	10
6	Ability to facilitate consensus and commitment to the plan of action among staff	(1-10)	10

Emran Rahaman
Printed Name of Evaluator

Emran Rahaman
Signature of Evaluator

Please fax or email the completed survey to: rraffo@hazenandsawyer.com

Survey Questionnaire – City of Port St. Lucie

RFP #20230044 – Westport Wastewater Treatment Facility, Nutrient Reduction Improvements

To: Timothy Welch, PE (Name of Person completing survey) City of Sunrise Utilities Department (Name of Client Company/Firm)

Phone Number: 954-888-6055

Email: twelch@sunrisefl.gov

Subject: Past Performance Survey of:

Biosolids Management Improvements - Sawgrass and Springtree WWTP

(Project Name)

Cost of Services: $12,300,000 Date Complete: 11/22/2015

Hazen and Sawyer

Rate each of the criteria on a scale of 1 to 10, with 10 representing that you were very satisfied (and would hire the firm/individual again) and 1 representing that you were very unsatisfied (and would never hire the firm/individual again). Please rate each of the criteria to the best of your knowledge. If you do not have sufficient knowledge of past performance in a particular area, leave it blank.

NO	CRITERIA	UNIT	SCORE
1	Ability to manage cost	(1-10)	10
2	Ability to maintain project schedule (complete on-time/early)	(1-10)	9
3	Quality of workmanship	(1-10)	10
4	Professionalism and ability to manage	(1-10)	10
5	Overall Client satisfaction and comfort level in hiring	(1-10)	10
6	Ability to facilitate consensus and commitment to the plan of action among staff	(1-10)	10

Timothy A. Welch
Printed Name of Evaluator

Signature of Evaluator

Please fax or email the completed survey to: rraffo@hazenandsawyer.com

Survey Questionnaire – City of Port St. Lucie

RFP #20230044 – Westport Wastewater Treatment Facility, Nutrient Reduction Improvements

To: Sondra Lee, PE (Name of Person completing survey) City of Tallahassee (Name of Client Company/Firm)

Phone Number: (850) 891-6123

Email: sondra.lee@talgov.com

Subject: Past Performance Survey of:

Thomas P. Smith Water Reclamation Facility Improvements Project (Project Name)

Cost of Services: $174 million Date Complete: 01/2015

Hazen and Sawyer

Rate each of the criteria on a scale of 1 to 10, with 10 representing that you were very satisfied (and would hire the firm/individual again) and 1 representing that you were very unsatisfied (and would never hire the firm/individual again). Please rate each of the criteria to the best of your knowledge. If you do not have sufficient knowledge of past performance in a particular area, leave it blank.

NO	CRITERIA	UNIT	SCORE
1	Ability to manage cost	(1-10)	9
2	Ability to maintain project schedule (complete on-time/early)	(1-10)	8
3	Quality of workmanship	(1-10)	9
4	Professionalism and ability to manage	(1-10)	10
5	Overall Client satisfaction and comfort level in hiring	(1-10)	10
6	Ability to facilitate consensus and commitment to the plan of action among staff	(1-10)	10

Sondra W. Lee
Printed Name of Evaluator

Sondra W Lee
Signature of Evaluator

Please fax or email the completed survey to: rraffo@hazenandsawyer.com

"A City for All Ages"

NOTICE TO ALL PROPOSERS:

To ensure fair consideration is given for all Proposers, it must be clearly understood that upon release of the proposal and during the proposal process, firms and their employees of related companies as well as paid or unpaid personnel acting on their behalf shall not contact or participate in any type of contact with City employees, department heads or elected officials, up to and including the Mayor and City Council. The "Cone of Silence" is in effect for this solicitation from the date the solicitation is advertised on DemandStar, until the time an award decision has been approved by City Council and fully executed by all parties. Information about the Cone of Silence can be found under the City of Port St. Lucie Ordinance 20-15, Section 35.13. Contact with anyone other than the Issuing Officer may result in the vendor being disqualified. All contact must be coordinated through Michelle Fentress, Issuing Officer, for the procurement of these services.

All questions regarding this Solicitation are to be submitted in writing to Michelle Fentress, Procurement Agent I with the Procurement Management Department via e-mail mfentress @cityofpsl.com, or by phone 772-8715222. Please reference the Solicitation number on all correspondence to the City.

All questions, comments and requests for clarification must reference the Solicitation number on all correspondence to the City. Any oral communications shall be considered unofficial and non-binding.

Only written responses to written communication shall be considered official and binding upon the City. The City reserves the right, at its sole discretion, to determine appropriate and adequate responses to the written comments, questions, and requests for clarification.

**NOTE: All addendums and/or any other correspondence before bid close date (general information, question and responses) to this solicitation will be made available exclusively through the DemandStar's Website for retrieval. All notice of intent to award documentation will be published on the City Clerk's Website. Proposers are solely responsible for frequently checking these websites for updates to this solicitation.*

I understand and shall fully comply with all requirements of City of Port. St. Lucie Ordinance 20-15, Section 35.13.

Typed Name: Orlando Castro, PE, DBIA

Signed: _____

Company and Job Title: Hazen and Sawyer / Associate Vice President

Date: September 7, 2023

"A City for All Ages"

eRFP #20230044
CONTRACTOR'S CODE OF ETHICS

The City of Port St Lucie ("City), through its Procurement Management Department ("Procurement Management Department") is committed to a procurement process that fosters fair and open competition, is conducted under the highest ethical standards and enjoys the complete confidence of the public. To achieve these purposes, Procurement Management Department requires each vendor who seeks to do business with the City to subscribe to this Contractor's Code of Ethics.

- A Contractor's bid or proposal will be competitive, consistent and appropriate to the bid documents.
- A Contractor will not discuss or consult with other Vendors intending to bid on the same contract or similar City contract for the purpose of limiting competition. A Vendor will not make any attempt to induce any individual or entity to submit or not submit a bid or proposal.
- Contractor will not disclose the terms of its bids or proposal, directly or indirectly, to any other competing Vendor prior to the bid or proposal closing date.
- Contractor will completely perform any contract awarded to it at the contracted price pursuant to the terms set forth in the contract.
- Contractor will submit timely, accurate and appropriate invoices for goods and/or services actually performed under the contract.
- Contractor will not offer or give any gift, item or service of value, directly or indirectly, to a City employee, City official, employee family member or other vendor contracted by the City.
- Contractor will not cause, influence or attempt to cause or influence, any City employee or City Official, which might tend to impair his/her objectivity or independence of judgment; or to use, or attempt to use, his/her official position to secure any unwarranted privileges or advantages for that Vendor or for any other person.
- Contractor will disclose to the City any direct or indirect personal interests a City employee or City official holds as it relates to a Vendor contracted by the City.
- Contractor must comply with all applicable laws, codes or regulations of the countries, states and localities in which they operate. This includes, but is not limited to, laws and regulations relating to environmental, occupational health and safety, and labor practices. In addition, Contractor must require their suppliers (including temporary labor agencies) to do the same. Contractor must conform their practices to any

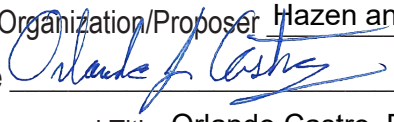
published standards for their industry. Compliance with laws, regulations and practices include, but are not limited to the following:

- Obtaining and maintaining all required environmental permits. Further, Contractor will endeavor to minimize natural resource consumption through conservation, recycling and substitution methods.

- Providing workers with a safe working environment, which includes identifying and evaluating workplace risks and establishing processes for which employee can report health and safety incidents, as well as providing adequate safety training.

- Providing workers with an environment free of discrimination, harassment and abuse, which includes establishing a written antidiscrimination and anti-bullying/harassment policy, as well as clearly noticed policies pertaining to forced labor, child labor, wage and hours, and freedom of association.

Name of Organization/Proposer Hazen and Sawyer

Signature 

Printed Name and Title Orlando Castro, PE, DBIA, Associate Vice President

Date September 7, 2023

DISCLAIMER: This Code of Ethics is intended as a reference and procedural guide to contractors. The information it contains should not be interpreted to supersede any law or regulation, nor does it supersede the applicable contractor contract. In the case of any discrepancies between it and the law, regulation(s) and/or contractor contract, the law, regulatory provision(s) and/or vendor contract shall prevail.

"A City for All Ages"

E-Verify Form

Supplier/Consultant acknowledges and agrees to the following:

1. Shall utilize the U.S. Department of Homeland Security's E-Verify system to verify the employment eligibility of all new employees hired by the Supplier/Consultant during the term of the contract; and

2. Shall expressly require any subcontractors performing work or providing services pursuant to the state contract to likewise utilize the U.S. Department of Homeland Security's E-Verify system to verify the employment eligibility of all new employees hired by the subcontractor during the contract term.

E-Verify Company Identification Number 252295

Date of Authorization September 15, 2009

Name of Contractor Hazen and Sawyer

Name of Project CEI Services for Westport WWTF Nutrient Reduction Project

Solicitation Number (If Applicable) City of of Port St. Lucie eRFP (Event) Number: 20230044

I hereby declare under penalty of perjury that the foregoing is true and correct.

Executed on September, 5th, 20 23 in Hollywood (city), FL (state).

Orlando J. Castro

Signature of Authorized Officer

Orlando Castro, PE, DBIA / Associate Vice President

Printed Name and Title of Authorized Officer or Agent

SUBSCRIBED AND SWORN BEFORE ME

ON THIS THE 5th DAY OF September, 20 23.

NOTARY PUBLIC Mary Perez (Commission # HH232289)

Mary Perez

My Commission Expires: February 22, 2026

MARY PEREZ
MY COMMISSION # HH 232289
EXPIRES: February 22, 2026

"A City for All Ages"

NON-COLLUSION AFFIDAVIT
Solicitation#20230044
CEI Services for Westport WWTF Nutrient Reduction Project

State of Florida }

County of Palm Beach }

Orlando Castro, PE, DBIA, being first duly sworn, disposes and says that:
(Name/s)

1. They are an Associate Vice President (Title) of Hazen and Sawyer (Name of Company) the Proposer that has submitted the attached PROPOSAL;

2. He is fully informed respecting the preparation and contents of the attached proposal and of all pertinent circumstances respecting such PROPOSAL;

3. Such Proposal is genuine and is not a collusive or sham Proposal;

4. Neither the said Proposer nor any of its officers, partners, owners, agents, representatives, employees or parties in interest, including this affiant, has in any way colluded, conspired, connived or agreed, directly or indirectly with any other Proposer, firm or person to submit a collusive or sham Proposal in connection with the contract for which the attached proposal has been submitted or to refrain from proposing in connection with such Contract or has in any manner, directly or indirectly, sought by agreement or collusion or communication or conference with any other Proposer, firm or person to fix the price or prices in the attached Proposal or of any other Proposer, or to secure through any collusion, conspiracy, connivance or unlawful agreement any advantage against the City of Port St. Lucie or any person interested in the proposed Contract; and

5. The price or prices quoted in the attached Proposal are fair and proper and are not tainted by any collusion, conspiracy, connivance or unlawful agreement on the part of the Proposer or any of its agents, representatives, owners, employees, or parties in interest, including this affiant.

(Signed) Orlando J. Castro

(Title) Orlando Castro, PE, DBIA, Associate Vice President

"A City for All Ages"

STATE OF FLORIDA }
COUNTY OF ST. LUCIE} SS:

The foregoing instrument was acknowledged before me this *(Date)* September 5, 2023

by: Orlando Castro, PE, DBIA, Associate Vice President who is personally known to me or who has produced

N/A as identification and who did (did not) take an oath.

Commission No. HH232289

Notary Print: Mary Perez

Notary Signature: Mary Perez

MARY PEREZ
MY COMMISSION # HH 232289
EXPIRES: February 22, 2026

"A City for All Ages"

DRUG-FREE WORKPLACE FORM
e-RFP #20230044

CEI Services for Westport WWTF Nutrient Reduction Project

The undersigned vendor in accordance with Florida Statute 287.087 hereby certifies that

Hazen and Sawyer does:
(Name of Business)

1. Publish a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the workplace and specifying the actions that will be taken against employees for violations of such prohibition.

2. Inform employees about the dangers of drug abuse in the workplace, the business's policy of maintaining a drug-free workplace, any available drug counseling, rehabilitation, and employee assistance programs, and the penalties that may be imposed upon employees for drug abuse violations.

3. Give each employee engaged in providing the commodities or contractual services that are under proposal a copy of the statement specified in subsection (1).

4. In the statement specified in subsection (1), notify the employees that, as a condition of working on the commodities or contractual services that are under proposal, the employee will abide by the terms of the statement and will notify the employer of any conviction of, or plea of guilty or nolo contendere to, any violation of Chapter 893 Florida Statutes or of any controlled substance law of the United States or any state, for a violation occurring in the workplace no later than five (5) days after such conviction.

5. Impose a sanction on or require the satisfactory participation in a drug abuse assistance or rehabilitation program if such is available in the employee's community, by any employee who is so convicted.

6. Make a good faith effort to continue to maintain a drug-free workplace through implementation of this section.

As the person authorized to sign the statement, I certify that this firm complies fully with the above requirements.

Consultant's Signature

Orlando Castro, PE, DBIA
Associate Vice President

September 7, 2023
Date

VENDOR CERTIFICATION REGARDING SCRUTINIZED COMPANIES' LISTS

Vendor Name:	Hazen and Sawyer
Vendor FEIN:	13-2904652
Authorized Representative's Name:	Orlando Castro, PE, DBIA
Authorized Representative's Title:	Associate Vice President
Address:	2101 NW Corporate Boulevard, Suite 301
City, State and Zip Code:	Boca Raton, FL 33431
Phone Number:	561-997-8070
Email Address:	ocastro@hazenandsawyer.com

Sections 287.135 and 215.473, Florida Statutes, prohibit Florida municipalities from contracting with companies, for goods or services over $1,000,000 that are on either the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, or to engage in any Business operations with Cuba or Syria. Sections 287.135 and 215.4725 also prohibit Florida municipalities from contracting with companies, for goods or services in any amount that are on the list of Scrutinized Companies that Boycott Israel.

The list of "Scrutinized Companies" is created pursuant to Section 215.473, Florida Statutes. A copy of the current list of "Scrutinized Companies" can be found at the following link: https://www.sbafla.com/fsb/FundsWeManage/FRSPensionPlan/GlobalGovernanceMandates/QuarterlyReports.aspx

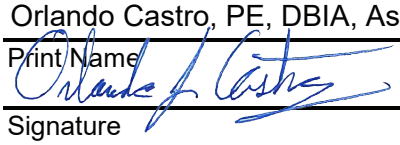
As the person authorized to sign on behalf of the Respondent Vendor, I hereby certify that the company identified above in the section entitled "Respondent Vendor Name" is not listed on either the Scrutinized Companies with Activities in Sudan List; or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List; is not participating in a boycott of Israel; and does not have any business operations with Cuba or Syria. I understand that pursuant to Sections 287.135 and 215.473, Florida Statutes, the submission of a false certification may subject the Respondent Vendor to civil penalties, attorney's fees, and/or costs.

I understand and agree that the City may immediately terminate any contract resulting from this solicitation upon written notice if the company referenced above are found to have submitted a false certification or any of the following occur with respect to the company or a related entity: (i) for any contract for goods or services in any amount of monies, it has been placed on the Scrutinized Companies that Boycott Israel List, or is engaged in a boycott of Israel, or (ii) for any contract for goods or services of one million dollars ($1,000,000) or more, it has been placed on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, or it is found to have been engaged in business operations in Cuba or Syria.

Authorized Signature

Orlando Castro, PE, DBIA, Associate Vice President

Print Name



Signature

NOTE: This form does not appears to be applicable to this project. However, it is a mandatory form to include as part of our proposal. Per the suggestion from Procurement, Hazen and Sawyer has executed this form and attests to those sections that are applicable. Text that is not applicable is red-lined for consideration.

TRUTH-IN-NEGOTIATION CERTIFICATE AND AFFIDAVIT

STATE OF FLORIDA §
COUNTY OF ST. LUCIE §

Before me, the undersigned authority, personally appeared affiant Robert B. Taylor, Jr., PE who being first duly sworn, deposes and says:

1. That the undersigned firm is furnishing this Truth in Negotiation Certificate pursuant to Section 287.055(5)(a) of the Florida Statutes ~~for the undersigned firm to receive an agreement~~ to propose for a contract for professional services with the City of Port St. Lucie, St. Lucie County, Florida. The red-lined language is not applicable at this time since a contract has not been awarded.

2. That the undersigned firm is a corporation which engages in furnishing professional engineering services and ~~is entering into an agreement with~~ and is submitting this proposal to the City of Port St. Lucie, St. Lucie County, Florida to provide professional services for a project known as CEI Services for Westport WWTF Nutrient Reduction Project, Contract #20230044.

~~3. That the undersigned firm has furnished the City of Port St. Lucie, St. Lucie County, Florida a detailed analysis of the cost of the professional services required for the project.~~

A detailed analysis of the cost of the professional services for this project is not an RFP requirement, thus this information was not furnished in our proposal.

~~4. That the wage rate information and other factual unit cost, which the undersigned firm furnished, were accurate, complete and current at the time the undersigned firm and the City of Port St. Lucie entered into the agreement for professional services on the project.~~

Wage rate information has not been furnished at this time since a contract has not been awarded.

5. That the agreement which the undersigned firm and the City of Port St. Lucie entered into on this job contained a provision that the original agreement price and any additions thereto shall be adjusted to include any significant sums by which the City of Port St. Lucie determines the agreement price was increased due to inaccurate, incomplete or non-current wage rates or other factual unit cost and that all such agreement adjustments shall be made within one (1) year following the end of the agreement.

#5 above is not applicable since an agreement hasn't been signed yet. A contract has not been awarded yet.

FURTHER AFFIANT SAYETH NAUGHT

Hazen and Sawyer
Name of Firm

Robert B. Taylor, Jr., PE
By: ~~President~~ Senior Vice President; SE Region Manager

The foregoing instrument was acknowledged before me by August 23rd, 2023 who has produced N/A as identification or is personally known to me.

WITNESS my hand and official seal in the Stare of County last aforesaid this 7th day of September, 2023.

(SEAL)

Signature

MARY PEREZ
MY COMMISSION # HH 232289
EXPIRES: February 22, 2026

Mary Perez
Notary Name (typed or printed)

Notary Public
Title or Rank

Hazen and Sawyer
2101 NW Corporate Blvd, Suite 301
Boca Raton, FL 33431 • 561.997.8070

Contract Exceptions

Hazen and Sawyer has reviewed Attachment G – PSL Sample Contract Agreement. We respectfully request the following modifications be made.

1) Under Section VI, Progress Payments, it states "No payment for projects involving improvements to real property shall be due until Consultant delivers to City a complete release of all claims arising out of the contract or receipts in full in lieu thereof, and an affidavit on his personal knowledge that the releases and receipts include labor and materials for which a lien could be filed." We request this language be removed due to it being applicable to a contractor and not a CEI consultant.

2) Under Section VI, Progress Payments, it states "The Consultant shall not be paid additional compensation for any loss or damage, arising out of the nature of the work, from the action of the elements, or from any delay or unforeseen obstruction or difficulties encountered in the performance of the work, or for any expenses incurred by or in consequence of the suspension or discontinuance of the work." We request this language be removed due to it being applicable to a contractor and not a CEI consultant.

3) Under Section XII, Acts of God, it states "The Consultant shall be responsible for all preparation of the site for Acts of God, including but not limited to; earthquake, flood, tropical storm, hurricane or other cataclysmic phenomenon of nature, rain, wind, or other natural phenomenon of normal intensity, including extreme rainfall. No reparation shall be made to the Consultant for damages to the Work resulting from these Acts. The City is not responsible for any costs associated with pre or post preparations for any Acts of God." We request this language be removed due to it being applicable to a contractor and not a CEI consultant.

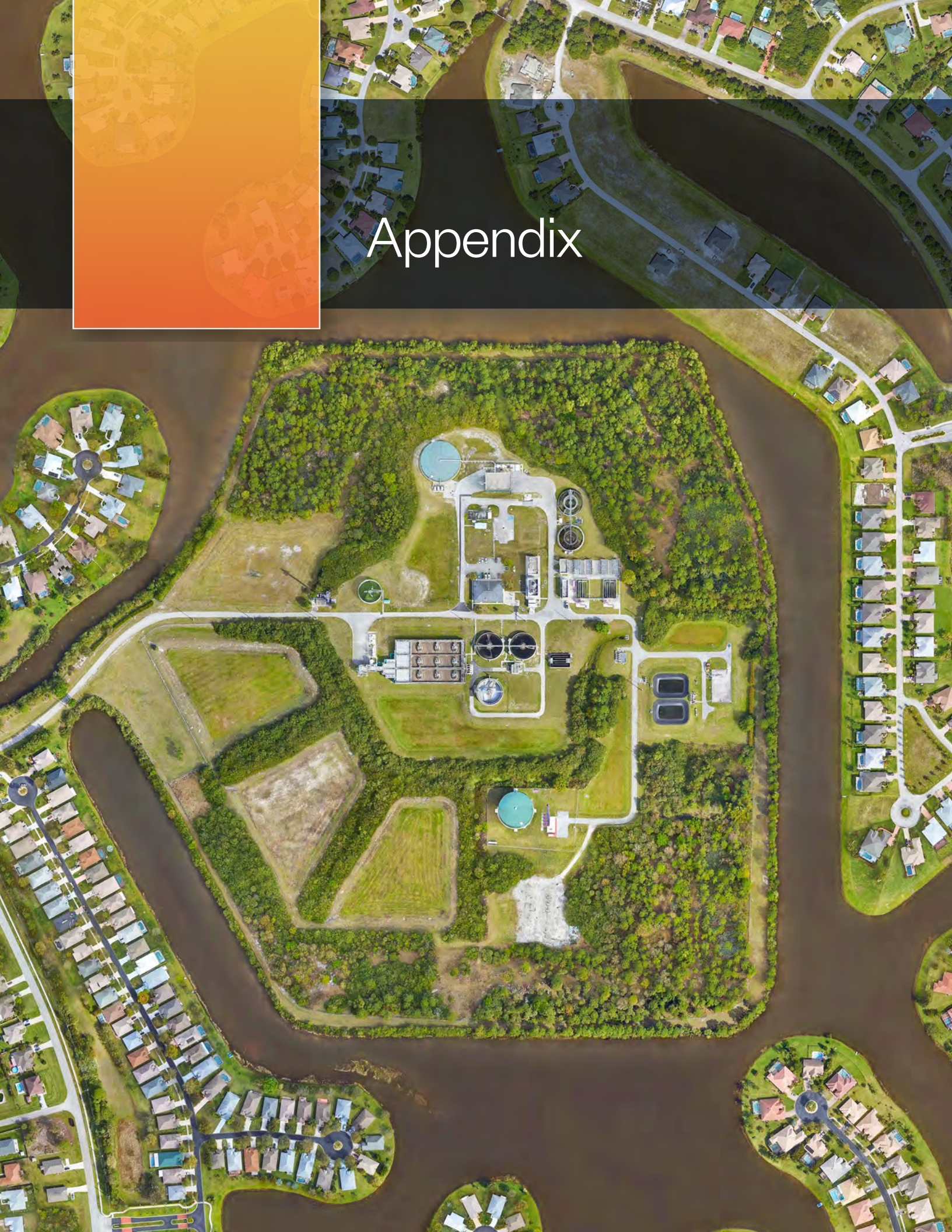
4) Under Section XIV, Compliance with Laws, it is stated that the Consultant shall "secure and pay the fees and charges for all permits required for the performance of the Contract". We request this language be removed due to it being applicable to a contractor and not a CEI consultant.

5) Under Section XV, Inspection and Correction of Defects, many of the provisions are contractor like provisions and are not typical language for the CEI consultant. We request the language related to the "Correction of Defects" be removed due to it being applicable to a contractor and not a CEI consultant.

6) Under Section XXVII, Permits, Licenses, and Certifications, it is stated that "The

consultant shall be responsible for all permits, licenses, certifications, etc.". We request all language related to "Obtaining Permits" be removed due to it being applicable to a contractor and not a CEI consultant.

Appendix



Atlantic Sapphire Phase 2 CMAR Expansion

Homestead, Florida

To support the phased multi-year development of the continued expansion of the Bluehouse from its current capacity (10 KT/year) to its full production plan (200 KT/year), a programmatic implementation is being followed to ensure continuous alignment to Atlantic Sapphire's Strategic Plan.

Relevance to Port St. Lucie

- CMAR delivery
- Design and CEI services for a WWTP
- Pump stations and force mains

The Salmon City Bluehouse is a major land-based salmon farm development in Miami-Dade County. The facility has a total planned capacity of 200 kilotons of salmon per year (KT/year). Atlantic Sapphire is the largest land-based salmon farm in the world, using state-of-the-industry technologies and innovative solutions. The program implementation must be aligned to the organization's strategic plan. This is being achieved through a Facilities Grand Master Plan, which provides the roadmap for development and integration of the facility layout, utilities ramp-up, interconnections, communications, and all supporting facilities to achieve a world-class sustainable facility. Services include conceptual design and planning of utilities development, interconnecting yard piping, feed facility, processing facilities, product and equipment storage, maintenance and administrative buildings, on-site/off-site traffic analysis, interactions between components, permitting services, owner-furnished procurement management support, initial cost, scope, and schedule assessments, etc.

Schedule/Duration (during construction)

Construction Schedule:
04/2021 - Present

Construction Duration:
04/2021 - Present

Owner's Budget and Duration

Budget: $224 million (Phase 2)

Duration: Project in progress

Contract Value and Duration

Contract Value: $450 million (Phase 2)

Duration: 04/2021 - 07/2028

Final Project Costs and Duration

Final Project Cost: TBD

Duration: Project in progress

Name and Location of Client/Contact Person

Svein Takklo
Chief Development and Infrastructure Officer
Atlantic Sapphire
22275 SW 272 Street
Homestead, FL 33031
(786) 553-6957
svein@atlanticsapphire.com

Major components of the facility include: smolt and ongrowing farms, water recirculation systems, chilling facility, water supply infrastructure, wastewater treatment and disposal facility, oxygen plant, power supply and distribution, processing plant, maintenance and administrative spaces, product, and equipment storage, etc.

The construction of Phase 1 (10 KT/year) of the Bluehouse is completed and operational. Phase 2 (15 KT/year) is in the construction phase and, similar to the Westport WWTF Nutrient Reduction Project, it is being delivered through a Construction Management at-Risk project delivery method. Hazen is responsible for the design and construction administration of Phase 2 and for the management of the Grand Master Plan.

Through the advancement of this project, Hazen has gained an insurmountable amount of knowledge in both facilitating a project using the CMAR delivery method as well as providing CEI services on a multimillion-dollar project.

All of this knowledge and lessons learned will provide Hazen with the ability to bring all of the City of Port St. Lucie's goals to fruition in a well organized, cost-efficient, and timely manner.

Team Member	Role	Contribution
Orlando Castro, PE, DBIA	Project Manager	Led a team of multiple disciplines to develop the design of the Phase 2 Recirculating Aquaculture System (RAS) facility and the wastewater treatment plant. Oversaw Hazen's design services during construction and the construction management and inspection services
Elie Andary, PhD, PE	Construction Manager	Issuing change orders and contingency account authorizations, reviewing shop drawings, responding to contractor's request for information, and processing pay requests
Jose Serpa, EI	Assistant Engineer	Documentation control and inspections. Provides assistance to the Project Manager and Construction Manager

1021-562

Broward County NRWWTP Capacity Improvements

Broward County, Florida

This project enabled the County to regain injection well system disposal capacity, which had declined over the years because of increased well head pressures that had risen over time.

The goal of this project was to increase the existing NRWWTP injection well system disposal capacity, reducing dependence on the ocean outfall for peak flow disposal as is required by the Ocean Outfall Legislation (Florida Senate Bill 444). Due to injection well pump station electrical service limitations, the simple replacement of the five 800-horsepower pumps with larger, higher horsepower units was not an option. Hazen developed an innovative approach to install an in-line booster pump at each well to provide the equivalent hydraulic energy, and to improve injection well capacity. This solution also allowed for the redistribution of plant electrical loads without further impacting the existing injection well pump station power requirements.

Relevance to Port St. Lucie

- Hazen provided construction services for improvements to Broward County's North Regional Wastewater Treatment Facility
- Design and construction administration
- BioWin™ and MOPO implementation

Major features of the new in-line injection well booster pump systems included:

- Eight 300-hp horizontal split case centrifugal pumps equipped with variable frequency drives (VFDs), each at a nominal capacity of up to 15 mgd, to increase existing effluent disposal capacity.

Schedule/Duration (during construction)

Construction Schedule: 03/2015 - 11/2018

Construction Duration: 03/2015 - 11/2018

Owner's Budget and Duration

Budget: $10,565,472 (Bid)

Duration: 03/2015 - 11/2018

Contract Value and Duration

Contract Value: $2.8 million (fee)

Duration: 03/2015 - 11/2018

Final Project Costs and Duration

Final Project Cost: $10,565,472

Duration: 03/2015 - 11/2018

Name and Location of Client/ Contact Person

Alan Garcia, PE
Director of Utilities
Broward County Water and Wastewater Services 2555 West Copans Road
Pompano Beach, FL 33069
(954) 831-0704
agarcia@broward.org

1021-562

Hazen

- Electrical system expansion and construction of four electrical control buildings to house motor control centers, SCADA control panels and fiber optic SCADA network interfaces.
- Multi-variable SCADA control schemes to individually supplement injection well hydraulic energy requirements to maximize available disposal capacity while simultaneously managing each variable speed drive system to ensure permitted injection well flow and pressure limits are not exceeded.
- Four programmable logic controller based local control panels (one in each electrical control building) and fiber optic SCADA network for remote monitoring and control by the WWTP SCADA system.

Construction on the project began in 2015 and was completed in 2018. Hazen provided construction management services, which included daily inspections, special inspections, preparation of meeting minutes, review of shop drawings and O&M manuals, review of RFIs, review of proposals, preparation of change orders, review of payment applications, and closeout activities including preparation of deficiency lists. One main components of the construction contract was general coordination with other projects and with the County to ensure maintenance of plant operations. This was particularly challenging since the electrical upgrades included tie-ins to existing feeder breakers at the main electrical distribution building. Since the majority of the plant has electrical redundancy from two FPL transformers, it was possible to shut down one side without affecting the overall capacity of the plant to operate. However, extensive coordination was required for each of these tie-ins.

The project was completed with less than 2% design-related change orders.

Team Member	Role	Contribution
Alonso Griborio, PhD, PE	Lead Engineer (Process)	Mechanical and Process Engineer for the North Regional WWTP's Facilities Improvements Project and for the Fine Bubble Conversion Project

1021-562

East Central Regional Water Reclamation Facility

West Palm Beach, Florida

The East Central Regional Water Reclamation Facility (ECRWRF) Operations Board retained Hazen to provide design, permitting, bidding and construction period services for the ECRWRF Biosolids Improvements Project.

The 70-mgd ECRWRF serves five municipalities in Palm Beach County. The ECRWRF Operations Board was faced with aging infrastructure, limited aerobic digestion, increasing solids production, and closure of the regional biosolids composting facility.

Relevance to Port St. Lucie

- Major WWTP improvements
- Design and construction administration
- BioWin™ and MOPO implementation

The Board commissioned Hazen to evaluate processes/technologies to improve solids destruction and dewatering performance; maximize energy recovery; and identify a reliable and cost-effective solution to ultimate biosolids treatment and disposal.

The project included construction of the following new and upgraded infrastructure:

- Aerated sludge storage and sludge thickening upgrades
- New temperature-phased anaerobic digestion facilities
- New centrifuge dewatering facilities

Schedule/Duration (during construction)

Original Construction Schedule: 08/2015 - 03/2019

Actual Construction Schedule: 08/2015 - 03/2020 (Completion impacted by Contractor delays and coordination with other Owner projects)

Owner's Budget and Duration

Budget: $94.5 million

Duration: See above

Contract Value and Duration

Contract Value: $94.5 million

Duration: See above

Final Project Costs and Duration

Final Project Cost: $96.8 million (design-related change orders < 1%)

Duration: See above

Name and Location of Client/ Contact Person

Ali Bayat, PE, PMP, Engineering Division, Director
Palm Beach County Water Utilities Department
8100 Forest Hill Boulevard,
West Palm Beach, FL 33413
(561) 493-6128

1021-562

Hazen

- New septage and FOG receiving facilities
- New main electrical building and medium voltage power distribution
- New SCADA systems
- Conversion of Aerobic Digester to Aeration Basin 1, including a new diffused aeration system, anaerobic selector zone with high-efficiency vertical mixers; and a swing zone for operational flexibility

The recommended solution included WAS storage and thickening upgrades; new facilities for temperature-phased anaerobic digestion and high-sol-ids centrifuge dewatering; and new FOG receiving/dosing facilities to increase biogas production. The Board then commissioned Hazen for preliminary and detailed design, permitting, and bidding of biosolids improvements.

Project benefits include:

- Advanced temperature-phased anaerobic digestion (TPAD) and high-solids centrifuge dewatering will reduce hauled biosolids mass by 35%
- Co-digestion of FOG will reduce impacts to liquid stream treatment and increase available biogas energy to fuel the regional pelletizers
- Improvements will reduce in-plant power consumption by over 4,500,000 KWH per year

Hazen evaluated 30 combinations of liquids treatment, solids treatment, biogas recovery and biosolids disposal options. Analyses for each option included whole-plant Biowin™ process modeling, solids production projections, preliminary unit process sizing, mass balance calculations, predicted performance, preliminary site layouts and comparative life cycle costs.

The TPAD design employs sludge-to-sludge heat exchangers to preheat feed sludge to the thermophilic digesters and partially cool thermophilic sludge prior to mesophilic digestion. The sludge heat recovery system reduced the sizes of hot water boilers and sludge-to-water heat exchangers; and will increase digester gas production for future beneficial use. The centrifuge dewatering facility includes four separate "vertical trains" consisting of a centrifuge (third floor), sludge storage hopper (second floor) and truck loading bay (first floor). The sludge storage hoppers provide cake equalization to suit the regional drying facility's operating schedule.

Hazen provided full construction, startup, and commissioning services for the $95 million improvements project. Hazen administered a web-based document management system used by the Contractor, Engineer, Owner and Owner's Representative to improve workflow and allow for real-time project tracking by all stakeholders.

Practical, cost-effective design based on evaluation of 30 combined treatment and disposal scenarios. New treatment facilities reduce biosolids treatment costs by 30% to 40%.

Team Member	Role	Contribution
Joseph Franko, PE	Lead Resident Engineer	General oversight of all construction activities, coordination and oversight of all on-site inspections by three subconsultants for their portion of the work; and direct responsibility for construction oversight of all the anaerobic digestion facilities
Alonso Griborio, PhD, PE	Process Engineer	Process Engineer for evaluation of solids processing options to maximize solids destruction and minimize biosolids disposal quantities
Jean Paul Silva, PE	Lead Structural Engineer	Provided coordination with subconsultants
Evan Curtis, PE	I&C Engineer	Responsible for construction oversight and witness testing of all facilities

1021-562

Regional Wastewater Treatment Plant Upgrade (Diffused Aeration Upgrades)

Plantation, Florida

The City retained Hazen to provide design, permitting, and engineering services for the conversion of the surface aerators to fine bubble.

The City of Plantation operates the Plantation Regional Wastewater Treatment Plant (RWWTP), an 18.9-mgd facility (based on a three-month average daily flow (TMADF) basis. The RWWTP utilized a mechanically aerated activated sludge treatment process for secondary treatment. Hazen completed an Energy Savings Analysis (ESA) that projected the City would increase the efficiency of their aeration process and save over $200,000 annually in electricity costs by converting their mechanical aeration process to fine-bubble diffused aeration. Following this study, the City retained Hazen to provide design, permitting, and engineering services for the conversion of the surface aerators to fine bubble.

Relevance to Port St. Lucie

- Major WWTP improvements
- Design and construction administration
- Fine-bubble diffused aeration system
- Four multi-stage centrifugal blowers

Schedule/Duration (during construction)

Construction Schedule: 08/2016 - 12/2018

Construction Duration: 08/2016 - 06/2019

Completion impacted by construction delays due to unforeseen conditions and owner requested changes

Owner's Budget and Duration

Budget: Initial Cost Estimate: $9 million

Duration: See above

Contract Value and Duration

Contract Value: Initial cost estimate: $8.6 million

Duration: See above

Final Project Costs and Duration

Final Project Cost: $8.6 million (construction)

Duration: See above

Name and Location of Client/ Contact Person

Daniel Pollio, Utilities Director
City of Plantation
400 NW 73rd Avenue
Plantation, FL 33317
(954) 797-2209, dpollio@plantation.org

1021-562

Hazen

Aeration Improvements: WWTP upgrades included the conversion of mechanical surface aerated basins to fine-bubble diffused aeration. This included installation of four multi-state centrifugal blowers, process air piping, fine-bubble membrane disc diffusers, automatic dissolved oxygen control, swing/selector zones, and activated sludge diffusion for the treatment of the headworks foul air.

At the time of design, it was estimated that this project would result in electrical and chemical cost savings of over $200,000 per year. After project construction, the energy bill for the plant confirmed the estimated savings.

New Laboratory: Hazen also designed and provided CMS for a new laboratory for the City. The new laboratory has a surface area of 4,950 sf and comprises areas for nutrients, microbiology, and wet chemistry. The laboratory also includes office spaces, a break room, sample drop off area, a mechanical room, and restrooms.

This project resulted in energy savings of $200,000 per year, with a more reliable process system designed by Hazen.

Team Member	Role	Contribution
Alonso Griborio, PhD, PE	Project Manager and Process/ Mechanical Engineer	Project Manager and Process/Mechanical Engineer for different WWTP upgrades that included the conversion of mechanical surface aerated basins to fine-bubble diffused aeration

1021-562

fice Engineering Excellence GRAND AWARD '14
SDWWTP High Level Disinfection Upgrade, MDWASD

South District WWTP HLD Program Owner's Representative

Miami-Dade, Florida

Hazen provided MDWASD with engineering design during construction, construction management, and owner's representative services on the largest High-Level Disinfection project in the U.S.

Relevance to Port St. Lucie

- Major WWTP improvements
- Design and construction administration
- 30 deep bed filters, oxygenation trains, pump stations, mechanical screens and electrical distribution building
- BioWin™ and MOPO implementation

The facility met all FDEP Consent Order requirements and was completed 15 months ahead of schedule and 10 percent under budget. The Miami-Dade Water and Sewer Department (MDWASD) owns and operates three major wastewater treatment facilities that together manage an annual average of approximately 370 mgd. Their southernmost plant, the South District Wastewater Treatment Plant (SDWWTP) has a rated and permit-ted capacity of 112.5 mgd annual average flow rate. In response to a Consent Order (CO) mandated by the Florida Department of Environmental Protection (FDEP) in 2004, MDWASD commenced a $650-million program to add High-Level Disinfection (HLD) to the treatment process at SDWWTP, and increase the peak flow capacity from 225 to 285 mgd.

Schedule/Duration (during construction)
Construction Schedule:
12/2007 - 12/2014

Construction Duration:
12/2007 - 12/2014

Project completed on time, within budget

Owner's Budget and Duration
Budget: $600 million

Duration: See above

Contract Value and Duration
Contract Value: $600 million

Duration: See above

Final Project Costs and Duration
Final Project Cost: $580 million (construction)

Duration: See above

Name and Location of Client/ Contact Person
James Ferguson, PE
Assistant Director, Miami-Dade Water and Sewer Department
3071 SW 38th Avenue
Miami, Florida 33146
(786) 552-8756
James.Ferguson@miamidade.gov

1021-562

Hazen

Hazen was selected by the MDWASD to provide Program Management for the entirety of the High Level Disinfection Program. The program was divided into 14 separate construction contracts that included new concrete structures for 30 deep bed filters, seven 120-inch diameter screw pumps (60 mgd each) for flow transfer, seven electrical power generators (2 MW each), seven on site hypochlorite disinfection units (3,000 lbs/day), four additional secondary clarifiers, new chlorine contact facilities, additional oxygenation trains, and an expansion of the effluent pumping system. As Owner's Representative for the entire project, Hazen provided pilot testing, detailed design, bidding assistance, engineering design during construction, construction administration services, and project administration of all design projects, as well as assistance on MDWASD-designed projects.

Hazen was responsible of the general project administration of each of its design projects as well as providing assistance on all MDWASD design projects. As part of this task, Hazen was required to interact with multiple consultants designated by the MDWASD as well as their design staff. Construction projects schedules were developed and tracked to confirm that each construction contract was on schedule to meet the completion milestones. Failure to complete construction by the dates outlined in the Consent Order between MDWASD and the Florida Department Environmental Protection (FDEP) would result in fines. No fines were levied were against County as part of the HLD project.

Construction Management services provided as part of the HLD Program by Hazen were as follows:

- Review and approval of monthly pay requests for contract work, including verification of quantities
- Review, negotiation, approval and processing for payment of all additions to the contract (claims, change orders ,etc)
- Plant and Construction site coordination to ensure the construction activities caused no disturbance to the existing plant facilities and staff
- Supervision of civil, structural, mechanical, electrical and instrumentation work in the field to ensure compliance with the requirements of the contract documents
- Shop drawing review and approval along with equipment/ material in-spections to ensure compliance with the shop drawing requirements
- Coordination with the Owner, Contractors, and Engineers throughout the construction work
- Project close out activities, including providing and/ or conducting training, O&M Manual development, review and approval, as-built drawing review, warranty certification, final payment etc.
- Track all project costs and coordinate with the Owner on projected expenditures for each fiscal year

The upgrade of the South District Wastewater Treatment Plant produced one of the largest high-level disinfection facilities, and the largest on-site hypochlorite generation facility, in the U.S. This program required integrated scheduling of 14 projects to meet federally-mandated deadlines.

Team Member	Role	Contribution
John Hoffman, PE	Senior Construction Manager	Directed all of Hazen's construction activities for the program
Jean Paul Silva, PE	Structural Engineer	Part of the structural design team for several of the 14 bid packages and also assisted during the construction phase with shop drawing review, response to contractor's request for information and site inspections

1021-562

Northwest Water Reclamation Facility Influent Pumping and Screening

St. Petersburg, Florida

Hazen provided professional engineering design and construction services improve the influent pumping and screening systems for the facility.

The Northwest Water Reclamation Facility (NWWRF) serves the northwest wastewater collection system service area of the City of St. Petersburg, the City of St. Pete Beach, the City of Treasure Island, the City of South Pasadena, and the Bear Creek Basin of Pinellas County.

Relevance to Port St. Lucie

- CMAR construction
- Major WW plant improvements
- Design and construction administration screening

The facility was originally constructed in 1955 and was expanded in 1983 to the current 20 million gallons per day (mgd) annual average daily flow (AADF) capacity. The plant is a Type I, complete mix activated sludge domestic WWTP. The liquid treatment process consists of two influent pump stations, a headworks with mechanical screening and headcell grit removal units, aeration basins, final clarifiers, filters, and a dual channel chlorine contact chamber, which utilizes liquid sodium hypochlorite. Effluent disposal is by two Class I underground injection wells with a total permitted capacity

Schedule/Duration (during construction)

Construction Schedule: 5/2022 – 7/2025

Duration: 04/2022-Present

Owner's Budget and Duration

Contract Value: Construction Cost: $23 million (estimated);

Duration: 04/2022-Present

Contract Value and Duration

Contract Value: Construction Cost: $23 million (estimated);

Duration: 04/2022-Present

Final Project Costs and Duration

Final Project Cost: TBD

Duration: 04/2022-Present

Name and Location of Client/ Contact Person

Maureen Wingfield, PE
Senior Prof. Engineer
Engineering and Capital Improvements Department
City of St. Petersburg
1 Fourth Street North
St. Petersburg, FL 33701
727-892-5206
maureen.wingfield@stpete.org

of 32 mgd, or the effluent can be transferred to the City's Master Reuse System.

Hazen was retained to provide professional engineering design and construction services improve the influent pumping and screening systems for the facility. The project is being constructed through a Construction Manager at Risk (CMAR) delivery method.

The specific components of the project include:

- A new coarse screening facility with a peak flow capacity of 30 mgd, two multi-rake bar screens and a bypass channel
- A new dry pit pump station sized for peak flows of 30 mgd with the largest pump out of service with six equally sized dry pit submersible pumps from two independent wet wells
- A new fine screening facility with a peak flow capacity of 55 mgd with two center flow band screens and a bypass channel
- A new odor control system including a biological trickling filter and second stage carbon polishing
- A new electrical building with new 750 kVA substation transformers serving the new equipment
- Demolition of the two existing Influent Pump Stations, the existing fine screening facility, and two aeration basins

The City is seeking a Gold Level Envision Certification for this project, and Hazen is leading the Envision assessments and application package preparation efforts. This project will be the City's first Envision Award Certification.

A detailed Maintenance of Plant Operations (MOPO) plan was required for this project. The two existing influent pumping stations needed to remain operational until the new influent pump station is ready for service. Additionally, the City can not afford to have critical infrastructure unavailable for long durations during the wet season. The MOPO plan will meet these needs. The first step of the plan is to construct a new fine screening facility. Once this facility is operational, the existing fine screen facility can be demolished and the flows to it redirected to the new facility. The demolition of the fine screen facility and piping to it allows space for construction of the new dry pit influent pump station. During construction of the new pump station, the two existing influent pump stations can continue to convey flows to the new fine screening facility allowing plant staff full control of flows throughout the construction. Once the new pump station is ready for service, the influent flow will be redirected to it and the old pump stations demolished.

Team Member	Role	Contribution
N/A (none of our proposed team members worked on this project)	N/A	N/A

1021-562