Florida's Warmest Welcome

CITY OF POMPANO BEACH
REQUEST FOR LETTERS OF INTEREST
E-23-20

CONTINUING CONTRACT FOR ENGINEERING SERVICES FOR WATER AND REUSE TREATMENT PLANT PROJECTS

RLI OPENING: August 10, 2020, 2:00 P.M.
PURCHASING OFFICE
1190 N.E. 3RD AVENUE, BUILDING C (Front)
POMPANO BEACH, FLORIDA 33060

July 8, 2020

CITY OF POMPANO BEACH, FLORIDA

REQUEST FOR LETTERS OF INTEREST (RLI)
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CONTINUING CONTRACT FOR ENGINEERING SERVICES FOR WATER AND REUSE TREATMENT PLANT PROJECTS

Pursuant to Florida Statutes Chapter 287.055 "Consultants' Competitive Negotiation Act" the City of Pompano Beach invites qualified engineering firms to submit Letters of Interest, qualifications and experience for consideration to provide Professional Engineering Consulting services to the City on a continuing as-needed basis.

The City will receive sealed proposals until **2:00 p.m. (local), August 10, 2020.** Proposals must be submitted electronically through the eBid System on or before the due date/time stated above. Any proposal received after the due date and time specified, will not be considered. Any uncertainty regarding the time a proposal is received will be resolved against the Proposer.

Proposer must be registered on the City's eBid System in order to view the solicitation documents and respond to this solicitation. The complete solicitation document can be downloaded for free from the eBid System as a pdf at: https://pompanobeachfl.ionwave.net. The City is not responsible for the accuracy or completeness of any documentation the Proposer receives from any source other than from the eBid System. Proposer is solely responsible for downloading all required documents. A list of proposers will be read aloud in a public forum.

Introduction

The City intends to issue multiple contracts to engineering firms to provide continuing professional services to the City for various Water and Reuse Treatment Plant projects. Professional services under this contract will be restricted to those required for any project for which construction costs will not exceed $4 million, and for any study activity for which fees will not exceed $500,000

1. **The types of projects to be undertaken may include, but are not limited to**

   - Reuse Water Treatment Plant Expansion Projects
   - Reuse Water Treatment Plant Modification and/or Enhancement Projects
   - Water Treatment Plant Expansion Projects
   - Water Treatment Plant Modification and/or Enhancement Projects
   - The City's approved Capital Improvement Program maybe found here http://pompanobeachfl.gov/pages/department_directory/budget/budget.html.php

2. **The scope of services may include, but is not limited to, the following;**

   - Prepare studies and make recommendations on methods of operation and/or treatment.

- Prepare preliminary design reports and/or design alternative recommendations. This may include various types of utility modeling, surveying and field data analysis.
- Prepare all required bidding/construction documents for projects. This will include survey preparations, design plan preparations, technical specification preparations and cost estimate preparations. Attendance at all required pre-design, design, bidding and bid award meetings is required.
- Attend pre-bid conference, prepare possible bid addendums for plan revisions. Assist in making bid award recommendations for contracting/construction services.
- Prepare all required permit applications and submittal packages as required for permit issuance of all agency permits (i.e. State, County and City).
- Provide construction engineering/management services for projects. Services during construction may include shop drawing/contractor submittal reviews and approvals, inspection and approval of project improvements, possible plan revisions and review and approval of contractor pay applications.
- Provide project close-out services. This may include preliminary and final acceptance of projects, preparation and approval of punch list items and project certification as required to all permitting agencies.
- Firms must have previous experience in municipal water and reuse treatment plant projects and must be licensed to practice Professional Engineering in the State of Florida, Florida State Statute 471, by the Board of Professional Regulation.

3 Tasks/Deliverables

Tasks and deliverables will be determined per project. Each project shall require a signed Work Authorization (WA) form from the awarded firm to be provided to the City. Forms shall be completed in its entirety and include the agreed upon scope, tasks, schedule, cost, and deliverables for the project Consultant will be required to provide all applicable insurance requirements.

4. Term of Contract

The contracts will be for a term of five (5) years, commencing upon award by the appropriate City officials.

5. Local Business Program

On March 13, 2018, the City Commission approved Ordinance 2018-46, establishing a Local Business Program, a policy to increase the participation of City of Pompano Beach businesses in the City's procurement process.

For purposes of this solicitation, “Local Business” will be defined as follows:

1. **TIER 1 LOCAL VENDOR.** POMPANO BEACH BUSINESS EMPLOYING POMPANO BEACH RESIDENTS. A business entity which has maintained a permanent place of business within the city limits and maintains a staffing level, within this local office, of at least ten percent who are residents of the City of Pompano Beach or includes

subcontracting commitments to Local Vendors Subcontractors for at least ten percent of the contract value. The permanent place of business may not be a post office box. The business must be located in a non-residential zone, and must actually distribute goods or services from that location. The business must be staffed with full-time employees within the limits of the city. In addition, the business must have a current business tax receipt from the City of Pompano Beach for a minimum of one year prior to the date of issuance of a bid or proposal solicitation.

2. **TIER 2 LOCAL VENDOR.** BROWARD COUNTY BUSINESS EMPLOYING POMPANO BEACH RESIDENTS OR UTILIZING LOCAL VENDOR SUBCONTRACTORS. A business entity which has maintained a permanent place of business within Broward County and maintains a staffing level, within this local office, of at least 15% who are residents of the City of Pompano Beach or includes subcontracting commitments to Local Vendors Subcontractors for at least 20% of the contract value. The permanent place of business may not be a post office box. The business must be located in a non- residential zone, and must actually distribute goods or services from that location. The business must be staffed with full-time employees within the limits of the city. In addition, the business must have a current business tax receipt from the respective Broward County municipality for a minimum of one year prior to the date of issuance of a bid or proposal solicitation.

3. **LOCAL VENDOR SUBCONTRACTOR.** POMPANO BEACH BUSINESS. A business entity which has maintained a permanent place of business within the city limits of the City of Pompano Beach. The permanent place of business may not be a post office box. The business must be located in a non-residential zone, and must actually distribute goods or services from that location. The business must be staffed with full-time employees within the limits of the city. In addition, the business must have a current business tax receipt from the City of Pompano Beach for a minimum of one year prior to the date of issuance of a bid or proposal solicitation.

You can view the list of City businesses that have a current Business Tax Receipt on the City's website, and locate local firms that are available to perform the work required by the bid specifications. The business information, sorted by business use classification, is posted on the webpage for the Business Tax Receipt Division: www.pompanobeachfl.gov by selecting the Pompano Beach Business Directory in the Shop Pompano! section.

The City of Pompano Beach is **strongly committed** to insuring the participation of City of Pompano Beach Businesses as contractors and subcontractors for the procurement of goods and services, including labor, materials and equipment. Proposers are required to participate in the City of Pompano Beach's Local Business Program by including, as part of their package, the Local Business Participation Form (Exhibit A,) listing the local businesses that will be used on the contract, and the Letter of Intent Form (Exhibit B) from each local business that will participate in the contract.

Please note that, while no goals have been established for this solicitation, the City encourages Local Business participation in *all* of its procurements.

If a Prime Contractor/Vendor is not able to achieve the level of goal attainment of the contract, the Prime Vendor will be requested to demonstrate and document that good faith efforts were made to achieve the goal by providing the Local Business Unavailability Form (Exhibit C), listing firms that were contacted but not available, and the Good Faith Effort Report (Exhibit D), describing the efforts made to include local business participation in the contract. This documentation shall be provided to the City Commission for acceptance.

The awarded proposer will be required to submit "Local Business Subcontractor Utilization Reports" during projects and after projects have been completed. The reports will be submitted to the assigned City project manager of the project. The Local Business Subcontractor Utilization Report template and instructions have been included in the bid document.

Failure to meet Local Vendor Goal commitments will result in "unsatisfactory" compliance rating. Unsatisfactory ratings may impact award of future projects if a sanction is imposed by the City Commission.

The city shall award a Local Vendor preference based upon vendors, contractors, or subcontractors who are local with a preference as follows:

1. For evaluation purposes, the Tier 1 and Tier 2 businesses shall be a criterion for award in this Solicitation. No business may qualify for more than one tier level.

2. For evaluation purposes, local vendors shall receive the following preferences:

   a. Tier 1 business as defined by this subsection shall be granted a preference in the amount of five percent of total score.

   b. Tier 2 business as defined by this subsection shall be granted a preference in the amount of two and one-half percent of total score.

3. It is the responsibility of the awarded vendor/contractor to comply with all Tier 1 and Tier 2 guidelines. The awarded vendor/contractor must ensure that all requirements are met before execution of a contract.

6. Required Proposal Submittal

Submission/Format Requirements

Sealed proposals shall be submitted electronically through the eBid System on or before the due date/time stated above. Proposer shall upload response as one (1) file to the eBid System. The file size for uploads is limited to 250 MB. If the file size exceeds 250 MB the response must be split and uploaded as two (2) separate files.

Information to be included in the proposal: In order to maintain comparability and expedite the review process, it is required that proposals be organized in the manner specified below, with the sections clearly labeled:

Title page:

Show the project name and number, the name of the Proposer's firm, address, telephone number, name of contact person and the date.

Table of Contents:
Include a clear identification of the material by section and by page.

Letter of Transmittal:
Briefly state the Proposer's understanding of the project and express a positive commitment to provide the services described herein. State the name(s) of the person(s) who will be authorized to make representations for the Proposer, their title(s), office and E-mail addresses and telephone numbers. Please limit this section to two pages.

Technical Approach:
Firms or teams shall submit their technical approach to the tasks described in the scope, including details of how each phase of the project would be completed, and how their firm proposes to maintain time schedules and cost controls.

Schedule:
Proposer shall provide a timeline that highlights proposed tasks that will meet all applicable deadlines.

References:
References for past projects in the tri-county area (Broward, Palm Beach, and Miami-Dade.) Describe the scope of each project in physical terms and by cost, describe the respondent's responsibilities, and provide the contact information (name, email, telephone number) of an individual in a position of responsibility who can attest to respondent's activities in relation to the project.

List any prior projects performed for the City of Pompano Beach.

Project Team Form:
Submit a completed "Project Team" form. The purpose of this form is to identify the key members of your team, including any specialty subconsultants.

Organizational Chart:
Specifically identify the management plan (if needed) and provide an organizational chart for the team. The proposer must describe at a minimum, the basic approach to these projects, to include reporting hierarchy of staff and sub-consultants, clarify the individual(s) responsible for the co-ordination of separate components of the scope of services.

Statement of Skills and Experience of Project Team:
Describe the experience of the entire project team as it relates to the types of projects described in the Scope section of this solicitation. Include the experience of the prime consultants as well as other members of the project team; i.e., additional personnel, sub-consultants, branch office, team members, and other resources anticipated to be utilized for this project. Name specific projects (successfully completed within the past five years) where the team members have performed similar projects previously.

Resumes of Key Personnel
Include resumes for key personnel for prime and subconsultants.

Office Locations:
Identify the location of the office from which services will be rendered, and the number of professional and administrative staff at the prime office location. Also identify the location of office(s) of the prime and/or sub consultants that may be utilized to support any or all of the professional services listed above and the number of professional and administrative staff at the prime office location.

If firms are situated outside the local area, (Broward, Palm Beach, and Miami-Dade counties) include a brief statement as to whether or not the firm will arrange for a local office during the term of the contract, if necessary.

Local Businesses:
Completed Local Business program forms, Exhibits A-D.
NOTE: Form B must be signed by a representative of the subcontractor, NOT of the Prime.

Litigation:
Disclose any litigation within the past five (5) years arising out your firm's performance, including status/outcome.

City Forms:
The Proposer Information Page Form and any other required forms must be completed and submitted electronically through the City's eBid System. The City reserves the right to request additional information to ensure the proposer is financially solvent and has sufficient financial resources to perform the contract and shall provide proof thereof of its financial solvency. The City may as at its sole discretion ask for additional proof of financial solvency, including additional documents post proposal opening, and prior to evaluation that demonstrates the Proposer's ability to perform the resulting contract and provide the required materials and/or services.

Reviewed and Audited Financial Statements:

Proposers shall be financially solvent and appropriately capitalized to be able to service the City for the duration of the contract. Proposers shall provide a complete financial statement of the firm's most recent audited financial statements, indicating organization's financial condition. Must be uploaded to the Response Attachments tab in the eBid System as a separate file titled "Financial Statements" and marked "CONFIDENTIAL."

Financial statements provided shall not be older than twelve 12) months prior to the date of filing this solicitation response. The financial statements are to be reviewed and submitted with any accompanying notes and supplemental information. The City of Pompano Beach reserve the right to reject financial statements in which the financial condition shown is of a date twelve (12) months or more prior to the date of submittals.

The City is a public agency subject to Chapter 119, Florida's Public Records Law and is required to provide the public with access to public records, however, financial statements that are required as submittals to prequalify for a solicitation will be exempt from public disclosure.

The City reserves the right to request additional information to ensure the proposer is financially solvent and has sufficient financial resources to perform the contract and shall provide proof thereof of its financial solvency. The City may as at its sole discretion ask for

additional proof of financial solvency, including additional documents post proposal opening, and prior to evaluation that demonstrates the Proposer's ability to perform the resulting contract and provide the required materials and/or services.

A combination of two (2) or more of the following may substitute for audited financial statements:

1) Bank letters/statements for the past 3 months
2) Balance sheet, profit and loss statement, cash flow report
3) IRS returns for the last 2 years
4) Letter from CPA showing profits and loss statements (certified)

7. Insurance

The insurance described herein reflects the insurance requirements deemed necessary for this contract by the City. It is not necessary to have this level of insurance in effect at the time of submittal, but certificates indicating that the insurance is currently carried or a letter from the Carrier indicating upgrade ability will speed the review process to determine the most qualified Proposer.

The successful Proposer(s) shall not commence operations until certification or proof of insurance, detailing terms and provisions of coverage, has been received and approved by the City of Pompano Beach Risk Manager.

The following insurance coverage shall be required.

a. Worker's Compensation Insurance covering all employees and providing benefits as required by Florida Statute, Chapter 440, regardless of the size of the company (number of employees). The Contractor further agrees to be responsible for employment, control and conduct of its employees and for any injury sustained by such employees in the course of their employment.

b. Liability Insurance

1) Naming the City of Pompano Beach as an additional insured, on General Liability Insurance only, in connection with work being done under this contract.

2) Such Liability insurance shall include the following checked types of insurance and indicated minimum policy limits.

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LIMITS OF LIABILITY

	Type of Insurance		each occurrence	aggregate
GENERAL LIABILITY: ***MINIMUM $1,000,000 per OCCURRENCE/$1,000,000 AGGREGATE***				
	* Policy to be written on a claims incurred basis			
XX	comprehensive form			
XX	premises - operations	bodily injury		
__	explosion & collapse hazard	property damage		
__	underground hazard	_____		
__	products/completed operations hazard	bodily injury and		
XX	contractual insurance	property damage		
XX	broad form property damage	combined		
		_____		
XX	independent contractors			
XX	personal injury	personal injury		
AUTOMOBILE LIABILITY: ***MINIMUM $1,000,000 per OCCURRENCE/$1,000,000 AGGREGATE***				
		bodily injury (each person)		
XX	comprehensive form	bodily injury (each accident)	_____	_____
XX	owned	property damage	_____	_____
XX	hired	bodily injury and		
XX	non-owned	property damage combined		
REAL & PERSONAL PROPERTY				
XX	comprehensive form	Consultant must show proof they have this coverage.		
EXCESS LIABILITY				
XX	umbrella form	bodily injury and property damage		
XX	other than umbrella	combined	$2,000,000.	$2,000,000.
XX	**PROFESSIONAL LIABILITY**	$2,000,000.	$2,000,000.	
	* Policy to be written on a claims made basis			

The certification or proof of insurance must contain a provision for notification to the City, and the City's contracted law enforcement provider if applicable, thirty (30) days in advance of any material change in coverage or cancellation.

The successful Proposer shall furnish to the City the certification or proof of insurance required by the provisions set forth above, within ten (10) days after notification of award of contract.

8. Selection/Evaluation Process

A Selection/Evaluation Committee will be appointed to select the most qualified firm(s). The Selection/Evaluation Committee will present their findings to the City Commission.

The Committee will rank responses based upon the following criteria.

	Criteria	Point Range
1.	Prior experience of the firm with projects of similar size and complexity: a. Number of similar projects b. Complexity of similar projects c. References from past projects performed by the firm d. Previous projects performed for the City (provide description) e. Litigation within the past 5 years arising out of firm's performance (list, describe outcome)	0-45 points
2.	Qualifications of personnel including sub consultants: a. Organizational chart for project b. Number of technical staff c. Qualifications of technical staff: (1) Number of licensed staff (2) Education of staff (3) Experience of staff on similar projects	0-35 points
3.	Proximity of the nearest office to the project location: a. Location b. Number of staff at the nearest office	0-10 points
4.	Is the firm a certified minority business enterprise as defined by the Florida Small and Minority Business Assistance Act of 1985? (Certification of any sub-contractors should also be included with the response.)	0-10 points

Value of Work Previously Awarded to Firm (Tie-breaker) - In the event of a tie, the firm with the lowest value of work as a prime contractor on City of Pompano Beach projects within the last five years will receive the higher ranking, the firm with the next lowest value of work shall receive the next highest ranking, and so on. The analysis of past work will be based on the City's Purchase Order and payment records.

The Committee has the option to use the above criteria for the initial ranking to short-list Proposers and to use an ordinal ranking system to score short-listed Proposers following

presentations (if deemed necessary) with a score of "1" assigned to the short-listed Proposer deemed most qualified by the Committee.

Each firm should submit documentation that evidences the firm's capability to provide the services required for the Committee's review for short listing purposes. After an initial review of the Proposals, the City may invite Proposers for an interview to discuss the proposal and meet firm representatives, particularly key personnel who would be assigned to the project. Should interviews be deemed necessary, it is understood that the City shall incur no costs as a result of this interview, nor bear any obligation in further consideration of the submittal.

When more than three responses are received, the committee shall furnish the City Commission (for their approval) a listing, in ranked order, of no fewer than three firms deemed to be the most highly qualified to perform the service. If three or less firms respond to the RLI, the list will contain the ranking of all responses.

The City Commission has the authority to (including, but not limited to); approve the recommendation; reject the recommendation and direct staff to re-advertise the solicitation; or, review the responses themselves and/or request oral presentations and determine a ranking order that may be the same or different from what was originally presented to the City Commission.

9. Hold Harmless and Indemnification

Proposer covenants and agrees that it will indemnify and hold harmless the City and all of its officers, agents, and employees from any claim, loss, damage, cost, charge or expense arising out of any act, action, neglect or omission by the Proposer, whether direct or indirect, or whether to any person or property to which the City or said parties may be subject, except that neither the Proposer nor any of its subcontractors will be liable under this section for damages arising out of injury or damage to persons or property directly caused by or resulting from the sole negligence of the City or any of its officers, agents or employees.

10. Retention of Records and Right to Access

The selected firm shall maintain during the term of the contract all books of account, receipt invoices, reports and records in accordance with generally accepted accounting practices and standards. The form of all records and reports shall be subject to the approval of the City's Internal Auditor. The selected firm must comply with the Internal Auditor's recommendation for changes, additions, or deletions. The City's Internal Auditor must be permitted during normal business hours to audit and examine the books of account, reports, and records relating to this contract. The selected firm shall maintain and make available such records and files for the duration of the contract and retain them until the expiration of three years after final payment under the contract.

11. Communications

No negotiations, decisions, or actions shall be initiated or executed by the firm as a result of any discussions with any City employee. Only those communications, which are in writing from the City, may be considered as a duly authorized expression on behalf of the

City. In addition, only communications from firms that are signed and in writing will be recognized by the City as duly authorized expressions on behalf of firms.

12. No Discrimination

There shall be no discrimination as to race, sex, color, age, religion, or national origin in the operations conducted under any contract with the City.

13. Independent Contractor

The selected firm will conduct business as an independent contractor under the terms of this contract. Personnel services provided by the firm shall be by employees of the firm and subject to supervision by the firm, and not as officers, employees, or agents of the City. Personnel policies, tax responsibilities, social security and health insurance, employee benefits, purchasing policies and other similar administrative procedures applicable to services rendered under this agreement shall be those of the firm.

14. Staff Assignment

The City of Pompano Beach reserves the right to approve or reject, for any reasons, Proposer's staff assigned to this project at any time. Background checks may be required.

15. Contract Terms

The contract resulting from this RLI shall include, but not be limited to the following terms:

The contract shall include as a minimum, the entirety of this RLI document, together with the successful Proposer's proposal. Contract shall be prepared by the City of Pompano Beach City Attorney.

If the City of Pompano Beach defends any claim, demand, cause of action, or lawsuit arising out of any act, action, negligent acts or negligent omissions, or willful misconduct of the contractor, its employees, agents or servants during the performance of the contract, whether directly or indirectly, contractor agrees to reimburse the City of Pompano Beach for all expenses, attorney's fees, and court costs incurred in defending such claim, cause of action or lawsuit.

16. Waiver

It is agreed that no waiver or modification of the contract resulting from this RLI, or of any covenant, condition or limitation contained in it shall be valid unless it is in writing and duly executed by the party to be charged with it, and that no evidence of any waiver or modification shall be offered or received in evidence in any proceeding, arbitration, or litigation between the parties arising out of or affecting this contract, or the right or obligations of any party under it, unless such waiver or modification is in writing, duly executed as above. The parties agree that the provisions of this paragraph may not be waived except by a duly executed writing.

17. Survivorship Rights

This contract resulting from this RLI shall be binding on and inure to the benefit of the respective parties and their executors, administrators, heirs, personal representative, successors and assigns.

18. Termination

The contract resulting from this RLI may be terminated by the City of Pompano Beach without cause upon providing contractor with a least sixty (60) days prior written notice.

Should either party fail to perform any of its obligations under the contract resulting from this RLI for a period of thirty (30) days after receipt of written notice of such failure, the non-defaulting part will have the right to terminate the contract immediately upon delivery of written notice to the defaulting part of its election to do so. The foregoing rights of termination are in addition to any other rights and remedies that such party may have.

19. Manner of Performance

Proposer agrees to perform its duties and obligations under the contract resulting from this RLI in a professional manner and in accordance with all applicable local, federal and state laws, rules and regulations.

Proposer agrees that the services provided under the contract resulting from this RLI shall be provided by employees that are educated, trained and experienced, certified and licensed in all areas encompassed within their designated duties. Proposer agrees to furnish the City of Pompano Beach with all documentation, certification, authorization, license, permit, or registration currently required by applicable laws or rules and regulations. Proposer further certifies that it and its employees are now in and will maintain good standing with such governmental agencies and that it and its employees will keep all license, permits, registration, authorization or certification required by applicable laws or regulations in full force and effect during the term of this contract. Failure of Proposer to comply with this paragraph shall constitute a material breach of contract.

20. Acceptance Period

Proposals submitted in response to this RLI must be valid for a period no less than ninety (90) days from the closing date of this solicitation.

21. RLI Conditions and Provisions

The proposal must be submitted to the City on or before the time and date stated herein. All Proposers, by submission of a proposal, shall agree to comply with all of the conditions, requirements and instructions of this RLI as stated or implied herein. All proposals and supporting materials submitted will become the property of the City.

Exceptions or deviations to this solicitation may not be added after the submittal date.

All Proposers are required to provide all information requested in this RLI. Failure to do so may result in disqualification of the proposal.

The City reserves the right to postpone or cancel this RLI, or reject all proposals, if in its sole discretion it deems it to be in the best interest of the City to do so.

The City reserves the right to waive any technical or formal errors or omissions and to reject all proposals, or to award contract for the items herein, in part or whole, if it is determined to be in the best interests of the City to do so.

The City shall not be liable for any costs incurred by the Proposer in the preparation of proposals or for any work performed in connection therein.

22. Standard Provisions

a. Governing Law

Any agreement resulting from this RLI shall be governed by the laws of the State of Florida, and the venue for any legal action relating to such agreement will be in Broward County, Florida.

b. Licenses

In order to perform public work, the successful Proposer shall:
Be licensed to do business in Florida, if an entity, and hold or obtain such Contractor' and Business Licenses if required by State Statutes or local ordinances.

c. Conflict Of Interest

For purposes of determining any possible conflict of interest, each Proposer must disclose if any Elected Official, Appointed Official, or City Employee is also an owner, corporate officer, or an employee of the firm. If any Elected Official, Appointed Official, or City Employee is an owner, corporate officer, or an employee, the Proposer must file a statement with the Broward County Supervisor of Elections pursuant to §112.313, Florida Statutes.

d. Drug Free Workplace

The selected firm(s) will be required to verify they will operate a "Drug Free Workplace" as set forth in Florida Statute, 287.087.

e. Public Entity Crimes

A person or affiliate who has been placed on the convicted vendor list following a conviction for public entity crime may not submit a proposal on a contract to provide any goods or services to a public entity, may not submit a proposal on a contract with a public entity for the construction or repair of a public building or public work, may not submit proposals on leases of real property to public entity, may not be awarded or perform work as a contractor, supplier, subcontractor, or consultant under a contract with any public entity, and may not transact business with any public entity in excess of the threshold amount provided in Florida Statute, Section 287.017, for CATEGORY TWO for a period of 36 months from the date of being placed on the convicted vendor list.

f. Patent Fees, Royalties, And Licenses

If the selected Proposer requires or desires to use any design, trademark, device, material or process covered by letters of patent or copyright, the selected Proposer and his surety shall indemnify and hold harmless the City from any and all claims for infringement by reason of the use of any such patented design, device, trademark, copyright, material or process in connection with the work agreed to be performed and shall indemnify the City from any cost, expense, royalty or damage which the City may be obligated to pay by reason of any infringement at any time during or after completion of the work.

g. Familiarity With Laws

It is assumed the selected firm(s) will be familiar with all federal, state and local laws, ordinances, rules and regulations that may affect its services pursuant to this RLI. Ignorance on the part of the firm will in no way relieve the firm from responsibility.

h. Withdrawal Of Proposals

A firm may withdraw its proposal without prejudice no later than the advertised deadline for submission of proposals by written communication to the General Services Department, 1190 N.E. 3rd Avenue, Building C, Pompano Beach, Florida 33060.

i. Composition Of Project Team

Firms are required to commit that the principals and personnel named in the proposal will perform the services throughout the contractual term unless otherwise provided for by way of a negotiated contract or written amendment to same executed by both parties. No diversion or substitution of principals or personnel will be allowed unless a written request that sets forth the qualifications and experience of the proposed replacement(s) is submitted to and approved by the City in writing.

j. Invoicing/Payment

All invoices should be sent to City of Pompano Beach, Accounts Payable, P.O. Drawer 1300, Pompano Beach, Florida, 33061. In accordance with Florida Statutes, Chapter 218, payment will be made within 45 days after receipt of a proper invoice.

k. Public Records

1. The City of Pompano Beach is a public agency subject to Chapter 119, Florida Statutes. The Contractor shall comply with Florida's Public Records Law. Specifically, the Contractor shall:

    a. Keep and maintain public records that ordinarily and necessarily would be required by the City in order to perform the service;

    b. Provide the public with access to such public records on the same terms and conditions that the City would provide the records and at a cost that

does not exceed that provided in chapter 119, Fla. Stat., or as otherwise provided by law;

c. Ensure that public records that are exempt or that are confidential and exempt from public record requirements are not disclosed except as authorized by law; and

d. Meet all requirements for retaining public records and transfer to the City, at no cost, all public records in possession of the contractor upon termination of the contract and destroy any duplicate public records that are exempt or confidential and exempt. All records stored electronically must be provided to the City in a format that is compatible with the information technology systems of the agency.

2. The failure of Contractor to comply with the provisions set forth in this Article shall constitute a Default and Breach of this Agreement and the City shall enforce the Default in accordance with the provisions set forth herein.

23. Questions and Communication

All questions regarding the RLI are to be submitted in writing to the Purchasing Office, 1190 N.E. 3rd Avenue, Building C (Front), Pompano Beach, Florida 33060, fax (954) 786-4168, or email purchasing@copbfl.com. All questions must include the inquiring firm's name, address, telephone number and RLI name and number. Questions must be received at least seven (7) calendar days before the scheduled solicitation opening. Oral and other interpretations or clarifications will be without legal effect. Any addendum necessary to answer questions will be posted to the City's website, and it is the Proposer's responsibility to obtain all addenda before submitting a response to the solicitation.

24. Addenda

The issuance of a written addendum is the only official method whereby interpretation, clarification, or additional information can be given. If any addenda are issued to this solicitation the City will attempt to notify all known prospective Proposers, however, it shall be the responsibility of each Proposer, prior to submitting their response, to contact the City Purchasing Office at (954) 786-4098 to determine if addenda were issued and to make such addenda a part of their proposal.

PROJECT TEAM

RLI NUMBER _____

Federal I.D.#_____

PRIME

Role	Name of Individual Assigned to Project	Number of Years Experience	Education, Degrees
Principal-In-Charge			
Project Manager			
Asst. Project Manager			
Other Key Member			
Other Key Member			

SUB-CONSULTANT

Role	Company Name and Address of Office Handling This Project	Name of Individual Assigned to the Project
Surveying		
Landscaping		
Engineering		
Other Key Member		
Other Key Member		
Other Key Member		
Other Key Member		

(use attachments if necessary)

EXHIBIT A
CITY OF POMPANO BEACH, FLORIDA
LOCAL BUSINESS PARTICIPATION FORM

RLI Number & Title: _____ Prime Contractor's Name: _____

Name of Firm, Address	Contact Person, Telephone Number	Type of Good/Service to be Purchase	% of Work

EXHIBIT B
LOCAL BUSINESS
LETTER OF INTENT TO PERFORM AS A SUBCONTRACTOR

RLI Number_____

TO: _____
(Name of Prime or General Bidder)

The undersigned City of Pompano Beach business intends to perform subcontracting work in connection with the above contract as (check below)

_____ an individual _____ a corporation

_____ a partnership _____ a joint venture

The undersigned is prepared to perform the following work in connection with the above Contract, as hereafter described in detail:

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____ _____
(Date) (Name of Local Business Contractor)

BY: _____

EXHIBIT C
LOCAL BUSINESS
UNAVAILABILITY FORM

RLI #_____

I,_____
(Name and Title)

of_____, certify that on the _____day of

_____, _____, I invited the following LOCAL BUSINESSES to bid work items to be performed in the City of Pompano Beach:

Business Name, Address	Work Items Sought	Form of Bid Sought (i.e., Unit Price, Materials/Labor, Labor Only, etc.)

Said Local Businesses:

___ Did not bid in response to the invitation

___ Submitted a bid which was not the low responsible bid

___ Other:_____

Signature: _____

Date: _____

Note: Attach additional documents as available.

EXHIBIT D
GOOD FAITH EFFORT REPORT
LOCAL BUSINESS PARTICIPATION

RLI #_____

1. What portions of the contract have you identified as Local Business opportunities?

   _____

   _____

   _____

   _____

2. Did you provide adequate information to identified Local Businesses? Please comment on how you provided this information.

   _____

   _____

   _____

3. Did you send written notices to Local Businesses?

   ____ Yes ____ No

   If yes, please include copy of the notice and the list of individuals who were forwarded copies of the notices.

4. Did you advertise in local publications?

   ____ Yes ____ No

   If yes, please attach copies of the ads, including name and dates of publication.

5. What type of efforts did you make to assist Local Businesses in contracting with you ?

   _____

   _____

7. List the Local Businesses you will utilize and subcontract percentage of work.

_____ _____

_____ _____

_____ _____

8. Other comments: _____

_____

_____

_____

_____

EXHIBIT E

MINORITY BUSINESS ENTERPRISE PARTICIPATION

RLI #_____

List all members of your team that are a certified Minority Business Enterprise (as defined by the State of Florida.) You must include copies of the MBE certificates for each firm listed.

Name of Firm	Certificate Included?

E-23-20

Tetra Tech

Supplier Response

Event Information

Number: E-23-20
Title: Continuing Contracts for Engineering Services for Water and Reuse Treatment Plant Projects
Type: Request for Letters of Interest
Issue Date: 7/8/2020
Deadline: 8/10/2020 02:00 PM (ET)
Notes: Pursuant to Florida Statutes Chapter 287.055 "Consultants' Competitive Negotiation Act" the City of Pompano Beach invites qualified engineering firms to submit Letters of Interest, qualifications and experience for consideration to provide Professional Engineering Consulting services to the City on a continuing as-needed basis.

The City will receive sealed proposals until **2:00 p.m. (local), August 10, 2020.** Proposals must be submitted electronically through the eBid System on or before the due date/time stated above. Any proposal received after the due date and time specified, will not be considered. Any uncertainty regarding the time a proposal is received will be resolved against the Proposer.

Proposer must be registered on the City's eBid System in order to view the solicitation documents and respond to this solicitation. The complete solicitation document can be downloaded for free from the eBid System as a pdf at: https://pompanobeachfl.ionwave.net. The

City is not responsible for the accuracy or completeness of any documentation the Proposer receives from any source other than from the eBid System. Proposer is solely responsible for downloading all required documents. A list of proposers will be read aloud in a public forum.

Contact Information

Contact: Jeff English
Address: Purchasing
1190 NE 3rd Avenue
Building C
Pompano Beach, FL 33060
Phone: (954) 786-4098
Fax: (954) 786-4168
Email: purchasing@copbfl.com

Tetra Tech Information

Address: 201 E Pine Street
Orlando, FL 32801
Phone: (407) 839-3955

By submitting this Response I affirm I have received, read and agree to the all terms and conditions as set forth herein. I hereby recognize and agree that upon execution by an authorized officer of the City of Pompano Beach, this Response, together with all documents prepared by or on behalf of the City of Pompano Beach for this solicitation, and the resulting Contract shall become a binding agreement between the parties for the products and services to be provided in accordance with the terms and conditions set forth herein. I further affirm that all information and documentation contained within this response to be true and correct, and that I have the legal authority to submit this response on behalf of the named Supplier (Offeror).

Charles Drake, PG
Signature

charles.drake@tetratech.com
Email

Submitted at 8/10/2020 11:33:24 AM

Requested Attachments

Proposal PompanoBeach_WaterandReuseTreatmentPlantProjects_Tetra Tech_FINAL.pdf

Electronic version of proposal must be uploaded to the Response Attachments tab. The file size for uploads is limited to 250 MB. If the file size exceeds 250 MB the response must be split and uploaded as two (2) separate files.

Financial Statment FinancialStatements_CONFIDENTIAL_TetraTech.pdf

Will remain confidential pursuant to section 119.071 of the State of Florida Statutes.

Tier 1/ Tier 2 Local Business Form T1_T2_Form.pdf

To comply with the City's Local Business Program as a Tier-1 or Tier-2 vendor, you must complete this form and upload it to the Response Attachments tab.

Local Business Program Forms Local Business Program Forms.pdf

These forms are to be completed and uploaded to the Response Attachments tab. Online Only

Proposer Information Page Proposer Information Page Form.pdf

Proposer Information Page Form is to be included in your proposal that must be uploaded to the Response Attachments Tab.

Minority Business Enterprise Participation Form Minority Business Enterprise Participation Form - RLI.pdf

If your firm or any sub-consultant is a certified minority business enterprise this form must be completed and included with your proposal. If any members of your team are a certified Minority Business Enterprise copies of their certifications must be included in your submittal.

Project Team Form PROJECT TEAM FORM - all pages.pdf

Project Team Form is to be included in your proposal that must be uploaded to the Response Attachments Tab.

Bid Attributes

1 Drug-Free Workplace

Whenever two or more bids which are equal with respect to price, quality, and service are received for the procurement of commodities or contractual service, a bid received from a business that certifies that it has implemented a Drug-free Workplace Program shall be given preference in the award process. If bidder's company has a Drug-free Workplace Program as outlined in General Conditions, section 32., indicate that by selecting yes in the drop down menu.

Yes

2 Conflict of Interest

For purposes of determining any possible conflict of interest, all bidders must disclose if any City of Pompano Beach employee is also an owner, corporate officer, or employee of their business. Indicate either "Yes" (a City employee is also associated with your business), or "No". (Note: If answer is "Yes", you must file a statement with the Supervisor of Elections, pursuant to Florida Statutes 112.313.)Indicate yes or no below with the drop down menu.

No

3 Local Business Participation Percentage

If you have indicated local business participation on the Local Business Participation Form Exhibit A enter the percentage of the contract that will be performed by local Pompano Beach businesses.

20%

4 Terms & Conditions

Check the box indicating you agree to the terms and conditions of this solicitation.

Agree

5 Acknowledgement of Addenda

Check this box to acknowledge that you have reviewed all addenda issued for this solicitation.

Yes

pompano beach
Florida's Warmest Welcome

POMPANO BEACH OASIS REUSE WATER UTILITIES

PROPOSAL FOR

CONTINUING CONTRACT FOR ENGINEERING SERVICES FOR

Water and Reuse Treatment Plant Projects

E-23-20

TETRA TECH

TITLE PAGE

Florida's Warmest Welcome

CITY OF POMPANO BEACH

CONTINUING CONTRACT FOR ENGINEERING SERVICES FOR WATER AND REUSE TREATMENT PLANT PROJECTS

E-23-20

DATE:
August 10, 2020

Firm:
Tetra Tech
4601 Sheridan Street, Suite 212; Hollywood, FL 33021

Contact:
Charles Drake, PG
Direct: 407.480.3912
Cell: 407.256.7715

TABLE OF CONTENTS

TETRA TECH

August 10, 2020

City of Pompano Beach
Purchasing Office
1190 N.E. 3rd Avenue, Building C
Pompano Beach, Florida 33060

Subject: RLI E-23-20: CONTINUING CONTRACT FOR ENGINEERING SERVICES FOR WATER AND REUSE TREATMENT PLANT PROJECTS

Dear Selection Committee Members:

Tetra Tech is grateful to have an opportunity to continue to work with the City on a number of upcoming water and reuse related engineering assignments under this proposed continuing contract. The City of Pompano Beach will benefit having access to a highly qualified staff that has gained significant experience over the past three decades on similar contracts for over 55 governmental agencies in Florida and numerous more clients across the US. Our Team is proud to have been serving the City since 2016 and we are committed to continuing our successful service to the City of Pompano Beach in this capacity for years to come.

As a recognized industry leader, Tetra Tech has been ranked No. 1 in "Water" by Engineering News Record (ENR) for the past 17 consecutive years. Tetra Tech is also currently ranked #4 by ENR as one of the top 5 consulting firms in the US and also hold a #1 ranking in Water Supply. Though we have over 400 offices and 20,000 professionals worldwide, we know that our local office philosophy and responsive service is key to meeting your local needs. Tetra Tech has over 700 professionals and 25 offices throughout Florida to provide you with local, personalized service backed by nationally recognized resources to support all of your needs.

Our proposed team is highly qualified and experienced to deliver the City's proposed projects for the following reasons:

Local Knowledge: Tetra Tech has worked on water and reuse projects for the City since 2016 and recently completed the City's Reuse Master Plan Update and hardening project specifications at the water treatment plant campus and was selected to provide raw water wellfield services. Because of our work on preparing the reuse master plan update, we have gained detailed technical and operational knowledge of the reuse treatment plant and reuse transmission and distribution system and reuse demand projections. Additionally, our current work on the hardening projects provides us with detailed knowledge of the buildings at the water treatment plant.

Familiarity with City Staff: We have been one of the City's consultants under the "Water and Reuse Treatment Plant" services contract. Through that work, we have built relationships with several City utility and public works

MESSAGE FROM OUR PRINCIPAL

"I am proud to serve the City of Pompano Beach since 2016, and look forward to continuing to do so. Ms. Ribotti, our Project Manager, has worked on many water and reuse treatment projects and is also making a personal commitment to the City to provide outstanding service."

- Charles Drake, PG

FIRM INFORMATION

Corporate Name:
Tetra Tech, Inc.
FEIN:
95-4148514
Address:
4601 Sheridan Street, Suite 212;
Hollywood, FL 33021
Contact:
Charles Drake, PG
Vice President
Charles.Drake@tetratech.com
Direct: 407.480.3912
Cell: 407.256.7715

staff. Several of our key team members, including Mr. James Christopher, have toured your water treatment plants with Utility Department Staff with emphasis on the RO plant and deep sand filters. Mr. Woodcock and Ms. Wasowska work with Utility and Capital Improvement Department staff on the hardening and reuse master plan projects. I also worked with staff members on the raw water wellfield services contract and have a very good understanding of the raw production well issues and water use permitting requirements that may arise during this contract. Both Mr. Gary ReVoir and I have worked with staff on WateReuse Association and Water Research Foundation issues at both the state and national level.

Experience with Continuing Services Contracts: As noted above, the City will benefit from our extensive experience gained during decades of providing similar continuing engineering services to dozens of municipalities across Florida. Our key team members have acted as an extension of staff, and/or provided specialty expertise for hundreds of standard, as well as some unique projects. Our current Broward County continuing services contracts include the cities of: Pompano Beach, Hollywood and Ft. Lauderdale.

Quality In-House Personnel: The team presented in the following submittal represents more than 120 years of municipal water and reclaimed water experience in Florida. The experience of Tetra Tech's key team members, ***Jennifer Ribotti, PE; Gary ReVoir, PE; Ken Caban, PE; John Toomey, PE; Miguel Garcia, PG; Andrew Woodcock, PE; and James Christopher, PE;*** will ensure proper execution on all projects assigned. Ms. Ribotti, serving as our proposed project manager, has significant experience in potable reuse demonstration projects, as well as full-scale IPR and DPR treatment (purification) processes. Jennifer has also been the process engineer on several large RO water treatment plant projects in Florida and in Texas. She is active in WateReuse Florida and is passionate about all types of water treatment and reuse projects, with a particular passion for furthering potable water reuse in the State. Our submittal herein demonstrates that Tetra Tech has complete in-house capabilities to provide the necessary professional services for these types of projects and will use in-house support services for electrical, instrumentation, and structural disciplines.

Ability and Commitment to Perform the Work: Our team is positioned to dedicate resources to the City immediately to provide the delivery of any task assignments. With more than 700 employees throughout Florida, we are ready to deliver any type of project to meet the City's needs. As the principal in-charge, I will be personally involved in all projects, to ensure that the City's expectations are being met.

Successful Project Delivery: At Tetra Tech, we pride ourselves in on-time and on-budget delivery of projects. We understand that the City will require us to use the e-Builder Enterprise™ a web-based project management tool. We routinely use our client's project management tools to ensure successful projects and have the ability to adapt to different management tools. The e-Builder EnterpriseTM tool is a structured project management approach including monthly estimates of project completion status, including a review of time to complete and budget remaining. We anticipate weekly or monthly meetings with the City, as required, to ensure that the project goals and expectations are met.

We appreciate the opportunity to submit this response to the City's Letters of Interest for the Continuing Contract for Engineering Services for Water and Reuse Treatment Plant Projects and look forward to continuing to serve the City.

Sincerely,
Tetra Tech

Charles W. Drake, PG
Vice President

» Technical Approach

OVERVIEW

The City, operating as Enterprise Funds, owns and operates water, wastewater collection systems, and reuse systems. The City uses its extensive CIP to implement this project, which is needed to maintain and improve these systems. The aim of these improvements is to benefit both the customer and the natural environment.

On these projects, we work for the Utilities Department, and meet with utilities staff. Through this work, including brain-storming development of work scope, project review meetings, and report writing, we have developed a great working relationship with these professionals.

The following is a brief description of the Utility system, as we know it from our work, which demonstrates a working knowledge of the types of projects that are identified in the City's CIP to be designed and constructed.

The Utilities mission is to provide superior utility service while creating exceptional value. Utilities provides water, reuse, wastewater and stormwater services in an environmentally and financially responsible way with respect to the role of government in protecting the public's interest. Our goal is to provide water and reuse treatment services in an environmentally and financially responsible way with respect to the role of government in protecting the taxpayers' and public's interest.

Water Treatment Plant and Wellfields

The City's drinking water supply is pumped from 25 wells completed into the Biscayne aquifer to from the Eastern and Western wellfields and then pumped to the water treatment plant. The City operates two co-located water treatment plants; a traditional lime filtration and an RO membrane plant. The rated capacity of the treatment plants is approximately 40 MGD, but with effective water conservation and reuse, and rate structure the potable water demands are much less. The City's current water use permit allocation is approximately 19 MGD, on an annual average basis.

We are currently working with the Utilities Department on inspecting and testing wells in the Western Wellfield, which provide raw water to the membrane plant, potentially building new western wells, and a new raw water transmission line from the Western Wellfield. Our work also includes relocating wells located on the Airpark property and constructing a new raw water line to deliver that water to the lime filtration plant.

Drinking Water Strategic Plan Objectives Dashboard

Strategic Plan Objective	Target/Goal	Status
Replace 3,700 feet of water mains per year	3,700 feet constructed	Progressing toward benchmark goal
Rehabilitate five wells per year	Five wells rehabbed	Progressing toward benchmark goal
Distribution system water loss percent	<10%	At or exceeding benchmark goal

Because these projects will involve construction of new piping and wells, Ms. Good was involved with development of the project scope.

The Utilities Department maintains a **projects dashboard** on their website to inform the public of their commitment to delivering high-quality water and superior services to their customers, and several of these dashboards are shown above and on subsequent pages.

Water Reuse-OASIS Plant

In 2019-2020, Tetra Tech updated the City's Reuse Master Plan. Through our analysis of the plant operations and hydraulic modeling of the reuse distribution system, we have a very thorough understanding of the required upgrades and expansion of the treatment plant and distribution system to meet demands from the present to build-out.

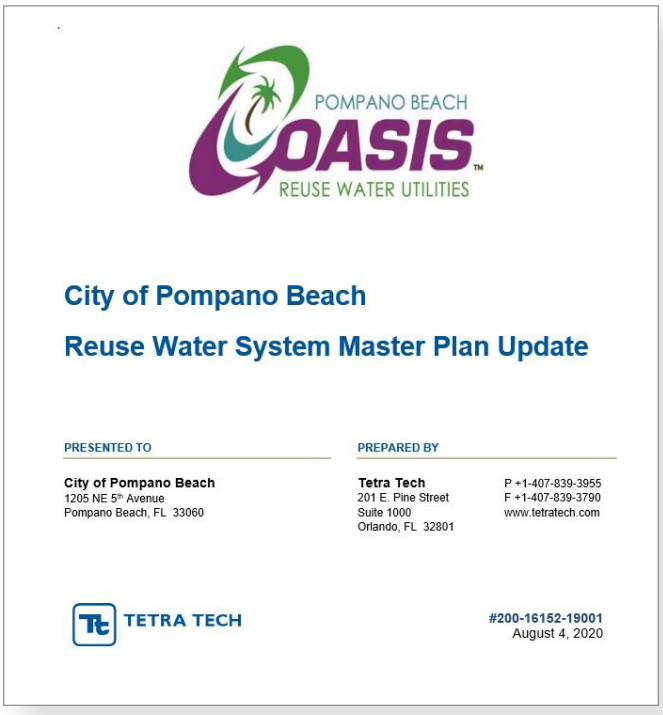
We worked closely with utilities staff on the update, and appreciate the time they took with review and comments. We also understand the time the operators took to give us a tour of the OASIS plant and describe for us the treatment plant, as well as transmission and distribution systems.

The City's Reuse Water Treatment Facility (RWTF) was built in 1989 and is named "OASIS: "Our Alternative Supply Irrigation System." The Oasis plant influent is currently supplied by diverting up to 5 MGD of treated wastewater effluent from the North Broward County Regional Wastewater Treatment Plant (NBCRWWTP) ocean outfall line. The City staff take great pride in producing a very high-quality reuse water; OASIS reuse water passed 94 of 96 annual drinking water tests.

In 2019 testing, the OASIS water met drinking water standards for all tests except for TDS and nitrite, 544 mg/L v. MCL of 500 and 1.5 mg/L v. MCL of 1.0 mg/L, respectively. This very high-quality reuse water reduces potable water demands for irrigation, and also reduces the use of residential fertilizer.

Because of the high-quality of the reuse water, the City obtained the only variance in Florida from the FDEP to allow irrigation of garden crops with reclaimed water.

Due to ocean outfall legislation, an alternate conveyance of treated effluent to the OASIS plant will be needed. Tetra Tech will be able to assist the City and Broward County with design and


POMPANO BEACH OASIS REUSE WATER UTILITIES

City of Pompano Beach

Reuse Water System Master Plan Update

PRESENTED TO

City of Pompano Beach
1205 NE 5th Avenue
Pompano Beach, FL 33060

PREPARED BY

Tetra Tech
201 E. Pine Street
Suite 1000
Orlando, FL 32801

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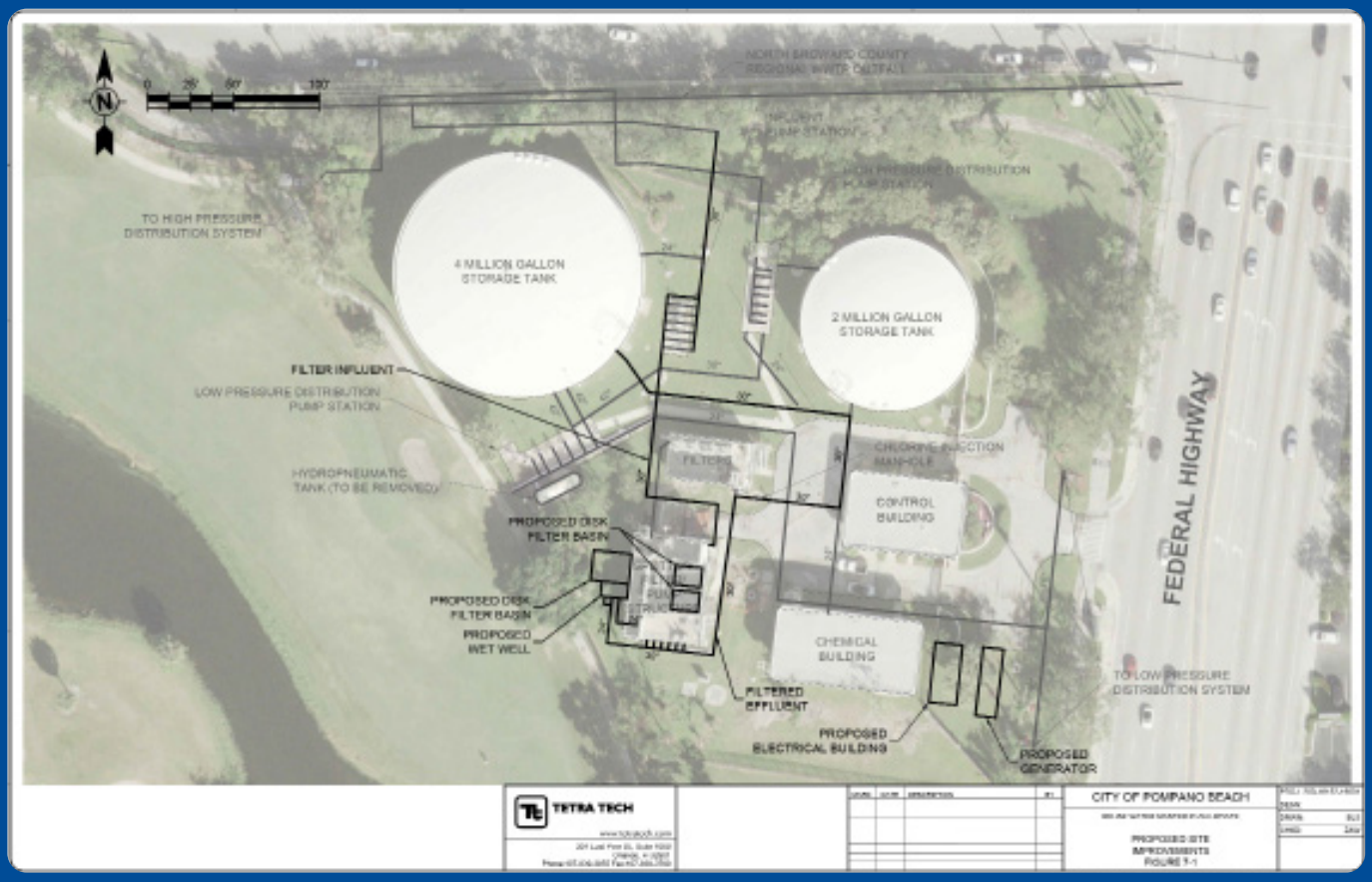
F +1-407-839-3790
www.tetratech.com

TETRA TECH

#200-16152-19001
August 4, 2020



construction of the new conveyance pipeline because of our knowledge of the OASIS plant piping infrastructure.

Our 2020 Reuse Master Plan Update prioritized the reuse system CIP which was developed to meet the growing needs of the City's reuse system. The CIP improvements summarized below are necessary to provide existing and future customers with sufficient reuse water supply capable of meeting or exceeding the current level of service.

Following discussions with the City, it was determined that the most critical improvements at the RWTF involve filter improvements to enhance plant performance and reliability, as well as the addition of a generator and MCC (motor control center) building.

Improvements to the transmission and distribution systems include projects that were identified in the 2014 Master Plan for the phased expansion of the system. These projects were evaluated using hydraulic modeling and updated demand projections to determine their need. Storage improvements identified include the addition of a remote storage tank and pumping facility that will be constructed on the west side of the Pompano Beach Airpark.

Reuse Water Treatment and Storage Improvements

Under the current agreement with Broward County, the RWTF is authorized to withdraw an MDD of up to 5.0 MGD. Historically, the MDD of the RWTF has approached the 5.0 MGD limit; therefore, the agreement with Broward County should be modified to increase the withdrawal limit in the near future.

In addition to increasing the withdrawals, projects related to providing a reliable supply of reuse include

Cost Comparison of Filter Technologies

Filter Technology	Manufacturer	Opinion of Probable Cost
Disk Filters	Alfa Laval	$8,785,000
Silicon Carbide Membranes	Ovivo	$14,099,000
Hollow Fiber Membranes	Suez	$18,251,000

replacement of the deep bed sand filtration technology with disk filters and the addition of a standby generator and new MCC building.

In order to meet the demands beyond the 20-year planning horizon and to address the filter performance issues resulting from the variable source water quality, three filtration technologies were evaluated. These included cloth media disk filters, silicon carbide membranes, and hollow-fiber membranes.

To provide plant reliability, all filter options above will require the addition of one (1) 2,000 gpm filter influent pump with a VFD. Additionally, VFDs will be provided on the existing influent pumps to control the flow to the filters. For the disk filter option, six (6) new filter transfer pumps sized to match existing pumps, will be required. Two (2) of the new pumps will be housed in the new filter units, and four (4) pumps will be installed in the remaining four (4) spaces in the south filter pump station. VFDs will be added to the existing filter transfer pumps and provided for the new filter transfer pumps.

For all options, influent piping to the filters and some piping between the filters and the chlorine contact tank will be replaced with larger 30" piping as velocities in the existing piping are very high at the new flows. For the disk filter option, a detailed hydraulic analysis of the existing system head and pump curves should be conducted as part of the design. There is some extra flow above 15.7 MGD with all pumps installed so it may be possible to pump less flow at higher heads and still meet the required flow, but this depends on the pump curves.

High Service Pumps

Summary of Capital Improvement Projects through Build Out

	Within 5 Years	6 to 10 Years	11 to 20 Years	20 + Years
Transmission/ Distribution Systems Projects	$4,476,652	$6,932,031	$8,124,607	$15,660,627
Filter Upgrades	-	$8,785,000	-	-
Generator & MCC	$6,233,500	-	-	-
Initial Repump Station	-	$9,480,300	-	-
Build Out Repump Station	-	-	-	$5,944,000
Total	$10,710,152	$25,197,331	$8,124,607	$21,604,627

Costs include civil/site work, yard piping, structural, instrumentation & control, and electrical improvements.

Although the membrane options can achieve a lower TSS and phosphorus concentration, disk filters are less complex and can meet the requirements of the reuse permit at the lowest cost of the options evaluated. Therefore, three (3) disk filter units are recommended for retrofitting the deep bed sand filters. The proposed filters are sized for 12.5 MGD ADD and 15 MGD MDD. Once the upgrades are completed, the north filters can be decommissioned.

Based on discussions with the City, a new on-site standby generator is desired. The addition of a generator and MCC building are proposed to occur within 5 years; however, because generators are not required at reuse facilities by regulatory agencies, the proposed timeline is discretionary. A new 2,000 KW generator, capable of providing 3,000 amps of power, is proposed to provide emergency power to the entire RWTF. The generator is sized to provide full capacity of the existing 3,000 amp service switch gear 'MSWBD.

The proposed location of the disk filters including associated piping improvements are shown in the adjacent figure.

To maintain consistency, the phased transmission and distribution systems improvements presented in the 2014 Master Plan are carried over. Projects that have been completed since the previous master plan have been removed from the CIP, and the remaining projects have been evaluated and removed or revised based on updated demands.

The City maintains 38 miles of transmission and distribution system piping to serve 1,510 reuse connections in the system, of which 1,234 are active. The active connections are a mix of residential, commercial, institutional, median, and park connections. In the Master Plan Update, we provided recommendations for improvements to the reuse system and treatment plant to improve delivery of reuse water and the efficiency of the treatment system.

Wastewater System

The City of Pompano Beach does not have a wastewater treatment plant but sends its wastewater to Broward County's regional wastewater plant. The City has approximately 62 miles of 2" to 42" diameter force mains to send wastewater to Broward County. The City routinely replaces and upgrades its wastewater system, including installing cured in place liners in clay pipes.

The City has 80 lift stations that are maintained by the City, of which three are owned by Lauderdale by the Sea. There are approximately 85 private lift stations in the City service area. The City provides sewer connection services to previously unsewered areas, thereby improving groundwater quality and making more reuse water available to reduce potable demands.

The City lines wastewater pipes and maintains approximately 4,300 manholes in order to prevent infiltration and inflow into wastewater pipes, which reduces flow to the Broward County wastewater treatment plant.

Consultant's Understanding of Project Types

Tetra Tech's experience in performing continuing services for South Florida communities has allowed us to fine-tune our project delivery approach. We understand that each client and each project merits a customized approach based on sound science, an experienced project team, and Tetra Tech's 50 years of best practices in project delivery. ***Our core belief is that our professionals serve as an extension of our client's staff***, which we have had the pleasure of serving Pompano Beach since 2016.

After reviewing the City's RLI No. E-23-20 and the CIP referenced in it, we understand, and have been involved with, many of the projects described in it. The Utilities Department maintains a robust operations and maintenance budget and Capital Improvement

Auxiliary Power

Program. They continually improve their processes and operate under the Six Sigma process. The department is driven using data and measurements to achieve their mission and goals. Long-range planning, such as with the reuse master plan update, the water master plan and the raw water wellfield relocation projects, will continue to improve their service to the ratepayers and protect their natural environment.

Based on our experience with the City, we found successful delivery of such projects has required the development of a clear understanding of the City's goals at the earliest possible juncture. We accomplish this by meeting with the City during the scope development phase to discuss goals and objectives. The figure below conceptually presents this project development sequence.

In addition to understanding project goals, objectives, and requirements, we developed a strong team of engineers to work for the City and ensure continuity and the best possible outcome for a successful project. Tetra Tech's project manager, Jennifer Ribotti, PE, will carefully evaluate the various components of each.

TECHNICAL APPROACH

Tetra Tech places an emphasis on providing responsive on-call service, while maintaining an understanding of budgets and schedules and our institutional knowledge of the City's needs and expectations. To achieve timely, efficient project completion, tasks are typically broken-down into distinct phases. For most design projects, the phases include: preliminary engineering, final design, permitting, bidding, construction administration, and, on occasion, other services when requested. However, our services to the City start well before the project phase. The initial step for any project is to meet with the City to discuss the expected scope of services. This is followed up with a proposal consisting of a project description, detailed scope of services, budget, and a task authorization form for execution by the City. The following is our general project task outline for the services contemplated under this continuing services contract.

Task 1- Kick-Off Meeting and Workshop

Communication is the key to success for any project. Our approach is to conduct workshops with City staff to first build and then continue to maintain excellent communication specifically related to achieving the project goals, as well as maintaining scope, schedule and budget along the way. For example, we will start the project with a kick-off workshop to discuss and prioritize the project goals and objectives, as well as clarify individual roles and assignments. In addition, we believe with our complete understanding of the details of this project combined with our excellent relationship with your staff, we can accelerate the schedule by finalizing design concept modifications or updates within this initial workshop. This workshop can also include discussions on the proposed improvements and new value.

Task 2- Data Collection and Review

We understand that having all of the available information is essential to being able to make good decisions and sound designs. All of our projects begin with obtaining information from the City and the stakeholders that are directly or indirectly involved with the project.

Task 3 - Basis of Design Report

Because of the various processes involved at the City's existing treatment plants, typically a BODR would be developed to establish processes, quality parameters, flows, operational aspects, and other aspects. The BODR would also identify other actions necessary to continue with a project, such as pilot or bench-scale testing.

Treatment process modeling using software used by the engineering industry such as RTW Model for Water Process & Corrosion Chemistry (developed by Tetra Tech) or BioWin is also an essential part of treatment plant projects. Tetra Tech has a full suite of modeling software and expert staff to develop and utilize process models, oftentimes developing software where required.

Tetra Tech Staff at Hardening Project Tour

Hydraulic modeling during the planning stage of the project is also very important. Understanding the hydraulics involved with moving large quantities of water in the reuse plant, or within the water treatment plants, is especially critical. Tetra Tech is familiar with the hydraulic models utilized and has conducted surge analyses, water hammer evaluations, and diversion hydraulics for numerous large, similarly complex water systems throughout the United States, including in South Florida.

A BODR for a pipeline project is typically completed at the start of the project, if deemed necessary, and includes:

- Water quality requirements
- Various process options
- Operational requirements
- Pilot or bench-scale requirements
- Flow generation including existing and future projected flows
- Hydraulic analysis for pressures and pipe sizing
- Description or preliminary design of pumping facilities
- Flow control facilities to meter and control the flow
- Detailed surge analysis
- Pipe material selections
- Pipe design criteria and preliminary design
- Geotechnical report including tunnel analysis
- Preliminary tunnel design
- Alignment study to determine best alignment
- Right of way requirements
- Traffic control issues
- Permit requirements and jurisdictional reviews

Task 4 – Pilot or Bench-Scale Testing

Tetra Tech can provide pilot or bench-scale testing for water or reuse plant projects. We routinely design and, on occasion, build and operate pilot plants to evaluate process performance prior to full scale design. We have a water quality testing laboratory in our Orlando office and have utilized this laboratory for pilot and bench-scale testing for projects in Miami-Dade County, City of Clearwater, City of Daytona Beach, and others.

Task 5 - Design

The design phase will consist of the development of drawings and specifications that will be used for permitting, bidding and constructing the project. These documents will include the following:

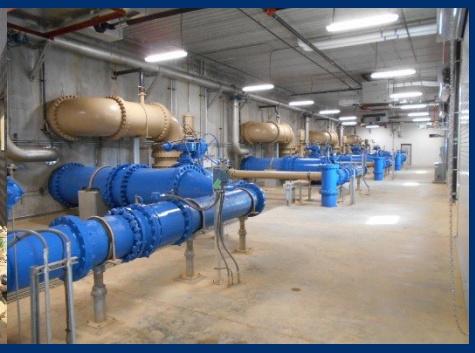
- Technical Specifications and front-end, contractual documents, using the City's standard documents where applicable
- Subsurface investigation/geotechnical reports

The Tetra Tech team will submit the documents to the City for review at agreed upon intervals (typically at the 30, 60, 90 and 100% complete levels) along with Opinions of Probable Construction Cost. All comments from the City, as well as internal review comments, will be addressed and incorporated into the final design as required.

Treatment Plant Design Considerations

Revit Model

Construction



Product

Reuse System Future Planning Scenario Low-Pressure System Demands from Tetra Tech's Reuse Master Plan Update

Planning Year	ADD (MGD)	ADD Supply Flow 12-hour Delivery Window (MGD)	MDD Supply Flow 12-hour Delivery Window (MGD)	PHD Supply Flow 12-hour Delivery Window (MGD)
Year 5	1.73	3.46	5.99	6.92
Year 10	2.16	4.32	7.47	8.64
Year 20	3.15	6.30	10.90	12.60
Build-Out	6.73	13.46	23.29	26.92

Typical design considerations for water and/or wastewater treatment plant upgrade/improvement/expansion projects include:

- Loading rates/design basis of the unit operations and processes and with regulatory standards, reference standards and accepted practice
- Age and condition of the existing mechanical and electrical equipment and anticipated remaining useful life
- Hydraulic restrictions in the plant that prevent the design flows from being treated
- Ability of existing pumping facilities to pump design capacities
- Existing provisions for achieving disinfection effects of expansion or upgrade
- Adequate facilities to handle spent backwash water without affecting the operation of the filters at peak design capacity
- Adequate facilities for handling, processing and disposing of treatment plant residuals
- Varying water quality conditions under which the plant does not effectively treat the water
- Raw water capacity both from a flow standpoint and a regulatory standpoint
- Process, mechanical and electrical reliability and redundancy
- Age of electrical equipment and availability of normal spare and replacement parts
- Adequacy of instruments and controls for efficient operation of the treatment facilities

Task 6 - Permitting

After initial contact with Permitting Agencies during the development of the BODR, the Tetra Tech team will continue coordinating with these agencies and attend pre-application meetings at approximately the 30% complete level. The necessary permit applications and required backup data will be ready for submittal at the 90% complete level.

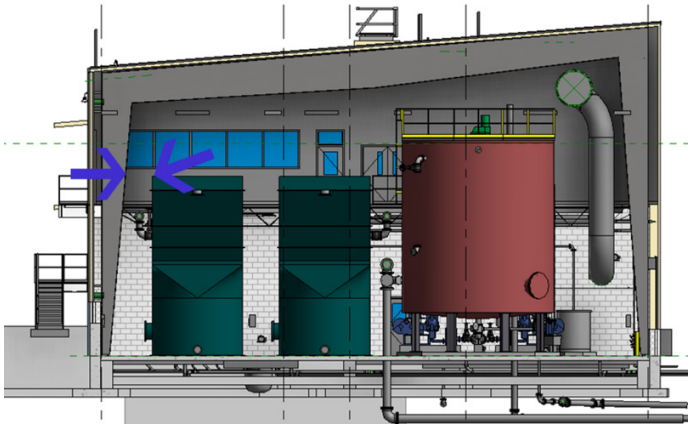
Task 7 - Bid and Award Phase

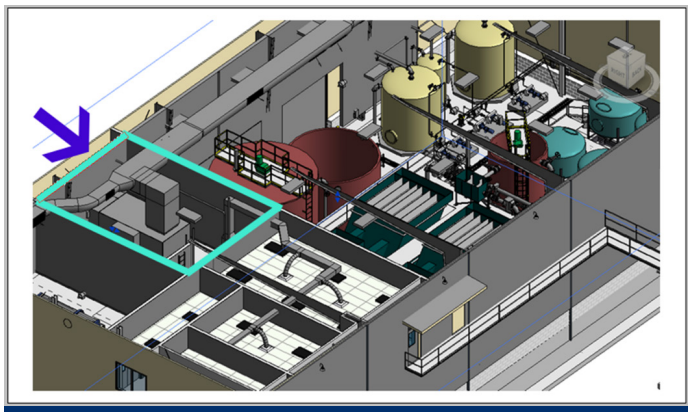
During this phase, Tetra Tech will attend the pre-bid meeting and place great importance on responding to Contractors' questions adequately and thoroughly through Addenda. It is our opinion that Contractors will more accurately bid the project if they have a thorough understanding of the plans and specifications and have any initial questions addressed. Our previous experience with local projects in the area should minimize Contractors' questions and provide the City with competitive bids. Once the bids are received, Tetra Tech will review the bids for completeness and accuracy and will verify references for the apparent low bidder. We will then make a recommendation of award to the City. Upon the City's direction, we will prepare the Contract Documents for execution.

Task 8 - Construction Phase

Administration/Management

The best design can become an unsuccessful project if the construction effort is not carefully controlled. The Tetra Tech team will utilize the same individuals for review of Contractor submittals (shop drawings, schedules, phasing plans, etc.) as those that performed the design. This maximizes compliance with the design intent and minimizes review time. Upon award by the City of the construction contract, Tetra Tech team will provide construction administration phase services.





An illustration of Revit design model

These services will typically include the following tasks and activities:

- Attend a pre-construction conference
- Process, review and distribute shop drawings and samples
- Respond to Contractor Requests for Information (RFIs)
- Interpret the Contract Documents
- Review and comment on the Contractor's construction schedule
- Report whenever it is believed that any work is unsatisfactory, faulty or defective or does not conform to the Contract Documents, has been damaged, or does not meet the requirements of any test or approval required, and advise the City of work that should be corrected or rejected or should be uncovered for observation, or requires special testing, review or approval. Properly document any deficiencies
- Resolve differing site/field conditions
- Maintain orderly files for correspondence, reports of job conferences, shop drawings and samples, reproductions of original Contract Documents including all Work Directive Changes, Addenda, Change Orders, Field Orders or Directives, additional Drawings issued subsequent to the execution of the Contract, RFIs and interpretations of the Contract Documents, Progress reports, and other Project related documents
- Record names, addresses and telephone numbers of all Contractors', Sub-Contractors and major suppliers of materials and equipment
- Conduct and administer monthly on-site progress meetings and keep and distribute minutes
- Review Contractor proposals and change order requests
- Review Contractor pay requests
- Respond in a timely manner to all RFIs with supplemental drawings, specifications, etc.
- Assist the City with responding to resident complaints and maintain records of such
- Provide substantial and final completion site visits, develop punchlists and make recommendations to the City regarding acceptance
- Provide startup assistance
- Review Operation & Maintenance (O&M) manuals
- Tetra Tech can also provide O&M training, if required
- Evaluate testing results and make recommendations to the City
- Verify that test, equipment and systems startups and operating and maintenance training are conducted in the presence of the appropriate

personnel and that Contractor maintains adequate records thereof; and observe, record and report appropriate details relative to the test procedures and startups
- Review the Contractor's as-builts and prepare Record Drawings
- Prepare and submit certifications to the permitting agencies
- Assist the City as required to close out the construction contract

Task 9 – Start Up, Testing, and Preliminary Operations

Our approach to start-up is to make sure that your staff has been properly trained by the individual equipment manufacturer's representatives on the operational components and maintenance. It is recommended that City operations staff be involved as observers during start-up testing. This is another opportunity for the staff to become familiar with the equipment as it undergoes testing and start-up procedures. We will ensure that the Contractor provides video recordings of all training sessions for future reference and future training of new personnel. As the design team, we fully understand the facility systems and operation processes. We are dedicated to training the City staff to make certain the facility is operated at its full potential to meet the City's needs.

Tetra Tech Engineer Adjusting Treatment at Hillsborough County's Pilot DPR Project

Our approach to start-up and training will be based on pacing with completion of construction. Normally, plant training is scheduled for the end of the project and is crammed into a few days or weeks. This approach can be overwhelming and non-effective. Our approach is to sufficiently spread the start-up and training for the various unit processes and equipment to match completion of the respective improvements as opposed to all at once. We will capture training via video and edit the final product to serve as a tool for future training. Our use of Revit and other associated building information management (BIM) design software will provide the City with a final product that is beneficial for future equipment management as well as for use along with the video documentation in the training of future staff.

One of the key deliverables for this phase will be the operations and maintenance (O&M) manuals. Having been involved in this process for many years, Tetra Tech has learned that the standard O&M manuals provided by the equipment suppliers can lack usefulness and actual application. Most of these manuals provide excellent information related to maintenance and repair, but often fall short on assisting in the day-to-day operations of the equipment.

Further, the O&M manuals provided by the Contractor and equipment manufacturers do not address unit process operations. As such, our approach is to provide the City of Pompano staff with custom written manuals that provide summaries of the unit process operations and include the details of the design that are simply just absent from stock equipment catalogs. Again, our approach is to leverage technology. Our 3D CAD renderings of the proposed facilities can be creatively used in the O & M manuals to provide realistic views for use in future operations and maintenance in the field.

TETRA TECH'S PROJECT MANAGEMENT PLAN

To ensure a technically successful project, Tetra Tech uses the following Project Management Plan (PMP). Our mission to serve the City is woven with integrity and fortitude to provide a balance of quality, time, and costs that meet the goals and objectives of each project to provide the City with sustainable infrastructure. We began the process of project management to deliver successful projects by building a team of professionals that have the expertise needed for the water and reuse treatment projects in your CIP and being contemplated by Utilities staff. In addition, during our review of assigned tasks, we actively integrate lessons learned from previous projects to anticipate and remedy major problems, increase efficiency and reduce the potential of schedule delays due to unanticipated issues. Our standard approach is to work both as an extension of staff and a team member with particular expertise to use our understanding of the Utilities' operations, processes and procedures to develop cost-effective solutions to meet the mission and goals of the department.

Tetra Tech will have a scope preparation meeting and discussions with the City to identify the project goals, objectives, special constraints and permitting requirements of the project. Emphasis will be placed on ensuring that all efforts required to meet the City's needs and standards are identified. The draft scope, schedule, and budget will be submitted to the City for review and feedback. We would then meet with City staff to finalize these documents to the City's satisfaction. With respect to design and construction projects, our project approach is unique because we perform more detailed due diligence during the planning phase of a project and prior to the 60% design development phase.

Pre-application meetings are critical with regulatory staff and are scheduled early in project development to determine the critical path issues that the agency sees, and so that we can address them in the application.

Timelines and costs are also evaluated in advance of final design efforts. By performing these preliminary design efforts, initial recommendations often lead to less critical changes and the project often ends up more effectively designed, permitted, and constructed.

PROJECT MANAGEMENT PLAN OVERVIEW

1

MEET WITH CITY STAFF

START

Our Principal, Charles Drake, and Project Manager, Jennifer Ribotti, will meet with the Pompano Beach's project manager and other key staff to understand the project needs, including complexity, schedule, funding, and other critical elements.

2

ESTABLISH PROJECT TEAM ORGANIZATION

After the project initiation meeting, Mr. Drake and Ms. Ribotti will ensure the appropriate technical staff are assigned to the project based on subject matter knowledge and experience.

3

PREPARE A MANAGEMENT PLAN & SCOPE OF SERVICES

A Project Management Plan will be developed for each task assignment. Mr. Drake and Ms. Ribotti will supervise the implementation of this process from beginning to end.

4

EXECUTE & DELIVER THE PROJECT

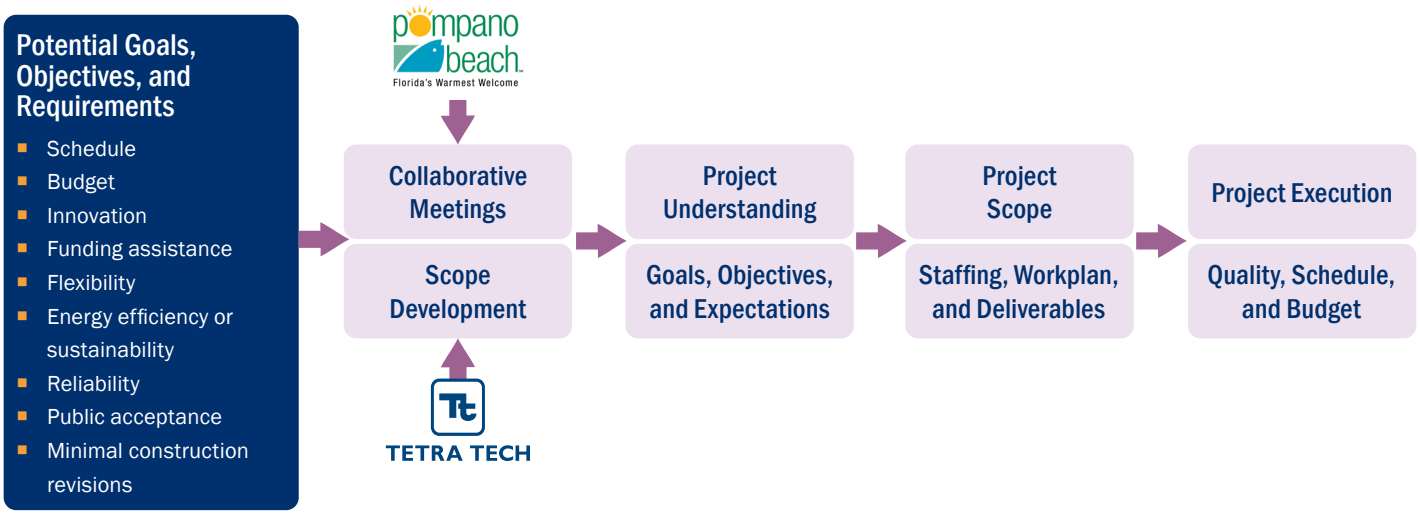
Using the unique Project Management Plan, Mr. Drake and Ms. Ribotti will guide the team to deliver high-quality work on time and within budget.

5

CLOSE OUT THE PROJECT

FINISH

At the end of each task assignment, Mr. Drake and Ms. Ribotti will work with the City to provide all the required documents and will also request feedback on the City's satisfaction with the project.



Tetra Tech understands the importance of detailed and effective due diligence to identify critical project areas where advanced stakeholder coordination and communication saves time and money.

For planning level projects, we meet with Utilities Department staff, either virtually or in person, whichever is prudent, and have brainstorming sessions to determine the staff's ideas and thoughts on the important aspects of the plan and how the plan will be used. For example, our Reuse Master Plan Update provided recommendations for the reuse system expansion into areas currently not served and approximately when the City could be ready to serve those areas. Infrastructure needs were then assessed and phasing developed and estimated costs provided so that staff could program those improvements and capital projects into the CIP.

Much of the planning effort is done by communicating and offering initial ideas on how to address a particular plan. We then develop a scope and budget for the work and revise as necessary.

Current & Projected Workload

The Tetra Tech team is available and fully committed to the City of Pompano Beach and this contract. Our commitment is to provide the right people and appropriate resources for every project during the life of this contract. This project management approach maintains project knowledge and client relationship.

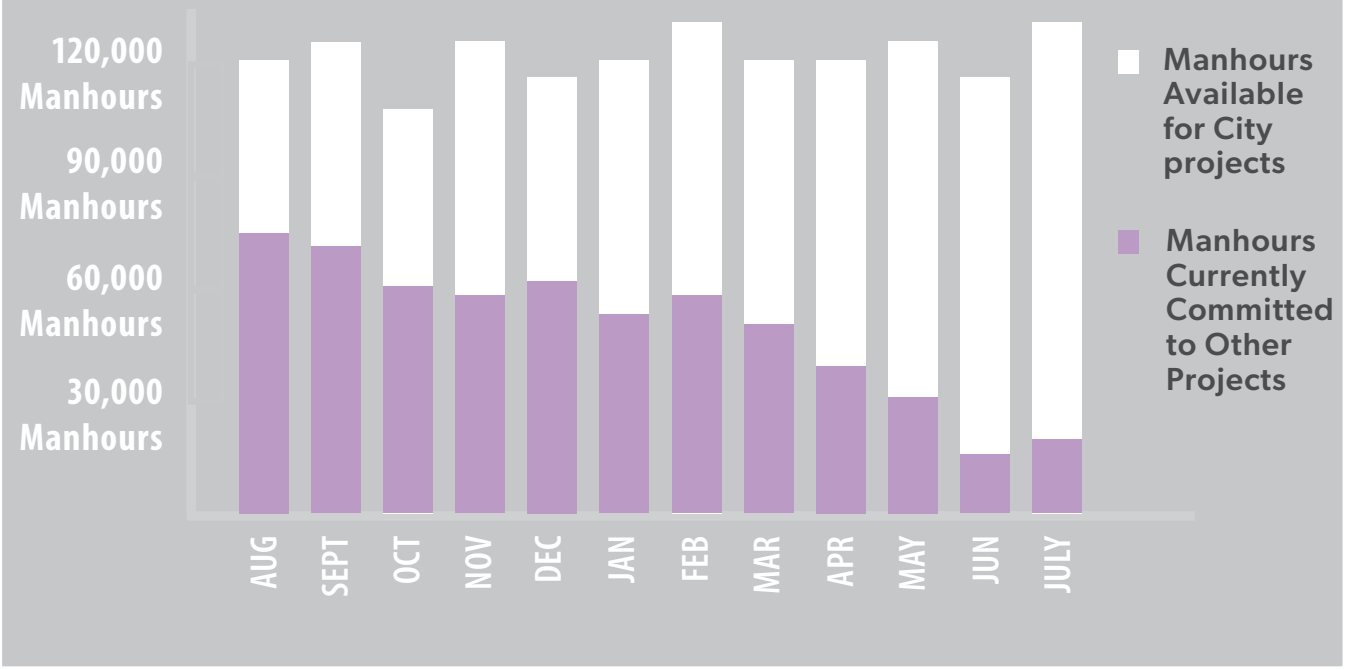
Tetra Tech utilizes several tools to project workloads and allocate staff to our projects to maintain maximum utilization. These projections are done monthly on a quarterly basis. We use man-hour usage rates to determine longer term utilization, which is generally less than a year.

We provided the required existing firm workload, projected utilization and availability in the bar graph below. On the following page we provide our team's existing and projected utilization availability for a one (1) year period.

We commit to providing the staff and man-hours needed to complete any project that you assign to us on-time and within budget. We make and meet this commitment to our clients and ensure that our commitments are met through use of our project management tools. Utilizing our project management tools has ensured our schedule and budgetary commitments are always met.

TETRA TECH'S FLORIDA WORKLOAD PROJECTIONS

Tetra Tech's Summary of Current Projects and Project Timeframes over the Next Year for Florida Resources (Summary of Current Projects and Project Timeframes over the Next Year)



Availability

Our team's resources are deep enough to successfully tackle all of the City's needs. If additional staff beyond those team members identified within this LOI is necessary, our team has the resources available to commit additional team members. We have approximately 20,000 employees located in more than 450 offices worldwide.

We have all the resources and staff necessary to quickly execute the work assignments and complete the project correctly. This is one of the advantages of a large firm that has specialized in serving municipalities of the size and resources of a community like the City of Pompano Beach. We bring large firm capabilities and people with an understanding of local municipal needs. Availability of key personnel is noted below.

		Estimated Hours per Month (Assuming 160 hours per month as 100% Utilization)			
Name	Role	Existing Workload, % Utilized	Existing Availability, %	Projected Workload, % Utilized	Projected Availability, % *
Charles Drake, PG	Principal-in-Charge	50	50	50	50
Jennifer Ribotti, PE	Project Manager	80	20	10	90
Ken Caban, PE	Technical Advisor	50	50	50	50
John Toomey, PE	Technical Advisor	90	10	40	60
Miguel Garcia, PG	Water Supply Lead	90	10	40	60
James Anderson, PG	Water Supply Support	90	10	60	40
Ray Tichenor, PG	Water Supply Support	90	10	65	35
Gary ReVoir, PE	Reuse Treatment Lead	90	10	50	50
Tiffany Miller, PE	Reuse Treatment Support	85	15	30	70
Kevin Friedman, PE	Reuse Treatment Support	85	15	20	80
James Christopher, PE	Water Treatment Lead	90	10	30	70
Jon Bundy, PE	Water Treatment Support	90	10	30	70
Andrea Netcher, PE	Water Treatment Support	90	10	20	80
Andrew Woodcock, PE	Water & Reuse Master Plans Lead	95	5	20	80
Chris Zavatsky, PE	Water & Reuse Master Plans Support	70	30	40	60
Zuzanna Wasowska, PE	Water & Reuse Master Plans Support	85	15	20	80
Mike Mossey, PSM	Survey	95	5	40	60
Kevin Roe, PE	Hydraulic Modeling	90	10	40	60
David Burger, PE	Electrical and Instrumentation	90	10	40	60
Ed Wills, PE	Field and Construction Services	90	10	20	80
Michael Thatcher, PE	Civil and Stormwater	90	10	20	80
Jason Burkett, PE	Structural	85	15	35	65
Janine Alexander, PE	Pipelines/Pumping	90	10	40	60
Alex Montalvo	GIS	90	10	40	60

This availability table is good through fiscal year 2020. These are estimates and we will adjust staff's availability as necessary.

The estimations in the table above are projected based on current and anticipated workloads. However, Tetra Tech commits to making the appropriate staff available, as required, based on the work orders assigned.

QUALITY ASSURANCE & CONTROL

All deliverables, whether draft or final, undergo a formal review process prior to submittal to the City. Reviewers are senior staff and corporate/regional technical advisory group specialists who are kept involved in and informed about the project from conception through completion, particularly regarding project objectives, approach to completion of the scope of work, and client expectations. The plan and schedule for review during various stages of each project is established at the beginning of the project between the review team and the project manager. Typical review milestones include: development of the project approach, preliminary design, 30, 60, 90 and 100 percent completion, interdisciplinary checks, and final sign-off. The review process begins with an evaluation of the detailed project approach by the project manager and associated senior management. The project approach consists of a detailed work plan, financial plan and a schedule for discipline, interdisciplinary and QA checks. The initial project peer review consists of the formal presentation of technical memoranda, design concepts and project-specific criteria by the project manager and task leaders to senior staff and appropriate technical advisory group specialists to resolve technical issues before presentation to the City. The peer review process during the design memorandum and report phase of the work effort ensures that a clearly focused technical direction is established. Reviews later in the project primarily address construction drawings and specifications and focus on constructability, clarity, and value engineering.

Quality, Accuracy, and Integrity

Tetra Tech will implement a detailed documents quality assurance/quality control process where all deliverables, whether draft or final, undergo a formal review process prior to submittal to the City.

Our rigorous quality program will apply to all members of our team. We understand that it is critical that our deliverables and services fully meet the City's goals and expectations in a cost-effective manner.

Tetra Tech Quality Management System (QMS) is an internal set of practices and associated organizational structure established for planning and executing services that not only meet, but will also exceed the quality requirements of the City. These practices are implemented on all projects to provide deliverables that are technically sound, error-free, and cost-effective.

While standardized, our QMS procedures are also flexible, allowing a level of customization to suit a wide variety of projects. We understand the need to balance innovation and creativity with the implementation of systematic processes for performance valuation as well as planning and design reviews.

Our quality plan will be included in our deliverables at the 30, 60, 90 and the 100 percent design submittals. Tetra Tech's quality system approach applies the fundamental principles of the Plan-Do-Check-Act model of continuous improvement, highlighted in the below graphic. QA/QC activities are identified during project planning and applied throughout the project life. QA activities help guide the project work based on professional and regulatory standards. QC activities occur at key milestones to confirm project quality. Continuous improvement is achieved on the project by applying these QA/QC activities and on future projects by applying lessons learned.

Our stringent quality approach allows our team to identify issues early and implement a corrective action plan to resolve discrepancies with minimal impact to the project. During the 30, 60, and 90 percent submittal reviews if an issue arises we will work with the City to develop a solution, implement the solution and then follow-up to ensure the issue is resolved and provide closure so the project and continue to progress forward. If requested, QA/QC documentation will be provided to the City after each milestone so there is a record of all activities and buy in from each discipline as well as from the City.

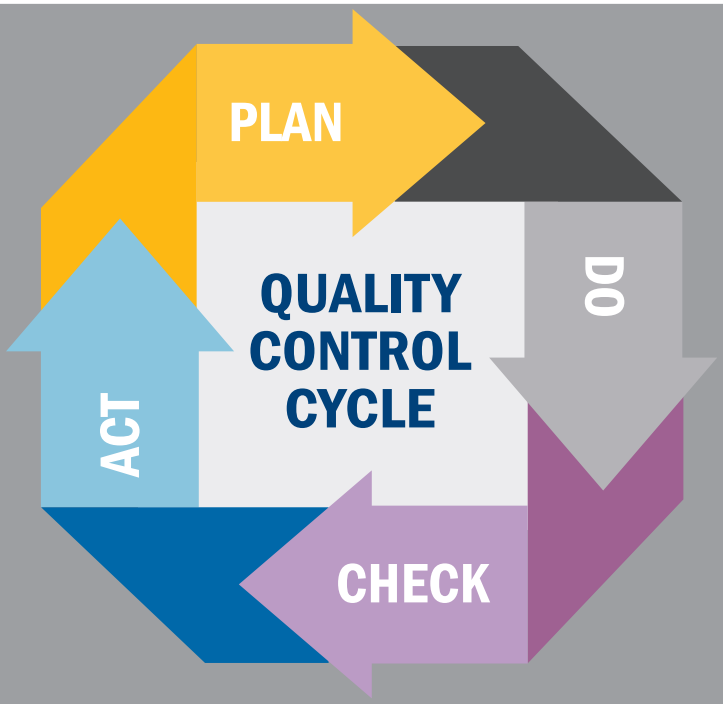
IMPROVING QUALITY CONTROL WITH THE PLAN-DO-CHECK-ACT MODEL

PLAN

Be specific to what you are trying to accomplish. Create performance measures.

ACT

Implement structured change objectives to address challenges and opportunities for improvement. Standardize policies and procedures.



DO

Prioritize and implement changes.

CHECK

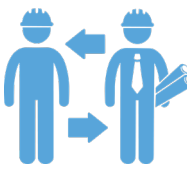
Test and record changes. Create structured change objectives.

» Schedule

With our vast experience with projects under continuing consulting contracts, Tetra Tech knows how to successfully manage projects and is experienced in the scheduling requirements, coordination, and organization required to maintain the schedule. Schedules often have overlapping tasks, which utilize various personnel and require experience in coordinating subconsultants, if used, so that multiple critical paths are preserved. Below are some of the controls Tetra Tech uses to management schedule:

COMPUTER-BASED PROJECT MANAGEMENT. Our ability to meet the project schedule is enhanced by our computer-based project management systems. We are experienced with project scheduling software developed by companies such as Primavera Systems, Inc. and Microsoft, and we will utilize the County's preferred scheduling software. Tetra Tech currently utilizes Microsoft™ Office Project® for preparation and management of detailed project schedules. This software program tracks progress for the established schedule, delineates deliverables, logs project milestones, and visibly reflects the relationship of various tasks.

OPEN COMMUNICATION. Tetra Tech believes in open communication during all phases of every project. By dedicating time in the schedule to meet with the city to fully understand the requirements of the project, Tetra Tech will minimize project re-design. Likewise, during permitting, Tetra Tech has an established philosophy of arranging pre-application meetings with all applicable permitting agencies as a means to facilitate a more streamlined permitting review process. We have permitted numerous projects without receiving any requests for additional information based on our commitment to working with the permitting agency and our ability to incorporate their comments into the design before it is finalized.



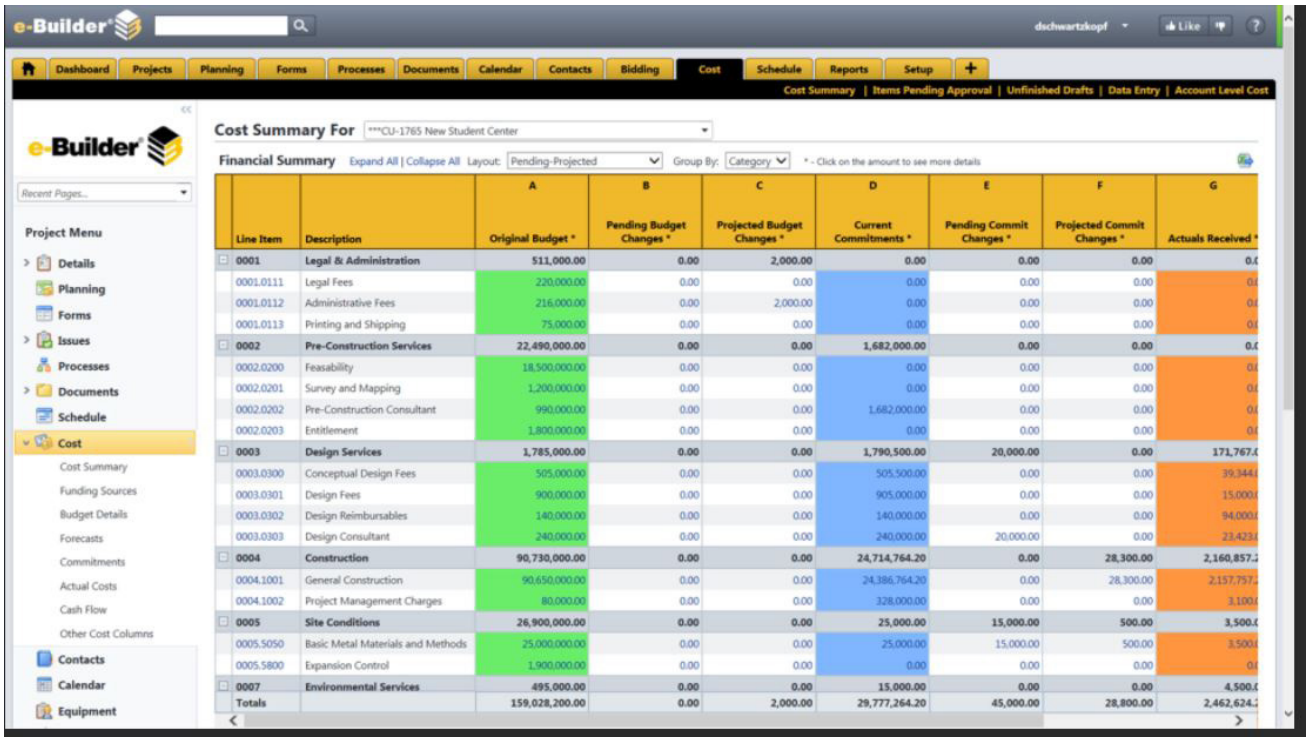
CLOSE COORDINATION DURING CONSTRUCTION. During the construction phase, Tetra Tech's Project Manager, Jennifer Ribotti, will identify key items that may affect the schedule, such as critical shop drawings for long lead items. Where such long lead items exist, Tetra Tech will encourage the Contractor(s) to submit those critical shop drawings as soon as possible, while Tetra Tech will dedicate and commit the time to returning those shop drawings as soon as possible in advance of the allotted time for contract review. Our field inspectors will also continually review work progress and inform the project manager when progress is slipping, either for the entire project, or for individual project components.

PROJECT WEB REQUIREMENTS

This project will utilize e-Builder Enterprise™, a web-based project management tool. This web-based application is a collaboration tool, which will allow all project team members continuous access through the Internet to important project data as well as up to the minute decision and approval status information. e-Builder Enterprise™ is a comprehensive Project and Program Management system that the City will use to manage all project documents, communications and costs between the Lead Consultant, Sub-Consultants, Design Consultants, Contractor and Owner. e-Builder Enterprise™ includes extensive reporting capabilities to facilitate detailed project reporting in a web-based environment that is accessible to all parties and easy to use. Training will be provided for all consultants selected to provide services for the City of Pompano Beach.

We understand that Tetra Tech and our subconsultants shall conduct project controls outlined by the Owner, Project Manager, and/or Construction Manager, utilizing e-Builder Enterprise™. We understand that the designated web-based application license(s) shall be provided by the City to the Prime Consultant and Sub-Consultants. No additional software will be required. Tetra Tech shall have the responsibility for logging in to the project web site on a daily basis, and as necessary to be kept fully apprised of project developments and required action items.

These project controls may include but are not limited to: Contracts, Contract Exhibits, Contract Amendments, Drawing Issuances, Addenda, Bulletins, Permits, Insurance & Bonds, Safety Program Procedures, Safety Notices, Accident Reports, Personnel Injury Reports, Schedules, Site Logistics, Progress Reports, Correspondence, Daily Logs, Non-Conformance Notices, Quality Control Notices, Punch Lists, Meeting Minutes, Requests for Information, Submittal Packages, Substitution Requests, Monthly Payment Request Applications, Supplemental Instructions, Owner Change Directives, Potential Change Orders, Change Order Requests, Change Orders and the like. All supporting data including but not limited to shop drawings, product data sheets, manufacturer data sheets and instructions, method statements, safety SDS sheets, Substitution Requests and the like will be submitted in digital format via e-Builder Enterprise™.



» References

OVERVIEW

Our team is proud to provide the following clients as viable references for similar projects in the tri-county area. These references are extremely familiar with the extra effort put forth by staff members to establish and maintain good working relationships, as we will do with the City of Pompano Beach. We encourage you to contact these references for additional proof of our team member's excellent record of superior services. Detailed descriptions of these projects and other relevant experience are provided in the Statement of Skills and Experience of Project Team section.

CLIENT REFERENCE	SUMMARY OF SCOPE	COST
Miami-Dade Water and Sewer Department **Ramon Alba, PE** Planning and Development Division 3071 SW 38 Ave Miami, Florida 33146 786.552.8450 ramon.alba@miamidade.gov	▪ System-wide master plan of MDWASD's water treatment plant ▪ Planning efforts involve a detailed analysis of the feasibility of combining the Hialeah and Preston water treatment plants (WTPs) ▪ Condition analysis, performance review, and capacity analysis of both facilities ▪ Capital program was developed for both the decommissioned scenario as well as for continued independent operation ▪ A detailed review of the operations and maintenance costs was performed to evaluate the economic efficiency of each WTP ▪ Feasibility of the decommissioning was determined through a 20-year life cycle cost analysis	▪ $509,000 (fees) ▪ On schedule and on budget

City of North Miami, FL **Wisler Pierre-Louis, PE** Public Works Director A776 NE 125 St North Miami, FL 33161 305.893.6511, ext. 12501 pwisler@northmiamifl.gov	▪ Water main replacement ▪ Force main replacement ▪ Master planning ▪ Water treatment plant rehabilitation ▪ Planning, design, permitting, construction management ▪ Owner's engineering representative services ▪ Staff augmentation	▪ Approximately $1,000,000 (fees) ▪ On schedule and on budget
Miami-Dade Water and Sewer Department **Maria Valdes, CSM, LEED Green Associate** Chief, Planning and Water Certification Section 3071 SW 38 Ave., Suite 560-8 Miami, FL 33146 786.552.8198 maria.valdes@miamidade.gov	▪ Updated and maintained a comprehensive plan for the future of the Miami-Dade County Water and Sewer Department's (MDWASD's) water, wastewater, and reclaimed water utility infrastructure ▪ Hydraulic modeling ▪ Flow projections ▪ Master planning ▪ Operational studies ▪ Hydrogeological evaluations ▪ Geological evaluations ▪ Process optimization ▪ Cost estimating ▪ Scheduling ▪ Additional engineering support services as requested by MDWASD	▪ $700,000 (fees) ▪ On schedule and on budget
City of Hollywood, FL **Clece Aurelus, PE** Engineering Manager 1621 N. 14th Ave Hollywood, FL 33019 954.921.3930 caurelus@hollywoodfl.org	▪ Water main replacement program ▪ Sewer expansion program ▪ Stormwater Pump Station Assessments ▪ Surveying, geotechnical evaluations, design, permitting, and construction administration services ▪ Over 300,000 linear feet (56 miles) of water main replacement of 4-to-24 inch in diameter ▪ Condition assessments of 10 stormwater pump stations ▪ Approximately 50,000 linear feet in gravity sewers and force mains ▪ Permitting through multiple regulatory agencies	▪ Approximately $4,000,000 (fees to date) ▪ On schedule and on budget

» Project Team Form

COMPLETE THE PROJECT TEAM FORM ON THE ATTACHMENTS TAB IN THE EBID SYSTEM. PROPOSERS ARE TO COMPLETE FORM IN ITS ENTIRITY AND INCLUDE THE FORM IN YOUR PROPOSAL THAT MUST BE UPLOADED TO THE RESPONSE ATTACHMENTS TAB FOR THE RLI IN THE EBID SYSTEM.

PROJECT TEAM

RLI NUMBER E-23-20

Federal I.D.# 95-4148514

PRIME

Role	Name of Individual Assigned to Project	Number of Years Experience	Education, Degrees
Principal-In-Charge	Charles Drake, PG	37	BS, Geology
Project Manager	Jennifer Ribotti, PE	8	MS, Env Eng
Other Key Member	Ken Caban, PE, LEED AP	25	MS, Env Eng; BS Cvl Eng
Other Key Member	John Toomey, PE	40	BS, Env Eng
Other Key Member	Miguel Garcia, PG, PMP	20	BS, Geology

SUB-

CONSULTANT Role	Company Name and Address of Office Handling This Project	Name of Individual Assigned to the Project
Surveying	Keith Engineering 301 E Atlantic Blvd Pompano Beach, FL 33060	Michael Mossey, PSM
Landscaping		
Engineering		
Other Key Member	Pace Analytical 3610 Park Central Blvd N, Pompano Beach, FL 33064	Christina Raschke
Other Key Member	JLA Geosciences 1907 Commerce Ln Suite 104, Jupiter, FL 33458	James Anderson, PG
Other Key Member	The Chappell Group 714 E McNab Rd Pompano Beach, FL 33060	Tyler Chappell
Other Key Member		

(use attachments if necessary)

PROJECT TEAM

RLI NUMBER E-23-20

Federal I.D.# 95-4148514

PRIME

Role	Name of Individual Assigned to Project	Number of Years Experience	Education, Degrees
Other Key Member	Ray Tichenor, PG	7	MS, Geology
Other Key Member	Gary ReVoir, PE	32	MS, Env Eng
Other Key Member	Tiffany Miller, PE	6	MS, Env Eng
Other Key Member	Kevin Friedman, PE	17	BS, Env Eng
Other Key Member	James Christopher, PE	40	MS, Env Eng

COMPLETE THE PROJECT TEAM FORM ON THE ATTACHMENTS TAB IN THE EBID SYSTEM. PROPOSERS ARE TO COMPLETE FORM IN ITS ENTIRITY AND INCLUDE THE FORM IN YOUR PROPOSAL THAT MUST BE UPLOADED TO THE RESPONSE ATTACHMENTS TAB FOR THE RLI IN THE EBID SYSTEM.

PROJECT TEAM

RLI NUMBER E-23-20

Federal I.D.# 95-4148514

PRIME

Role	Name of Individual Assigned to Project	Number of Years Experience	Education, Degrees
Other Key Member	Jon Bundy, PE	19	MS, Env Eng
Other Key Member	Andrea Netcher, PE	8	PhD, Env Eng
Other Key Member	Andrew Woodcock, PE	31	MS, Env Eng
Other Key Member	Chris Zavatsky, PE	13	BS, Cvl Eng
Other Key Member	Zuzanna Wasowska, PE	6	MS, Env Eng

PROJECT TEAM

RLI NUMBER E-23-20

Federal I.D.# 95-4148514

PRIME

Role	Name of Individual Assigned to Project	Number of Years Experience	Education, Degrees
Other Key Member	Kevin Roe, PE	12	BS, Cvl Eng
Other Key Member	David Burger, PE	32	BS, Elect Eng
Other Key Member	Ed Wills, PE	19	BS, Env Eng
Other Key Member	Michael Thatcher, PE, CDT	8	BS, Cvl Eng
Other Key Member	Jason Burkett, PE	15	MS, Cvl Eng

PROJECT TEAM

RLI NUMBER E-23-20

Federal I.D.# 95-4148514

PRIME

Role	Name of Individual Assigned to Project	Number of Years Experience	Education, Degrees
Other Key Member	Janine Alexander, PE	24	BS, Cvl Eng
Other Key Member	Alex Montalvo	24	AA, Geology
Other Key Member			
Other Key Member			
Other Key Member			

Organizational Chart

Principal-in-Charge
Charles Drake, PG

Project Manager
Jennifer Ribotti, PE

Technical Advisors
Ken Caban, PE
John Toomey, PE

DISCIPLINES

Water Supply
Miguel Garcia, PG, PMP
James L. Anderson, PG [3]
Ray Tichenor, PG

Water Treatment
James Christopher, PE
Jon Bundy, PE
Andrea Netcher, PhD, PE

Reuse Treatment
Gary ReVoir, PE
Tiffany Miller, PE
Kevin Friedman, PE

Water and Reuse Master Plans
Andrew Woodcock, PE
Chris Zavatsky, PE
Zuzanna Wasowska, PE

SUPPORT SERVICES

Survey
Michael Mossey, PSM[1]

Field and Construction Services
Ed Wills, PE

Pipelines/Pumping
Janine Alexander, PE

Hydraulic Modeling
Kevin Roe, PE

Civil and Stormwater
Michael Thatcher, PE, CDT

GIS
Alex Montalvo

Electrical and Instrumentation
David Burger, PE

Structural
Jason Burkett, PE

Laboratory
Pace Analytical Services, Inc.

SUBCONSULTANTS

[1]Keith & Associates (LB) - *Survey*
[2]Pace Analytical Services, Inc. (LB) - *Water Quality*
[3]JLA Geosciences - *Water Supply/Hydrogeology*
[4]The Chappell Group (MBE/WBE, LB) - *Environmental Consulting*

pompano beach
Florida's Warmest Welcome

» Statement of Skills & Experience of Project Team

OVERVIEW

Tetra Tech has built a reputation in the industry as a leader in developing effective solutions to constantly changing, tough engineering challenges. Our reputation for providing effective engineering solutions is backed by reliable systems, engineering, scientific, economic, and business analyses. This is proven by our firm's constant rankings with the *Engineering-News Record (ENR)*. For the past 17 consecutive years, Tetra Tech has been ranked No. 1 in water. We are ranked by *ENR* as the No. 1 for treatment in the country, which is the result of the professional relationships we enjoy with our clients. We continue to build on the expertise we developed over the past five decades.

Our Technical Expertise

Tetra Tech has extensive water and reuse water treatment experience throughout Florida, the southeast, and around the world. Relevant areas of key expertise include:

Water Treatment Plant Experience

- Water treatment plant and process improvements
- Installation of backup power at the plant and in the wellfields
- Replacement of membrane treatments skids
- Modifications or improvements to existing chemical processes
- Design and oversight of the installation of additional wells and requisite piping
- Design, permitting, construction management and administration, and field services

Reuse Treatment Plant Experience

- Design of secondary and advanced water treatment processes
- Design of chemical feed and storage systems
- Instrumentation and controls and SCADA integration and design
- Extensive experience with regulatory permitting of reuse treatment facilities, wet weather and effluent storage, augmentation and monitoring wells
- Feasibility studies, pilot tests and hydrogeological evaluations

Quality Assurance, Quality Control and Value Engineering Services

- Value engineering
- Constructability reviews
- Quality assurance/quality control review of projects to be let by the City

Funding

Our team's significant funding knowledge and expertise will guide Pompano Beach to obtain outside funding as well as comply with all contractual and reporting requirements. Tetra Tech has partnered with clients to secure over $500 million in funding from various sources including the State Revolving Fund (SRF), the USEPA's Water Infrastructure and Finance Act (WIFIA), and others. We partnered with clients to develop high-quality grant applications and obtain approval for hundreds of water and wastewater facilities across the US. The table below details several of our most significant SRF funded projects in Florida.

Our Performance

While experience and innovative solutions are part of what Pompano Beach looks for in a consultant; responsiveness, flexibility, and project management discipline are the keys to effective, efficient project delivery. Our proven track record of success is highlighted by 80% of our work coming from repeat clients. The experience, safety record, organizational capability, and project management presented in this proposal demonstrates our performance as well as the recognized dedication of our key staff.

The longevity of our team's personnel is proven by Tetra Tech's employee retention rate of 89%. Not only do we provide superior client service, we focus internally on providing quality work environments for our staff.

Safety is a priority through all project phases. Our experience modification rate, total recordable incident rate, and days away, restricted, or transfer are at least 25% below the industry average, demonstrating our industry leadership in safety.

We provided on-time and within budget delivery of greater than 90% of our projects, demonstrating that we meet our clients' delivery needs with no surprises.

Significant SRF & WIFIA Funded Projects in Florida

Client	Project	Funding Source	Amount
City of Hollywood	Water Main Replacement/Sewer Expansion	SRF	$20M
Toho Water Authority	Gravity Sewer Rehabilitation	WIFIA	$61.8M
City of Sanibel	Wastewater Collection, Treatment, and Disposal Facilities	SRF	$26.0M
City of Edgewater	Centralized Wastewater Collection, Treatment and Effluent Disposal	SRF	$26.2M
City of New Smyrna Beach	Wastewater Treatment Plant	SRF	$16.2M
City of Lake City	Price Creek Water Treatment Plant	SRF	$9.2M
City of Cape Coral	Water/Sewer Distribution/ Collection	SRF	$70M
Gateway Improvement District	Lake Bank Improvements (clean water)	SRF	$10M
City of Fort Myers Beach	Water/Sewer Distribution/ Collection	SRF	$50M
City Punta Gorda	RO Plant and Wellfield	SRF	$20M
City of Orlando	Conserv I Reclaimed Water Improvements	SRF	$20M

RELEVANT EXPERIENCE

Reuse Water Master Plan Update

CITY OF POMPANO BEACH, FL

The City of Pompano Beach (City) is a coastal, South Florida urban area of Broward County, Florida. The City consists of approximately 25 square miles of land area, including three (3) annexation areas added in 2000 and 2004.

The City began offering reuse water in 1989 for irrigation use at the City's golf courses, parks, play fields, and road medians. Since that time, the City's reuse system has expanded to serve commercial properties, single-family residential and multi-family residential properties. The City owns and operates a 7.5 MGD Water Reclamation Facility and distribution system that supplies its customers with reuse water. Since its startup in 1989, the reuse system has grown and is comprised of approximately 32 miles of pipe ranging from 4- inch to 30-inch in diameter.

Tetra Tech was authorized by the City to prepare a Reuse Water System Master Plan Update. This Plan evaluated the existing system, estimated demand projections using current growth assumptions, updated the existing hydraulic model to assist in identifying system sizing deficiencies and developed a capital improvement program to accommodate future demands.

PROJECT #1

DISCIPLINES THAT CORRESPOND TO RLI

Reuse water system

Analysis of reuse treatment processes, transmission and distribution systems

Recommend reuse system upgrades and improvements

Hydraulic modeling

Field data analysis

This master plan lays the path for the City to expand their reuse system and improve treatment efficiencies.

key team members:

Charles Drake, PG
Principal-in-Charge

Andrew Woodcock, PE
Technical Manager

Kevin Roe, PE
Hydraulic Modeling

Zuzanna Wasowska, PE
Capital Improvements

completion date:
2020

cost:
$83,000
engineering fee; delivered on time and on budget

TETRA TECH

The CIP improvements summarized below are necessary to provide existing and future customers with sufficient reuse water supply capable of meeting or exceeding the current level of service. Following discussions with the City, it was determined that the most critical improvements at the RWTF involve filter improvements to enhance plant performance and reliability, as well as the addition of a generator and MCC (motor control center) building.

Improvements to the transmission and distribution systems include projects that were identified in the 2014 Master Plan for the phased expansion of the system. These projects were evaluated using hydraulic modeling and updated demand projections to determine their need. Storage improvements identified include the addition of a remote storage tank and pumping facility that will be constructed on the west side of the Pompano Beach Airpark.

Water Treatment Plant Hardening Projects

CITY OF POMPANO BEACH, FL

Tetra Tech is currently providing utility engineering services under the Water and Reuse Treatment Plant Continuing Services contract. Through this contract we have been issued six work authorizations (WA); WA 1-5 for hardening projects on the WTP campus.

Through these WAs, we have met and worked with utility department, building department and public works staff, and understand their dedication to maintaining and improving the City's infrastructure in a cost effective manner.

Four building structures at the City of Pompano Beach Water Treatment Plant, that contain critical equipment, were evaluated for compliance with current wind codes. The City wanted to identify systems and components of the buildings that do not meet the current wind code requirements and provide a cost estimate to retrofit or replace them. For each building, the doors, windows, louvers, structural components, and lateral load resisting systems were evaluated to determine if they meet the current wind design criteria of the Florida Building Code (FBC) 2014, 5th ed. (Risk Category 3, 180 mph, Exposure C, and Wind Borne Debris Region). This study included multiple site visits to perform field investigations, using destructive and nondestructive methods. Information gathered from the field investigation was used in combination with the available as-built drawings to perform structural calculations on all the buildings. The deficiencies of and cost to retrofit each building were tabulated and presented to the City for prioritization and budget planning. The estimated cost for these wind code retrofits was approximately $1.5M.

Subsequent to the completion of the Study, the City requested that Tetra Tech perform design services to implement the hardening study improvements. Tetra Tech is currently completing the design services for this project.

PROJECT #2

DISCIPLINES THAT CORRESPOND TO RLI

Structural hardening code compliance

Engineering and architectural design services

Prioritize improvement scheduling

Cost estimation

Electrical and structural

Bidding/construction documents

Tetra Tech evaluated the City's WTP for storm resiliency and developed alternatives and improvements to ensure reliability, even during hurricanes.

key team members:

Charles Drake, PG
Principal-in-Charge

Ken Caban, PE
Technical Advisor

Chris Zavatsky, PE
Project Manager

Jason Burkett, PE
Structural Engineer

completion date:
Ongoing

cost:
$592,044
engineering fee; delivered on time and on budget

TETRA TECH

Work Authorization (WA) No. 1 - Pompano Beach Water Treatment Plant Hurricane Hardening Study. Tetra Tech completed a facility-wide hurricane hardening evaluation for all of the water treatment plant's manned buildings. Tetra Tech detailed deficiencies and capital improvements in line with Florida's Building Code. Cost estimates and a prioritized improvements schedule were developed to aid the City in planning implementation of the improvements.

WA No. 2 - Pompano Beach Water Treatment Plant Filter and High Service Pump Building. The Filter and High Service Pumps 1-4 Building at the City of Pompano Beach Water Treatment Plant moved one step closer to resiliency by hardening the structure to comply with current Florida Building Codes. Tetra Tech provided engineering and architecture services to design the hurricane hardening project including plans, calculations, specifications, and an opinion of probable cost. The improvements were permitted through the City Building Department and Fire Department. Tetra Tech assisted the City in bidding and awarding the project and providing construction phases services through project closeout.

WA No. 3 - Pompano Beach Water Treatment Plant Chemical Feed Building Hurricane Hardening Design, Permitting, and Construction Administration. The Chemical Feed Building at the City of Pompano Beach Water Treatment Plant is moving one step closer to resiliency by hardening the structure to comply with current Florida Building Codes. Tetra Tech provided engineering and architecture services to design the hurricane hardening project including plans, calculations, specifications, and an opinion of probable cost. The improvements are being permitted through the City Building Department and Fire Department. Tetra Tech will assist the City in bidding and awarding the project and providing construction phases services through project closeout. Project completion is anticipated in FY 2021.

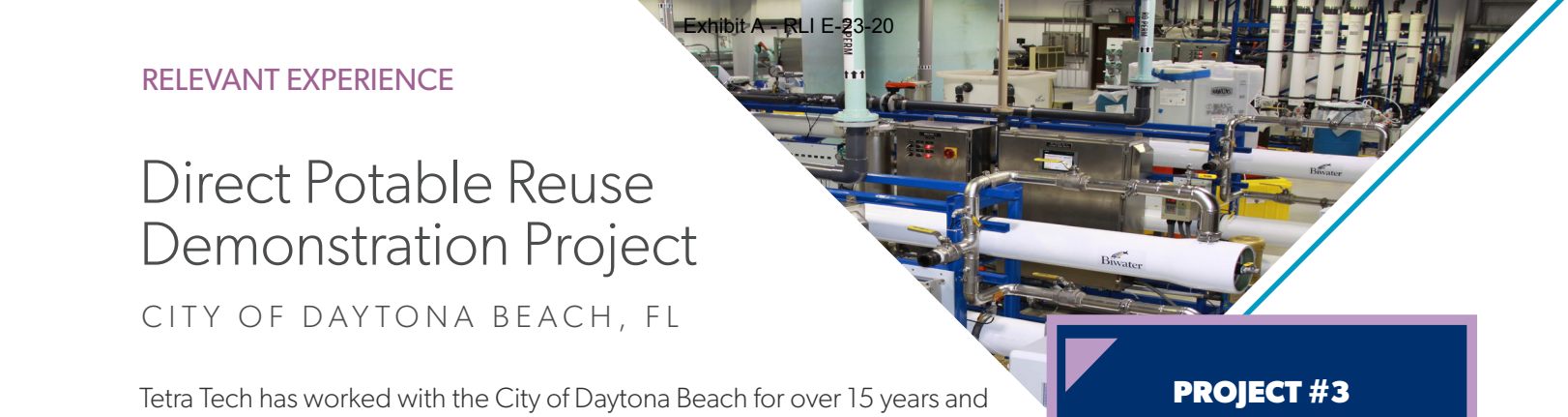
WA No. 4 - Pompano Beach Water Treatment Plant Sludge Dewatering Building Hurricane Hardening Design, Permitting, and Construction Administration. The Sludge Dewatering Building at the City of Pompano Beach Water Treatment Plant is moving one step closer to resiliency by hardening the structure to comply with current Florida Building Codes. Tetra Tech provided engineering and architecture services to design the hurricane hardening project including plans, calculations, specifications, and an opinion of probable cost. The improvements are being permitted through the City Building Department and Fire Department. Tetra Tech will assist the City in bidding and awarding the project and providing construction phases services through project closeout. Project completion is anticipated in FY 2021.

WA No. 5 - Pompano Beach Water Treatment Plant Filter Administration Building with Exterior Tanks and Membrane Building Hurricane Improvements Design, Permitting, and Construction Administration. The City requested additional improvements to aide in reducing long term maintenance on the Filter/Administration Building and Exterior Tanks. In addition, the Membrane Building's exterior façade, water proofing, drainage, electrical, and mechanical systems were included. Tetra Tech provided engineering and architecture services to design the hurricane hardening project including plans, calculations, specifications, and an opinion of probable cost. The improvements are being permitted through the City Building Department and Fire Department. Tetra Tech will assist the City in bidding and awarding the project and providing construction phases services through project closeout. Project completion is anticipated in the fall of 2021.

RELEVANT EXPERIENCE

Direct Potable Reuse Demonstration Project

CITY OF DAYTONA BEACH, FL



Tetra Tech has worked with the City of Daytona Beach for over 15 years and has assisted the City over the last three years in the development of their Potable Reuse Demonstration Program. The DPR Demonstration Program was identified by the St. John's River Water Management District (SJRWMD) as an innovative alternative water source project for its potential to address two emerging issues: improve the City's local impaired river water quality by eliminating effluent discharge and offsetting current groundwater withdrawal practices. The District awarded the project the largest share of funding through their Innovative Cost-Share Program in 2016.

Tetra Tech performed a feasibility study in 2015 investigating IPR, DPR, and brackish water treatment for the potential to exploit alternative water resources. Tetra Tech later assisted in assessing, preparing, and finalizing District Funding through the Cost Share Program on behalf of the City. The contract for the DPR Demonstration Testing System (DTS) was awarded in April 2016 with services including design, permitting, bidding, and construction management services.

Construction of DTS was completed in 2018 and Tetra Tech has been providing operational assistance since then, and is scheduled to continue through 2021. A unique aspect of the project includes the testing of eight membrane manufacturers for both the ultrafiltration and reverse osmosis systems. The system was designed to include a universal rack system to allow for testing of different ultrafiltration membranes, as well as the ability to test different oxidants for the ultraviolet-advanced oxidation system. The data collected over two years will allow the City to select the most efficient design for a full-scale system in the future, specific to the City's reclaimed effluent water quality. A robust sampling plan will verify the effectiveness of the system and provide confidence to the public and regulatory agencies that both regulated and non-regulated constituents are being removed and that the purified water is anticipated to meet or exceed all current drinking water standards.

key team members:

Jennifer Ribotti, PE
Project Manager & Engineer

Gary ReVoir, PE
Technical Advisor

James Christopher, PE
Process Engineer

Tiffany Miller, PE
Process Engineer

completion date:
Ongoing

cost:
$464,759
engineering fee; delivered on time and on budget

TETRA TECH

PROJECT #3
DISCIPLINES THAT CORRESPOND TO RLI

Full advanced treatment process design

Design and construction of process building

Extensive water quality testing

Cost share funding

Tetra Tech provided preliminary design and final design of new full-scale 0.2 MGD direct potable reuse treatment plant. We also provided educational tours of the DTS Facility.

The DTS added full advanced treatment to the City's existing Westside Regional Water Reclamation Facility (WRWRF) to purify approximately 200,000 gallons per day (gpd) of tertiary reclaimed effluent water. The WRWRF currently practices advanced wastewater treatment with ultraviolet light for disinfection. The full advanced treatment process at the DTS includes:

- Membrane filtration stage (Ultrafiltration): Provides initial removal of suspended solids and virus and pathogen removal. It also acts as a solids barrier for the subsequent membrane stage, which extends the useful life of the membranes.
- Membrane separation stage (Reverse Osmosis): Provides an additional barrier for virus and pathogens, as well as a removal mechanism for a majority of organics, inorganics, heavy metals, bacteria, pharmaceuticals and personal care products.
- Advanced Oxidation with ultraviolet light (UV-AOP): Provides an additional barrier against viruses, nitrosodimethylamine (NDMA) and reduces trace levels of low-molecular-weight organics, constituents that pass through the membrane stages.

The purified water produced from the Demonstration Testing System met all current drinking water standards and will also be tested for a variety of microconstituents, pharmaceuticals and personal care products (PPCPs).

Analytical results showed that the FAT process was effective in removing these microconstituents, pharmaceuticals and PCPs to many thousands of times less than the Health Based Risk Limit.

RELEVANT EXPERIENCE

Design, Permitting, Bidding Advanced Water Treatment Demonstration Program

HILLSBOROUGH COUNTY, FL

Hillsborough County (County) embarked on the Advanced Water Treatment (AWT) Demonstration Program to investigate supplementing the County's potable water resources with advanced treated reclaimed water. As part of the program, the County retained Tetra Teach to conduct the Phase 1 Treatment Process Evaluation Study to evaluate the County's reclaimed water quality, potential sites for the location of an AWT Demonstration Facility, and proposed treatment processes to be tested with the AWT Demonstration Facility.

Per the Phase 1 Evaluation, the AWT Demonstration Facility will be located at the County's Falkenburg Advanced Wastewater Treatment Plant (AWWTP). The AWT Demonstration Facility will treat a portion of Falkenburg AWWTP's reclaimed water using multiple water treatment processes. Based on the results of Phase 1, total dissolved solids (TDS) will need to be removed from Falkenburg's reclaimed water to meet the 500 mg/L secondary drinking water MCL for TDS. The AWT Demonstration Facility will need to provide the targeted reduction in TDS.

The recommended treatment paradigm for potable reuse at the Falkenburg AWWTP is membrane-based treatment. The AWT Demonstration Facility will include the following primary treatment processes as identified in the Phase 1 Treatment Process Evaluation: membrane filtration with ultrafiltration (UF), reverse osmosis (RO), and an advanced oxidation process (AOP) using hydrogen peroxide (H2O2) and ultraviolet (UV) light. The target annual average design capacity of the Demonstration Facility is 15 to 20 gallons per minute (GPM) using 4-inch diameter RO membrane elements. By-product streams generated by the Demonstration Facility will be blended with the facility's product water and returned to the Falkenburg AWWTP. Tetra Tech will prepare a Basis of Design Memorandum including 30% design level drawings for the process equipment, control system and 2,800 ft2 building. Tetra Tech will prepare the AWT Demonstration Facility Design Documents and provide permitting and bidding assistance.

PROJECT #4

DISCIPLINES THAT CORRESPOND TO RLI

Evaluate AWT water and select treatment processes

Basis of Design memorandum, 30% design level for 20 gpm full advanced treatment process treatment system including building

Design documents and permitting and bidding assistance

The AWT Demonstration Facility includes membrane filtration with ultrafiltration, reverse osmosis, and an advanced oxidation process using hydrogen peroxide and ultraviolet light.

key team members:

Gary ReVoir, PE
Client Manager

James Christopher, PE
Project Engineer

Andrea Netcher, PhD, PE
Project Engineer

completion date:
2020

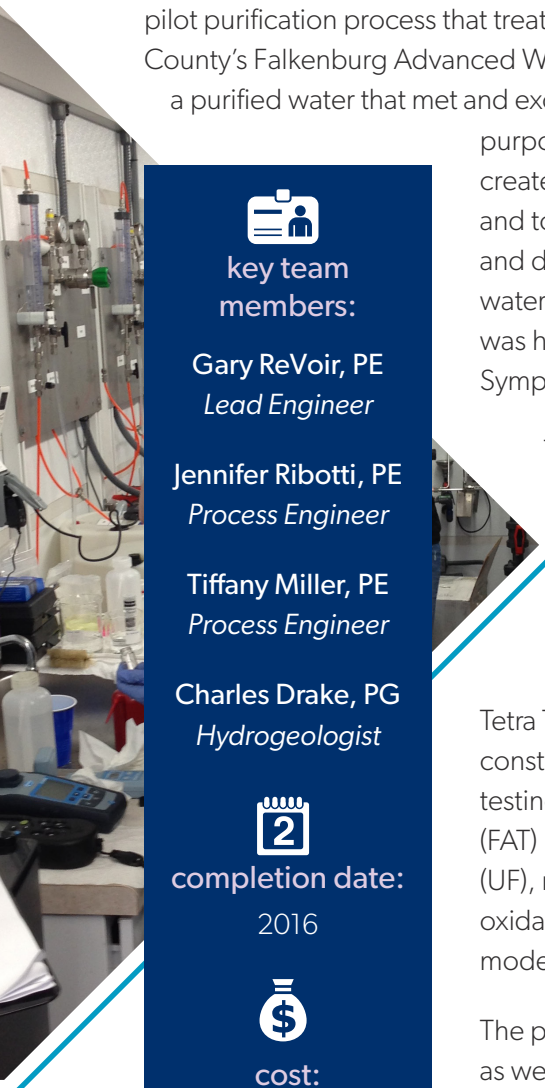
cost:
$499,991 engineering fee;
delivered on time and on budget

TETRA TECH

Direct Potable Reuse Pilot Project

HILLSBOROUGH COUNTY, FL

Tetra Tech—in collaboration with the WateReuse Association, Xylem, and GE—designed, built, and operated a direct potable reuse (DPR) pilot purification process that treated reclaimed water from Hillsborough County's Falkenburg Advanced Wastewater Treatment Facility (AWT) to a purified water that met and exceeded drinking water standards. The purpose of this demonstration pilot was to create purified water for several applications and to show that the FAT process is a viable and demonstrable process to treat AWT water that meets drinking water standards. It was highlighted at the National WateReuse Symposium in September 2016.



key team members:

Gary ReVoir, PE
Lead Engineer

Jennifer Ribotti, PE
Process Engineer

Tiffany Miller, PE
Process Engineer

Charles Drake, PG
Hydrogeologist

completion date:
2016

cost:
Funded by WateReuse Association, local contractors, and Tetra Tech; *delivered on time and on budget*

TETRA TECH

PROJECT #5

DISCIPLINES THAT CORRESPOND TO RLI

Reuse treatment processes
Pilot plant design
Construction services
Full advanced treatment
Regulatory coordination
Extensive water quality testing
Public education

Results from the water quality monitoring demonstrated that the purified water produced met primary and secondary drinking water standards, and demonstrating a cost-effective alternative water supply.

The analytical results showed that all primary and secondary standards were met, and that PCPs and CECs were thousands of times below the Health Based Risk criteria, and some were non-detects.

Tetra Tech provided pilot plant design, construction services, and operation and testing services for the full advanced treatment (FAT) process, which consisted of ultrafiltration (UF), reverse osmosis (RO), and advanced oxidation with ultraviolet light (UV-AOP). The three processes operated in batch mode over one week to produce approximately 1,000 gallons of purified water.

The purified water was tested for primary and secondary drinking water standards, as well as non-regulated microconstituents, pharmaceuticals, and PCPs. Results from the water quality monitoring demonstrated that the purified water produced from the pilot purification process met primary standard maximum contaminant levels (MCLs) established at the Federal and State levels. The purified water also met numerical secondary drinking water standards and MCLs. The Federal drinking water MCLs are established by the US EPA and adopted by the Florida Department of Environmental Protection (FDEP).

The schedule for this project was expedited and the design, construction services and operation were completed within four months.

RELEVANT EXPERIENCE

North and South Regional Water Treatment Plants

CITY OF PALM BAY, FL

The City of Palm Bay owns and operates two RO water treatment plants; one at the South Regional Water Treatment Plant facility and one at the North Regional Water Treatment Plant. Tetra Tech designed, permitted and provided construction management for the original facilities, when the City started its' utility system. This work also included design, permitting and construction administration services for the Lower Floridan aquifer supply wells, and injection well, and water use permitting for the raw water supply wells. Subsequently, Tetra Tech has been retained over the years to design expansions and improvements to both. The following describes, in general, the water supply and water treatment projects that Tetra Tech has conducted for the City.

PROJECT #6

DISCIPLINES THAT CORRESPOND TO RLI

Preliminary design, final design and permitting of existing RO plant from 4.0 MGD to 6.0 MGD

Add micron filters, high-pressure pumps, RO skids and appurtenances

Design, permitting and construction management of new production wells

The City of Palm Bay recognizes RO treatment of brackish groundwater as a viable and cost-effective water supply method.

key team members:

Jon Bundy, PE
Project Manager

Jennifer Ribotti, PE
Process Engineer

Jon Fox, PE
Principal-in-Charge

completion date:
Ongoing

cost:
$2M
engineering fee; currently on time and on budget

TETRA TECH

South Regional Water Treatment Plants

Tetra Tech planned, designed, and permitted the original 4.0 MGD reverse osmosis (RO) South Regional Water Treatment Plant (WTP) which was constructed in 2005. It included provisions for expanding the facility up to 10.0 MGD by adding additional raw water supply wells, micron filters, high pressure pumps, RO skids, and appurtenances. The site was also master planned for an ultimate capacity of 20.0 MGD with additional buildings and structures. The original WTP construction included an administration building, process building, chemical storage and feed building, and a chlorine contact chamber and clearwell. The raw water for the RO WTP is supplied from a three Lower Floridan aquifer wells.

In 2018, the City of Palm Bay contracted with Tetra Tech to provide preliminary design, final design, and permitting of the expansion of the South Regional WTP from the existing 4.0 MGD to 6.0 MGD. The plant expansion design includes the addition of:

- A new Floridan supply well and well pump
- Two new RO pretreatment cartridge filter units
- A new RO feed pump
- Two new RO skids
- A new blower for the degasifiers

- A new finished water transfer pump
- A new 2.0 MGD ground storage tank
- Two new high service pumps
- A new carbon dioxide storage and feed system for post treatment stabilization
- Chemical feed system re-piping and improvements.
- Miscellaneous site, process, and electrical improvements.

Preliminary design included five design investigation technical memos to evaluate various design alternatives, improvements, costs, water quality impacts, advantages, and disadvantages to be potentially incorporated into the final design. These design investigations considered pre- and post- treatment chemical dosing alternatives, RO membrane system design modification alternatives, and design modifications related to the degasifiers, odor control system, miscellaneous process, and site improvements. Identifying and developing these design alternatives up-front allowed the final design to proceed with clear direction and reduced submittals from a typical 60-, 90-, 100% submittal schedule to 75%- and 100% submittals to help maintain the target design time frame.

Options to improve efficiency included the addition of a permeate to waste line connecting to the existing and proposed RO skids to allow for easier disposal of permeate water following installation of membranes or cleaning of the membranes and the addition of a rupture disk on the permeate lines to the existing and proposed RO skids to protect the system from over-pressurization. The RO feed piping from the RO feed pump discharge lines was modified to include a manifolded feed line, including the addition of isolation valves and limit switches to allow for the discharge piping from any RO feed pump to feed any RO skid, providing addition operational flexibility.

North Regional WTP Rehabilitation Improvements

Tetra Tech provided preliminary design alternatives and recommendations for improvements to the Reverse Osmosis North Regional Water Treatment Plant (RO NRWTP).

At the NRWTP Campus, the City operates the RO WTP and a lime softening plant and one wastewater treatment plant. The two water treatment plants are considered a single entity and use the same point of entry.

The RO NRWTP was constructed in 2001 and currently has a rated capacity of 1.5 MGD and an ultimate capacity between 3.0 and 4.5 MGD for the RO NRWTP which can be provided within the existing building footprint but is dependent on the availability of source water supply and concentrate disposal capacity. It has been off-line due to high TDS from one well; however, the City is interested in bringing the RO NRWTP plant back online, which will require rehabilitation/replacement of the existing facilities to provide reliable operating conditions and to meet the City's current water quality goals.

The City retained Tetra Tech to investigate modifications to the treatment plants to include:

Alternative 1: Rehabilitation of the RO NRWTP, resume sending RO concentrate to the NRWRF (currently permitted for up to 0.5 MGD concentrate to blend with wastewater influent) and rehabilitate or drill a new production well to replace well RO-1.

Concentrate Disposal: Impacts of this concentrate disposal method relative to the NRWRF operations and limitations for future expansion will be considered.

Rehabilitation/Replacement of RO Plant: Assumption that all RO equipment and well RO-1 will need to be replaced as the basis of the conceptual cost opinion.

Alternative 2: Rehabilitation of the RO NRWTP, construct a deep injection well for disposal of current and future RO concentrate flows and rehabilitate or drill a new production well to replace well RO-1.

Concentrate Disposal: Evaluation of cost and feasibility of constructing a deep injection well, replacing the current disposal method through the NRWRF.

Review of current and proposed regulatory requirements regarding deep injection wells.

Rehabilitation/Replacement of RO Plant: Assumption that all RO equipment and well RO-1 will need to be replaced as the basis of the conceptual cost opinion.

Alternative 3: Feasibility of the construction of a nanofiltration (NF) treatment process to treat the surficial aquifer wells and potentially a blend of surficial and Floridan aquifer wells.

Concentrate Disposal: Evaluate quantity of concentrate and concentrate disposal alternatives.

Treatability review and finished water quality impacts.

Supplement/Replacement of Treatment Plant Processes: Evaluation of future plant capacity and useful life to supplement and/or replace existing treatment processes.

This work has just begun and Tetra Tech is in the study phase.

Shell Creek WTP Reverse Osmosis Addition

CITY OF PUNTA GORDA, FL

The City of Punta Gorda owns and operates the existing Shell Creek Water Treatment Plant (SCWTP), which treats surface water from Shell Creek. The 10.0 MGD SCWTP serves as the primary source of potable water supply for the City. The City also owns and operates a 2.0 MGD aquifer storage and recovery (ASR) system to augment potable water supply. During the dry season, Shell Creek experiences elevated levels of total dissolved solids (TDS), and the existing SCWTP process cannot reduce TDS levels below the maximum contaminant level (MCL) of 500 mg/L in the potable water. Due to the elevated TDS levels in Shell Creek during the dry season, the City determined that a new water supply source and treatment process needed to be developed to meet drinking water standards and avoid Minimum Flows and Levels impacts.

This project produces an initial capacity of 4.0 MGD of potable water at the SCWTP that meets drinking water standards by using RO to treat groundwater and then blend with the existing surface water treatment process. To help accomplish this task, the project converted the existing ASR wells to groundwater production wells, thereby accomplishing two goals:

Pumping ASR wells and treating that water with the new RO process will remove arsenic in exceedance of the 10 ppb limit and meet FDEP requirements. Using the ASR wells as production wells reduces number of new wells that are needed to supply raw water to the RO plant.

The new RO treatment system is expandable to 8.0 MGD. The RO permeate will blend with the treated surface water in a blending basin prior to final storage and distribution. Final chemical dosing for disinfection, pH adjustment, and corrosion control will be accomplished in the blending basin.

key team members:

Jon Bundy, PE
Project Manager

James Christopher, PE
Technical Leader

Jon Fox, PE
Principal-in-Charge

completion date:
2020

cost:
$4,005,635
engineering fee; delivered on time and on budget; three change orders were required

TETRA TECH

PROJECT #7

DISCIPLINES THAT CORRESPOND TO RLI

Cooperative funding from SWFWMD

SRF assistance

Preliminary and Final Design and construction management RO treatment plant

Conversion of ASR wells to production wells

Design, permitting and construction management of new injection well

This project has an initial capacity of 4.0 MGD and is expandable to 8.0 MGD of potable water by using RO to treat brackish groundwater and then blend with the existing treated surface water treatment process. This project was delivered CMAR.

In order to comply with requirements set forth in FAC Chapter 62-610, a turbidimeter will continuously monitor the filter effluent prior to chlorination, and a chlorine analyzer will continuously monitor the total residual chlorine concentration of the effluent from the chlorine contact tank. The turbidimeter and chlorine analyzer will be linked to a system that controls two (2) electrically operated butterfly valves located upstream of the reject and wet-weather storage facilities. If high turbidity and/or low residual chlorine levels are detected by the analyzers, the control panel will automatically position the valves to direct flow to the on-site reject storage ponds.

Raw wastewater flows and return and waste activated sludge flows are currently measured by magnetic flow meters. Under the proposed project, a Cipolletti weir and level-type flow meter will be located at the upstream end of the new chlorine contact tank to measure effluent flow and allow accurate flow proportional chemical addition. Also, a magnetic flow meter will measure the reclaimed water flow leaving the WRF site. The WRF improvements will meet Class I Reliability Criteria pursuant to FAC Chapter 62-610.

Cypress West WRF Upgrade and Expansion

TOHOPEKALIGA WATER AUTHORITY

The Tohopekaliga Water Authority (TWA) owns and operates the Cypress West Water Reclamation Facility (WRF) (formerly known as Poinciana WRF No. 2). The existing facility has a permitted capacity of 3.0 million gallons per day (MGD) on an annual average daily flow (AADF) basis and utilizes the Modified Ludzack Ettinger (MLE) process. Several years ago improvements to the preliminary treatment system were implemented in conjunction with conversion to the MLE Process and construction of external clarifiers. At the time of these improvements TWA intended to subsequently expand the plant capacity to 6.00 MGD via construction of filtration, chlorine contact, effluent storage, and reclaimed water pumping improvements.

The existing preliminary treatment, biological nutrient removal and settling structures are designed for a capacity of 6.00 MGD on an AADF basis; the following are the various equipment additions necessary in conjunction with entirely new facilities and modifications to existing unit operations to obtain the desired permitted capacity of 6.00 MGD.

- Installation of one additional process aeration blowers.
- Installation of two additional internal recycle pumps.
- Construction of two new cloth filtration facilities.
- Construction of a new dual-chamber chlorine contact tank with effluent transfer pumps.
- Installation of new sodium hypochlorite storage and feed facilities including a shelter to house the chemical and effluent monitoring equipment.
- Construction of two 7.50 million gallon wet-weather storage tanks.
- Construction of a new reclaimed water pumping facility.
- Installation of blowers and coarse bubble aeration systems to convert two (2) existing package treatment structures into aerated sludge holding basins.
- Construction of various appurtenant facilities such as an electrical building and standby power system.

key team members:

John Toomey, PE
Project Manager

Jon Fox, PE
Client Manager

Kevin Friedman, PE
Senior Engineer

Jason Burkett, PE
Structural Engineer

David Burger, PE
Electrical Project Manager

completion date:
2018

cost:
$1,183,536
engineering fee; delivered on time and on budget

TETRA TECH

PROJECT #8
DISCIPLINES THAT CORRESPOND TO RLI

Reclaimed WTP design

Reclaimed water pumping facilities

Filtration facilities improvements

Electrical and mechanical

Tetra Tech expanded the water reclamation facility capacity from 3.0 MGD to 6.0 MGD.

RELEVANT EXPERIENCE

Groundwater Replenishment Program

CITY OF CLEARWATER, FLORIDA

In an effort to reduce the discharge of reclaimed water to open waters, better utilize their reclaimed water resources, and replenish the aquifer, the City of Clearwater proceeded with the design of their Indirect Potable Reuse (IPR) project, the Clearwater Groundwater Replenishment Project. In January 2016, the City authorized Tetra Tech for design, permitting, bidding, and public outreach services of the 3.0 MGD Advanced Water Purification Plant (AWPP) and related pipelines and pumping systems to treat reclaimed water to a purified water quality with the objective of replenishing the aquifer within the City utilizing four (4) aquifer recharge wells. The project was cooperatively funded for public education/ outreach by the Southwest Florida Water Management District (SWFWMD).

The AWPP design includes the following treatment steps:

- Ultrafiltration (UF)
- Reverse Osmosis (RO)
- Advanced Oxidation Process (AOP)
- Membrane Contactors (MC)
- Post Treatment Stabilization

This treatment process includes the multi-barrier processes utilized for other potable reuse projects in the United States and abroad, and incorporates dissolved oxygen removal to minimize the potential for arsenic mobilization in the receiving groundwater. This project includes meetings with regulatory agencies and project stakeholders, extensive public outreach, implementation of a Technical Advisory Committee (TAC), preliminary and final design, updating cost opinions for construction and operations, permitting, and bidding assistance. Tetra Tech provided full-service design services for site planning and development, stormwater management, building programming, surveying, pipeline design, recharge wellhead design, advanced water purification treatment, purified water stabilization, and membrane concentrate water quality. Professional disciplines included surveying and civil, chemical, mechanical, electrical, supervisory control and data acquisition (SCADA), and environmental engineers, and supported by team members specialized in public outreach, hydrogeology, environmental sciences, and geotechnical engineering. This design, permitting, final design and public outreach phase of Clearwater's Groundwater Replenishment Program was completed in 2017.

PROJECT #9

DISCIPLINES THAT CORRESPOND TO RLI

AWPP design and permitting

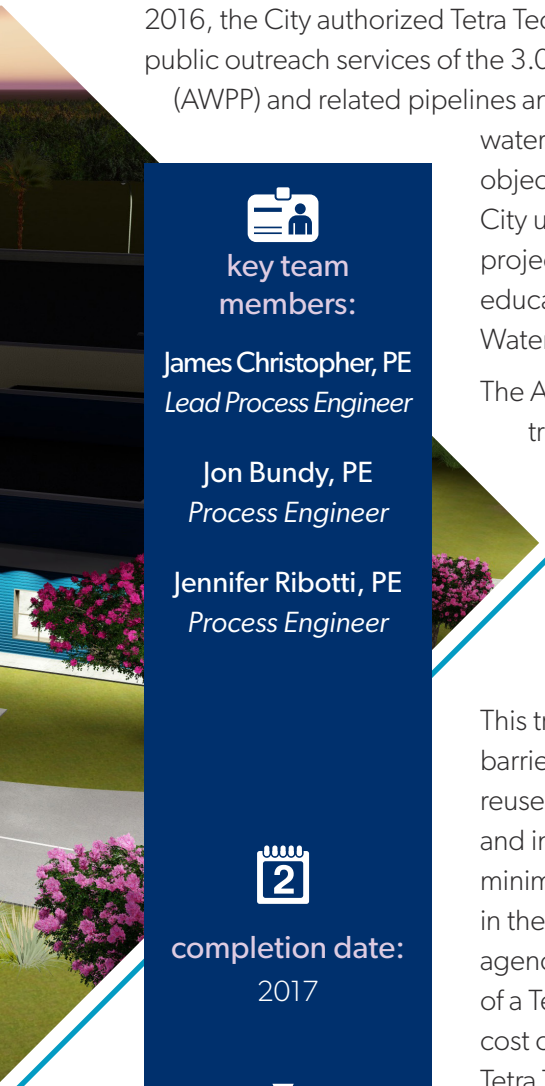
Pilot treatment testing program

Full Advanced Treatment process design

Mechanical and electrical

Environmental services

Tetra Tech provided design, permitting, bidding and public outreach services for the 3.0 MGD AWPP and related systems.



key team members:

James Christopher, PE
Lead Process Engineer

Jon Bundy, PE
Process Engineer

Jennifer Ribotti, PE
Process Engineer

completion date:
2017

cost:
$2.75M
engineering fee; delivered on time and on budget

TETRA TECH

RELEVANT EXPERIENCE

Water, Wastewater, and Reclaimed Water Planning

MIAMI-DADE WATER AND SEWER DEPARTMENT

Tetra Tech is providing engineering and geological services for water, wastewater and reclaimed water planning, design, and assistance with the continuation of various program components to the Miami-Dade County Water and Sewer Department (MDWASD). MDWASD is the largest water and sewer utility in the southeastern United States, serving nearly 2.3 million residents and thousands of visitors on a daily basis. To continue to fulfill the department's vision of continuous delivery of high-quality drinking water and wastewater services in compliance with all regulatory requirements, MDWASD has planned a systematic and responsible multi-year CIP.

This plan focuses on providing necessary upgrades to thousands of miles of pipes, hundreds of pump stations, and several water and wastewater treatment plants that provide its customers high-quality drinking water and wastewater services. Therefore, the water, wastewater and reclaimed water master plan contract is extremely important and integral to Miami-Dade County. Over the past few years, regulatory pressure has required MDWASD to focus its attention on negotiating and planning strategies to address the ever-evolving system requirements and challenges, including legislative mandates like the Ocean Outfall Legislation (OOL), which mandates elimination of ocean outfall of wastewater treatment plant effluent and enforcement actions such as the most recent consent decree. Programs, as well as individual projects to meet these requirements, have been identified, planned, scheduled and are actively being implemented.

MDWASD has the foresight to understand that regulatory matters must be addressed to resolve the past without neglecting the plans to build the future.

PROJECT #10

DISCIPLINES THAT CORRESPOND TO RLI

Water, wastewater, water supply, and reuse systems

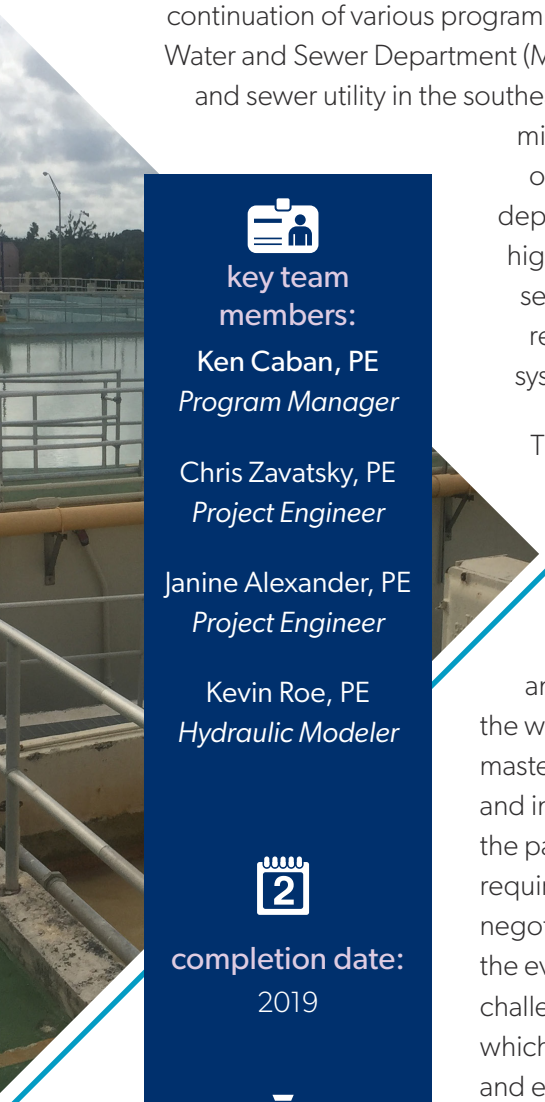
Gravity sewers, pump station, and force mains

Preliminary design and alternatives

Hydraulic modeling

Field data analysis

Tetra Tech assisted WASD with every type of water infrastructure, including water supply, water treatment and transmission, sewer collection and transmission, and reuse.



key team members:

Ken Caban, PE
Program Manager

Chris Zavatsky, PE
Project Engineer

Janine Alexander, PE
Project Engineer

Kevin Roe, PE
Hydraulic Modeler

completion date:
2019

cost:
$7.7M
engineering fee; delivered on time and on budget

TETRA TECH

Professional Services

Our team has provided a diversity of services related to planning, preliminary design, implementation, and construction of the water and wastewater infrastructure, including climate change and sea level rise considerations. Services include water and wastewater systems hydraulic modeling, flow projections, master planning, operational studies, hydrogeological evaluations, geological evaluations, process optimization, cost estimating, scheduling, and additional engineering support services as requested by the client. Tetra Tech is also aiding MDWASD through on-site staff augmentation for the determination of capacity analyses of various systems as well as with the water supply well development program, hydraulic modeling, zoning application reviews, groundwater modeling, hydrogeological services, cadastral technician services, among others.

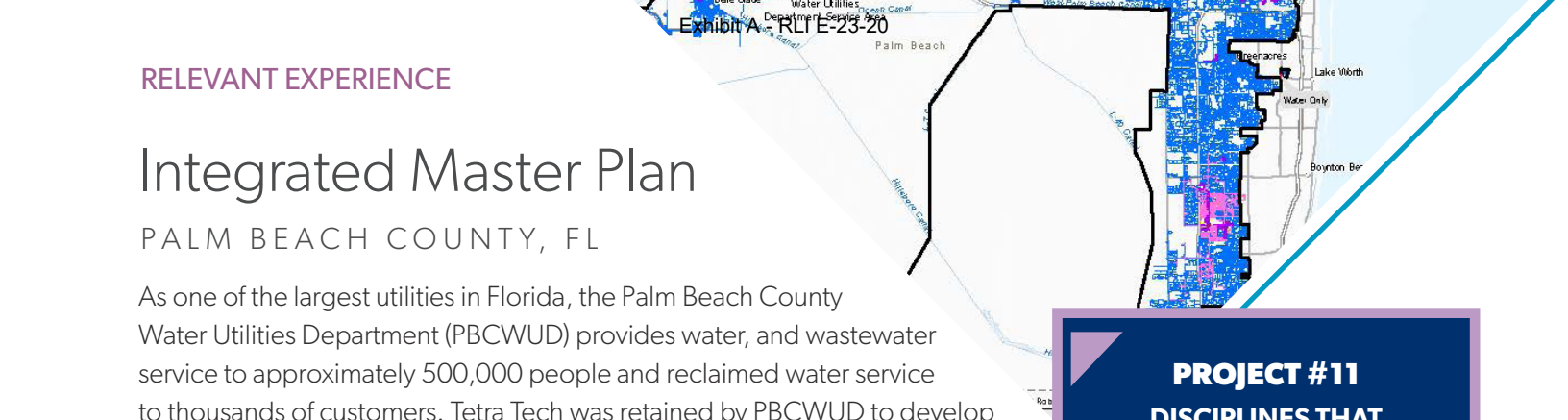
Since 2015, Tetra Tech has been assisting MDWASD with all these services. Specific tasks are listed below:

- Task Order #1: Geological Services Assistance
- Task Order #2: Miscellaneous Planning Services
- Task Order #3: NW 79th Street & NW 7th Avenue Basis of Design Reports & Hydraulic Evaluations
- Task Order #4: Basis of Design Report Services for Water and Sewer Services within Unsewered Commercial Corridors
- Task Order #6: Capacity Analysis for Water and Wastewater Developer Connections
- Task Order #7: Hydrogeological Support Services - Staff Support
- Task Order #8: Water Demand Projections GIS Module
- Task Order #9: Zoning Application Review Assistance
- Task Order #10: Miscellaneous Planning Services
- Task Order #11: Water Reuse Feasibility Study
- Task Order #12: Miscellaneous Planning Services
- Task Order #13: Interim Water Facilities Master Plan
- Task Order #14: PortMiami Water Distribution System Analysis and Upgrades Recommendations

RELEVANT EXPERIENCE

Integrated Master Plan

PALM BEACH COUNTY, FL



As one of the largest utilities in Florida, the Palm Beach County Water Utilities Department (PBCWUD) provides water, and wastewater service to approximately 500,000 people and reclaimed water service to thousands of customers. Tetra Tech was retained by PBCWUD to develop an Integrated Utility Master Plan (IUMP) that will guide the operations, maintenance and capital improvements of the utility through 2050. The project is focused on developing a process rather than a document that leverages PBCWUD's CMMS, SCADA and GIS information to identify issues and develop effective solutions for implementation. Key to the concept is the development of dashboards to present crucial information from the data systems in a meaningful manner and provide for day to day tracking of key performance metrics.

The development of system actions and improvements starts with placing a priority on operational and maintenance solutions over capital projects that add to the utilities asset base. Once projects are identified they will be prioritized based on risk and then further optimized based on benefits. A planning tool will be developed that will allow PBCWUD to adjust projects based on external and internal constraints and identify the impact of the adjustments on system risks and key performance indicators. Phase 1 of the project currently underway focuses on developing a conceptual framework for the process. Numerous workshops have been held with PBCWUD staff to confirm goals and objectives and identify key metrics. The goals and metrics were structured to align with and support PBCWUD's ongoing program to achieve ISO 55001 certification in Asset Management. PBCWUD's current data systems including Maximo (CMMS), SCADA, GIS, and customer billing were reviewed to verify the ability to utilize and integrate the information into the decision model. Finally, a system-wide risk assessment analysis was performed that established the initial risk approach as well as achieving compliance with the Risk and Resiliency Analysis requirements of America's Water Infrastructure Act. Other Phase 1 activities include preparing population and demand projections through 2050, evaluating the existing assets of the water, wastewater and reclaimed water systems, and developing hydraulic models for the water, wastewater transmission and reclaimed water systems. Future Phases of the project will define the portfolio of project to meet the needs of the utility through 2050, develop the dashboards and decision criteria and implement the revised planning process.

PROJECT #11

DISCIPLINES THAT CORRESPOND TO RLI

Water, wastewater, and reuse systems

Lift stations and force mains

Preliminary design and alternatives

Utility modeling

Field data analysis

Tetra Tech is assisting Palm Beach County with developing an intelligent and integrated master plan for its water, wastewater, and reuse water supply, treatment, collection, and transmission systems.

key team members:

Andrew Woodcock, PE
Master Planning

Chris Zavatsky, PE
Engineering Master Plan/CIP

James Anderson, PG
Water Supply

Kevin Roe, PE
Hydraulic Modeling

Ken Caban, PE
QA/QC

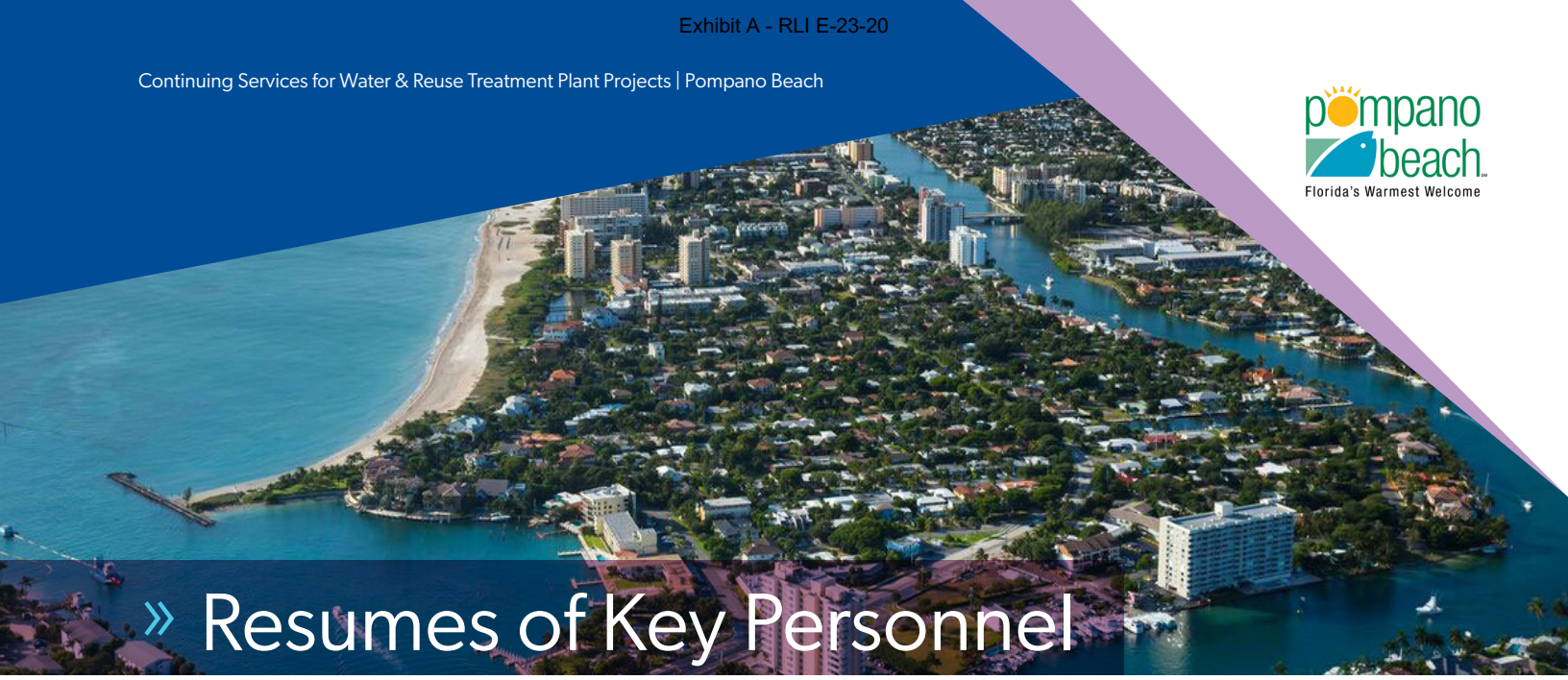
completion date:

Ongoing
estimated 2022 completion

cost:

$6,000,000
estimated fee

TETRA TECH



» Resumes of Key Personnel

OVERVIEW

The organizational chart on page 24 and our resumes on the following pages highlight our team's organization, leadership, and experience. Tetra Tech commits industry experts and experienced professionals needed to deliver a successful project.

We dedicate our staff to the successful completion of any project assigned to us. Tetra Tech utilizes several tools to project workloads and allocate staff to our projects to maintain maximum utilization. These projections are done monthly on a quarterly basis. We use man-hour usage rates to determine longer term utilization, which is generally less than a year.

Our team members existing and projected utilization and availability is presented in the Technical Approach section on page 15 of our submittal.

Tetra Tech provides our unwavering obligation that these project team members are available to deliver a successful project to the City.

This project will affect the surrounding community with local business and residents that deserve dedicated management. With that important factor in mind, we handpicked such leadership for our team.

Our team was built as a partnership around six key traits – Leadership, Trust, Commitment, Availability, Expertise, and Relationships - to successfully deliver projects to Pompano Beach. We will leverage our combined experience, resources, and expertise to develop solutions to the key issues and challenges by applying best practices and drawing parallels from similar projects and experiences. We selected some of our most talented professionals to serve in key roles who bring unmatched knowledge, experience throughout South Florida, a track-record of delivering award-winning projects, and an ability to deliver reliable, cost-effective, and innovative solutions. With this, our team can provide the required staff and resources necessary to complete our assignments on schedule and below budget. This project will be our team's top priority and the Tetra Tech team affirms that we have the resources, ability, and record of past performance, to deliver a successful projects, as we have done previously for the City of Pompano Beach.

PRINCIPAL-IN-CHARGE

Charles Drake, PG

education:
BS, Geology, University of Florida, 1982

years of experience:
37

years with Tetra Tech:
30

certifications:
Professional Geologist: Florida: No. 37

AIPG, Certified Professional: No. 11179

TETRA TECH

Mr. Drake has 37 years of experience in groundwater resource testing and evaluation for all aspects of water supply and aquifer recharge projects for public utilities. Mr. Drake's experience includes aquifer performance test and analysis, design, permitting and construction management of fresh and brackish groundwater wellfields, deep injection wells for RO concentrate, and aquifer recharge in many different hydrogeologic conditions. He is a qualified expert witness in hydrogeology, well construction, groundwater flow, and solute transport modeling, water use permitting, and water resource planning. He has been principal-in-charge for several clients, including: The City of Pompano Beach, City of Naples, and the City of Plant City. Mr. Drake worked extensively with city managers from the cities of Lakeland and Daytona Beach. He served as Governing Board member of the St. Johns River Water Management District for eight years and two of those years as Secretary.

Experience

Shell Creek Water Treatment Plant Reverse Osmosis Addition, City of Punta Gorda, FL. Hydrogeologist and Client Manager at initiation of project. The project includes the final design of a brackish reverse osmosis (RO) treatment facility to provide low total dissolved solids (TDS) permeate for blending with TDS treated surface water containing seasonally elevated TDS. Ongoing services to be provided for the project include final design, permitting, and construction administration for the proposed 4.0 MGD expandable to 8.0 MGD RO treatment facilities. The proposed improvements include conversion of existing Aquifer Storage and Recovery wells to be used for RO supply wells and construction of an on-site deep injection well. The proposed RO treatment facilities will be located on undeveloped land at the existing 10.0 MGD surface water treatment plant site. Mr. Drake was responsible for providing technical assistance to the City in obtaining cost share funding from the Southwest Florida Water Management District and grant funding from the Florida Legislature. He worked with City management and the mayor and some council members in the funding effort. He was also responsible for meeting with the District regulatory staff to discuss water use permitting issues, and from that, develop an exploratory well testing program to collect sufficient data to design the wellfield to produce approximately 4.0 MGD of raw water, groundwater quality data for Tetra Tech engineers to design the reverse osmosis water treatment plant, and to construct a numerical groundwater flow model using DWRM3 to obtain a water use permit.

Water Use Permits and Wellfield Monitoring, City of Lakeland, FL. Lead Hydrogeologist. Obtain initial WUP for the Northeast wellfield in 1991 for 9 mgd and subsequent renewals. Establish and implement baseline wetland and hydrologic monitoring plan in 1994. Wetland rehydration program design and implementation. Annual environmental monitoring and management plan submittal since 2004.

Winson WTP Well Rehabilitations, City of North Miami, FL. Hydrogeologist. Hydrogeologist involved in the review of project specifications prepared by another consulting firm prior to bidding for selection of drilling/well rehabilitation contractor. Project includes well evaluation, rehabilitation, testing, and technical reporting for six Biscayne aquifer wells and included upgrades to well heads, vertical turbine pumps, and piping.

Wellfield Development and Expansion and Water Use Permitting, City of North Miami Beach, FL. Lead Hydrogeologist. Conducted hydrogeologic investigations to develop surficial aquifer wells, designed and constructed test wells to determine hydrogeologic properties of the aquifer system. Developed numerical groundwater flow model to determine wellfield capacity and conduct impact analysis. Prepared and submitted water use permit application to the SFWMD.

Cypress Lake Wellfield Exploratory Well Program, Toho Water Authority, Osceola County, FL. Lead Hydrogeologist. Lead Hydrogeologist for the implementation of the exploratory well program, groundwater flow modeling and water use permitting for this project. He worked with Mr. Brian Wheeler and Mr. Robert Pelham from the Toho Water Authority (TWA) to define the objectives of the program and the wellfield yield needed to satisfy water demands beyond the 2013 demands from traditional sources. The program was developed and several meetings were held with the South Florida Water Management District staff to refine the program such that sufficient data would be collected to determine whether 37.5 MGD could be withdrawn from the Lower Floridan Aquifer to meet future demands of TWA and the other members of the Water Cooperative of Central Florida (WCCF). The data also needed to provide supporting documentation to construct a groundwater flow model to demonstrate that conditions for issuance of a Water Use Permit (WUP) were met. These objectives were met, and in 2011, the South Florida Water Management District issued TWA a 30-year WUP for 37.5 MGD average annual daily flow. The WUP was then transferred to the WCCF.

Water Use Permitting Assistance, Toho Water Authority, Osceola County, FL. Lead Hydrogeologist. Multiple water use permit modifications and new permits for Upper and Lower Floridan aquifer withdrawals which includes the Cypress Lake Wellfield WUP for 37.5 MGD.

Hydrogeologic and Water Use Permitting Expertise, City of Lakeland, FL. Lead Hydrogeologist. Extensive aquifer testing, analysis of data and evaluation of results for Northeast and Northwest wellfields. Assist City with review and application of SWFWMD rules and regulations and application of the 40D-2 to the City's wellfields.

Water Use Permit Renewal, Gateway Services Community Development District, FL. Project Manager and lead Hydrogeologist. A renewal of Gateway's 5-year Water Use Permit which allows withdrawal of groundwater from the Sandstone and Hawthorne aquifers for the purpose of lawn and landscape irrigation. The services have included documentation of historical uses, demand projections, meetings with the South Florida Water Management District and related services. The goal is to achieve a 20-year Water Use Permit, as opposed to the historical five-year permits.

PROJECT MANAGER

Jennifer Ribotti, PE

education:

MS, Environmental Engineering, University of Central Florida, 2012

BS, Environmental Engineering; University of Central Florida, 2010

years of experience:

8

years with Tetra Tech:

8

certifications:

Professional Engineer: Florida No. 81226

TETRA TECH

Ms. Ribotti is highly qualified in drinking water treatment, potable reuse treatment, facility hydraulics, membrane treatment technology and pilot and demonstration design and operation. Her experience includes assisting in the planning, design, and construction administration of drinking water treatment facilities, with emphasis on membrane treatment technologies for drinking water and alternative water supplies as well as chemical feed systems, transmission mains, water quality characterization and testing, wastewater lift stations, and gravity sewer systems.

Experience

Water Master Plan, City of Daytona Beach, Daytona Beach, FL. Lead Project Engineer. Assisted in the preparation of an update to the City's Water Master Plan which included analysis of the existing distribution system, 20-year water demand projections, oversight on the hydraulic model update, and compilation of the capital improvements program to meet projected growth in the system. The Capital Program included identification of facility requirements (storage, treatment, pumping, transmission, and distribution systems), and prioritization of improvements. Prepared project status meeting agendas and assisted with coordination with City project manager throughout the project. Also prepared the regulatory review component of the master plan update.

South Regional Water Treatment Plant Expansion, City of Palm Bay, Palm Bay, FL. Lead Project Engineer. This project is an expansion of Palm Bay's 4.0 million gallons per day (MGD) Reverse Osmosis (RO) Plant to 6.0 MGD. It includes the design of expansion items including site layout for ultimate build out conditions (10 MGD), new Florida supply well and pump, cartridge filtration, RO feed pumps, RO skids, finished water transfer pump, high service pumps and modifications to auxiliary power. The project also evaluated improvements necessary to the facility not related to the expansion such as degasifier system improvements, pretreatment cartridge filtration, extension of the 24-inch raw water supply line, and other miscellaneous improvements related to the chemical feed system and operational areas of the facility. Served as lead design engineer for the RO system improvements, coordination of geotechnical investigation, subsurface utility locates, preliminary design report, technical memorandums. Assisted with maintaining project schedule, deliverables and coordination with client.

Potable Water Ground Storage Tank and Pump Station, City of Daytona Beach, Daytona Beach, FL. Project Manager. Management of preliminary and final design of a 5.0 million gallon (MG) potable water ground storage tank and high service pump station with chemical metering facilities and standby power. The new facility also includes multi-discipline design and coordination of electrical/instrumentation systems, mechanical, structural and architectural building design, civil/stormwater and process mechanical design. Providing oversight on the preliminary and final design of the site and facilities layout, coordination with existing utility infrastructure, site survey, ecological investigations, geotechnical investigations, preliminary design report, regulatory requirements, permitting, bidding assistance, and construction administration. Also coordinating the multiple disciplines involved for facility design, project deliverables, schedule, and client coordination. Also assisting the City with preparation of documents suitable for FDEP SRF Funding which includes alternatives analysis, public involvement efforts (neighborhood meetings, renderings, etc.), and coordination with SRF loan subcontractor for compliance.

Short-Term Direct Potable Reuse Pilot Demonstration, Hillsborough County, FL. Project Manager and Design Engineer. This fast-track project, conducted in partnership with the Water Environment Research Foundation (WERF), comprised the rapid deployment of advanced water treatment technologies to produce purified water from County reclaimed water within a total span of four months. This project was the first direct potable reuse pilot cleared by the Florida Department of Environmental Protection to produce water for human consumption. Helped manage and maintain project on production schedule, while operating, troubleshooting, and directing field operatives before, during, and after project. Assisted in preparing technical documents and public material describing the basis of treatment, system performance, and purified water quality and assisted in the development of a technical brochure for WERF titled "Potable Reuse: A Water Supply That's Safe, Reliable, and Sustainable" that discussed the microconstituent results from the pilot.

Groundwater Replenishment Program, City of Clearwater, FL. Project Engineer. Final design, system start-up, operation and technical support for the 12-month operation of an indirect potable reuse pilot water purification treatment system (~25 GPM) to demonstrate treatment of reclaimed water to highly purified drinking water, using the FAT process.

Groundwater Replenishment Program – Design of an Advanced Water Purification Facility, City of Clearwater, FL. Process Design Engineer. Final design, permitting, bidding, and public outreach services for a 3.0 million gallons per day (MGD) Advanced Water Purification Plant (AWPP) to treat reclaimed water to drinking water standards for groundwater replenishment of the Lower Floridan Aquifer through four recharge wells. The full-scale plant design included five major treatment components: ultrafiltration, reverse osmosis, advanced oxidation process with ultraviolet light, membrane contactors, and post-treatment stabilization. The AWPP design also included design of 13 chemical storage and feed systems. This is the first full-scale design of this type of system for groundwater replenishment. Tetra Tech also assisted the City by attending and providing engineering oversight for several meetings with regulatory agencies, project stakeholders, and public outreach groups. Due to the nature of the project, stakeholders required the implementation and review by a Technical Advisory Committee of the 30-percent design. Ms. Ribotti provided engineering support on design relative to planning and preparation of the preliminary design report (30-percent) and development of contract drawings and specifications. She provided technical support for the 12-month operation of an indirect potable reuse pilot water purification treatment system (~25 gallons per minute) to demonstrate treatment of reclaimed water to highly purified drinking water. She also assisted in managing the building programming meetings and workshops, which provided discussion opportunities on the development of the conceptual operations and the process building with the City and District.

TECHNICAL ADVISOR

education:
MS, Environmental Engineering, Florida International University, 2007
BS, Civil Engineering, Florida International University, 1997

years of experience:
25

years with Tetra Tech:
10

certifications:
Professional Engineer: Florida, No. 59276
Board Certified Environmental Engineer (BCEE),
Leadership in Energy and Environmental Design Accredited Professional (LEED AP)

TETRA TECH

Ken Caban, PE, BCEE, LEED AP

Mr. Caban has over 25 years of experience in all facets of civil and environmental engineering. He has led numerous projects and multi-discipline teams for the analysis, design, permitting, inspection, construction management, and program and project management of water and wastewater conveyance and treatment systems, water, wastewater, and stormwater master planning and design, site development, and capital improvement programs for various agencies throughout south Florida. He oversees the quality control programs for the majority of projects in the Southeast Florida area for Tetra Tech.

Experience

Winson Water Treatment Plant Rehabilitation, City of North Miami, FL. Technical Reviewer. Provided independent review of reports, contract documents, and other deliverables and functions for the rehabilitation and expansion of the Winson Water Treatment Plant.

Winson Water Treatment Plant Owner's Engineering Representative: Water Transmission System Design and Water Supply Facilities Work Plan, City of North Miami, FL. Project and Quality Manager. Engineering services for the installation of a 6-inch diameter water transmission main and update to the Water Supply Facilities Work Plan. For the transmission system design, services include survey, geotechnical engineering, design, permitting, and construction administration and periodic observation services for approximately 3,600 linear feet of 6-inch diameter water main along N.E. 6th Avenue between N.E. 137th Street and N.E. 148th Street. These improvements address peak hour, fire flow, and/or water age issues. The Work Plan Update is based on past historical data, current information, and future projections associated with the City's sole municipal water treatment facility, water conveyance infrastructure, demographics, water sources, water demands and water supply. It covers a planning period of 2014 through 2030.

Consulting Services Engineering Water Treatment Plant Filter and High Service Pumps 1-4 Building, City of Pompano Beach, FL. Quality Manager. Engineering design, permitting, bidding, and construction administration services to prepare design documents for the identified hurricane hardening improvements at the Filter Buildings of the Pompano Beach Water Treatment

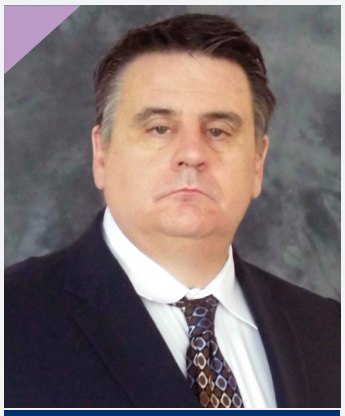
Plant, based on a recent Water Treatment Plant Hurricane Hardening Study completed by Tetra Tech. The filter building encompasses the high service pumps 1-4, office, and filter operation gallery.

Task Authorization No. 13 (20-Year Water Facilities Master Plan Update), Miami-Dade County Water and Sewer Department, FL. Quality Manager. Scope included calculating water demands, reviewing and planning for regulatory requirements, evaluating existing water supply, treatment, and transmission systems, hydraulic modeling, alternatives development, evaluation, and selection, and preparation of cost estimates, and financing and implementation plans for the recommended alternative. The Water Facilities Master Plan utilized a "triple bottom line" methodology evaluate the alternatives in a sustainable manner.

South Miami Heights Water Treatment Plant – Reservoir and Pump Station, Miami-Dade County, FL. Project Manager. The multi-discipline construction management team (as a subconsultant) acting as the County's Engineering Representatives for the delivery phase of a new 20.0 MGD water treatment facility using membrane treatment was proposed in the South West service area. Project was initially anticipated to be delivered through three separate construction contracts. The first of these contracts consisted of a 5.0 MG potable water reservoir and high service pumping system that completed construction in 2012 and is currently operational as a storage and re-pump facility. Construction services provided for this contract included construction administration, participation in construction meetings, schedule and change order review, and site inspections. Civil Engineering Continuing Contract, City of North Miami, FL. Quality Manager. Responsible for review and quality control for various water and wastewater projects including water main replacements, force main replacements, water treatment plant projects, including planning, design, and construction administration. These projects are in different stage of design and/or construction.

Task Authorization No. 11 (Water Reuse Feasibility Study), Miami-Dade County Water and Sewer Department, FL. Quality Manager. Professional consulting services to update the Wastewater Reuse Feasibility Study (WRFS) last prepared in 2007. The updated WRFS will assess the feasibility of wastewater reuse in Miami-Dade County. It will also identify the constraints and opportunities for reuse; establish the level of treatment and possible infrastructure needed for various reuse scenarios; and identify potential projects and provide estimates of reuse volumes. As required by the Florida Department of Environmental Projection (FDEP), the study will develop low, medium, and high reuse scenarios that will incorporate various projects and stakeholder input. These scenarios were previously developed during the 2007 study, but will be revised and updated as necessary. Updated preliminary costs and an initial evaluation of the impact that those costs could have on the rates is also provided as part of the WRFS update.

TECHNICAL ADVISOR



John Toomey, PE

education:
BS, Environmental Engineering, University of Central Florida, 1987

years of experience:
40

years with Tetra Tech:
20

certifications:
Professional Engineer: Florida, No. 40264

TETRA TECH

Mr. Toomey has four decades of nationally recognized water and wastewater engineering experience in planning, design, and construction administration of various projects. He has extensive experience in the development and evaluation of large pumping systems and wastewater treatment options. Located in central Florida, Mr. Toomey has assisted numerous local clients in the planning, design, and implementation of various wastewater treatment programs, including the Cities of Winter Park, Mount Dora, Oldsmar, and Orlando, as well as Orange and Seminole Counties. Mr. Toomey has been involved in over 30 wastewater pumping projects in Florida and brings over 40 years of lessons learned and innovative solutions.

Experience

Cypress West Water Reclamation Facility Upgrade & Expansion, Toho Water Authority, Kissimmee, FL. Project Lead. This project involved a full range of engineering services including survey, permitting, preliminary design, final design, permitting, and construction administration. The project involved increasing Toho Water Authority's Poinciana Water Reclamation Facility (WRF) No. 2 permitted capacity to 6.0 MGD with provisions for future expansion to a capacity of 12.0 MGD. As part of the expansion, the existing sequencing batch reactor process was abandoned in favor of the Modified Ludzack-Ettinger (MLE) process and new cloth media filtration facilities were provided, as well as improvements to the disinfection system.

T.B. Williams Water Treatment Plant Clearwell Rehabilitation Evaluation, City of Lakeland, FL. Technical Lead/Quality Control and Assurance. Design and construction phase services for a rectangular split contact basin structure to provide contact time for chemical disinfection with a split wetwell for transfer and high service pumping stations. The contact basin and pumping stations provide treatment and pumping for the facility's rated capacity of 51.0 MGD. Four new variable speed transfer pumps deliver excess finished water to the existing ground storage tanks during periods of low system demand, which then drain back into the clearwell structure for use by six new variable speed high service pumps during the periods of peak distribution system demand. The transfer pumps are also used for backwashing the existing filters. The design included yard piping, a chlorine and fluoride injection vault, a precast electrical building, civil site improvements, and electrical and instrumentation upgrades.

Harmony Water Reclamation Facility Upgrade & Expansion, Toho Water Authority, Kissimmee, FL. Project Manager. Responsible for the upgrade and expansion of an existing 0.13 MGD package wastewater treatment plant to provide a capacity of 0.50 MGD with provisions for future expansion to 4.00 MGD. The facility features two circular process basins that include anoxic, aeration, and settling stages with provisions for future conversion of the structures to clarifiers as plant capacity is increased.

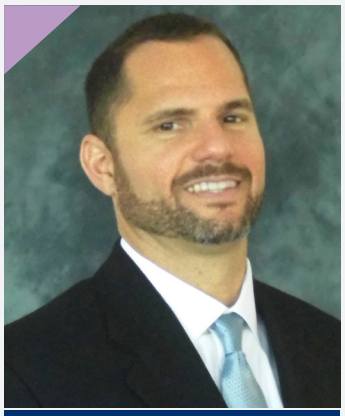
Eastern Regional Water Supply Service Area Program Improvements, Orange County Utilities, FL. QA/QC Review. Orange County Utilities contracted with Tetra Tech for a $5M service area wide contract for the Eastern Water Service Area. Work included studies, procurement documents, water plant and pump station preliminary and final design, condition assessments, pipeline route analysis, alternative water supply blending analysis, conjunctive use water capacity analysis, modeling, and Capital Improvement Program (CIP) planning

Norwood-Oeffler Water Treatment Plant Expansion, City of North Miami Beach, FL. Solids Handling System Design. Tetra Tech performed preliminary design, final design, permitting, and construction services to expand plant capacity to treat a total of 32.0 MGD with nanofiltration and low-pressure reverse osmosis technologies. The expanded facility consists of 15.0 MGD from existing lime softening facilities, 9.0 MGD for new nanofiltration facilities, 6.0 MGD from new low-pressure reverse osmosis facilities, and 2.0 MGD of micron filtered raw water blend.

Pump Stations A-7, D-10 and D-11, City of Fort Lauderdale, FL. Technical Advisor. Tetra Tech performed wastewater flow analyses due to increased land use densities in multiples area of the City, including residential areas and downtown Fort Lauderdale. In addition, evaluations of existing duplex and triplex pump stations and upstream influent manholes were completed to identify rehabilitation or replacement requirements. Two of the existing pump stations are located adjacent to East Las Olas Boulevard on the Isle of Venice (Pump Station D-10) and Hendricks Isle (Pump Station D-11), in areas which experience sea level and high tide impacts. Tetra Tech prepared preliminary design memoranda for each pump station which included findings and recommendations for rehabilitation and replacement and associated costs. Field data collection, surveys, designs, permitting, and construction administration services were completed. Two of the three projects was designed, permitted, bid, and constructed and the third was designed, permitted, bid and is currently under construction

Hunter's Creek 3497 and South Central Master Pump Station Improvements, Orange County Utilities, FL. Senior Engineer. Three major wastewater pumping stations with peak flow capacities ranging from 11.7 to 17.6 MGD. The facilities include multiple constant speed submersible pump systems, along with odor control and standby power facilities.

WATER SUPPLY



Miguel Garcia, PG

education:
BS, University of Florida, 1998

years of experience:
20

years with Tetra Tech:
5

certifications:
Professional Geologist: Florida, No. 2355

Certified Professional Geologist: No. 11596

Project Management Professional: No. 1556136

TETRA TECH

Mr. Garcia has participated in and managed projects for several aspects of hydrogeology, contamination assessment and remediation, solid waste, and mining. He has more than 20 years of experience in geological investigations in Florida, Alaska, Spain, the Caribbean, Brazil, and South America. Mr. Garcia is fluent in Spanish and conversant in Portuguese. Mr. Garcia's expertise lies in the areas of geological and hydrogeological studies, water resource assessment, water use permitting, well and wellfield design, well construction services, well rehabilitation services, aquifer performance testing, alternative water supply planning, aquifer storage and recovery, deep injection wells, environmental monitor design, permitting and installation, and groundwater monitoring plans/reporting, and Phase I and II Environmental Site Assessments (ESAs).

Experience

Winson WTP Well Rehabilitations, City of North Miami, FL. Project Hydrogeologist. Responsible for review of project specifications prepared by another consulting firm prior to bidding for selection of drilling/well rehabilitation contractor. Project includes well evaluation, rehabilitation, testing, and technical reporting for six (6) Biscayne aquifer wells and included upgrades to well heads, vertical turbine pumps, and piping.

Exploratory Test Wells and Raw Water Supply Wells, City of Punta Gorda, FL. Principal Hydrogeologist. Responsible for the preparation of technical specifications for construction and testing of exploratory test wells, raw water supply wells, and evaluation/rehabilitation of existing aquifer storage and recovery (ASR) wells in the Floridan Aquifer, to supply a proposed Reverse Osmosis (RO) water treatment plant. Also responsible for management of staff that will oversee well construction and testing work, and reporting for the exploratory testing program. Testing program summary report will be used for modification of the City's existing water use permit (WUP).

Cypress Lake Wellfield Exploratory Test Wells, Tohopekaliga Water Authority, FL. Project Manager. Responsible for the design, bidding, summary reporting for five public supply and exploratory test wells using the Lower Floridian aquifer as an alternative water source. Project included submittal of WUP application, well construction and testing summary report, and groundwater modeling summary report.

Wetland Monitoring, City of Winter Garden, FL. Project Manager and Principal Hydrogeologist. Responsible for the semi-annual and annual summary reporting for eight wetland monitoring stations for the logging of water levels and rainfall surrounding the City's wellfield and reporting of pumpage of the City's potable supply wells.

Permit Renewal, City of Daytona Beach, FL. Project Manager. Responsible for the preparation of a Consumptive Use Permit renewal application for public supply use for Western and Eastern Wellfields.

Exploratory Test Well/Potable Supply Well, Chevron Environmental Management Company, Valencia, Venezuela. Project Manager and Principal Hydrogeologist. Responsible for the design, construction and testing oversight and summary reporting for an exploratory test well and a public supply well to replace a supply well impacted by petroleum hydrocarbons in a community near Valencia, Venezuela. Testing and analysis included groundwater flow modeling to determine area of influence of proposed replacement well and impact to petroleum hydrocarbon plume.

Permit Renewals, Florida Governmental Utility Authority, FL. Project Manager. Responsible for the preparation of Water Use Permit renewal applications for public supply use for the following FGUA utility systems in Pasco County: Virginia City, Jasmine, Dixie Groves, and Westwood utilities.

Aquifer Storage and Recovery (ASR), City of Naples, FL. Project Hydrogeologist. Responsible for the design, bidding, and summary report for an ASR exploratory test well for wetland recharge.

Permit Renewal, City of Orange City, FL. Project Manager. Responsible for preparation of Consumptive Use Permit renewal application for public supply use.

Deep Injection Well Program, City of Palm Bay, FL. Project Hydrogeologist. Responsible for construction observation during deep injection well construction and testing. Responsibilities included soil and water sample collection and field water quality analysis, lithologic description, assurance of construction and testing of deep injection well per project specifications, and well construction and testing summary reporting.

Wetland Monitoring, City of Deltona, FL. Project Manager and Principal Hydrogeologist. Responsible for the annual summary reporting for ten wetland monitoring stations for the logging of water levels and rainfall surrounding the City's wellfield.

Aquifer Storage and Recovery (ASR), Canaveral Port Authority, FL. Project Hydrogeologist responsible for installation of ASR well, and assistance with aquifer performance testing, data collection and analysis, and groundwater sampling for one ASR well and four surficial aquifer monitoring wells.

Gray Limestone Aquifer, City of Everglades City, FL. Principal Hydrogeologist responsible for the design, bidding, and summary report for two exploratory test/production screened wells in the shallow aquifer.

Wetland Monitoring, City of Daytona Beach, FL. Project Manager and Principal Hydrogeologist responsible for the design, permitting, installation, and annual summary reporting for the installation of six wetland monitoring stations and nine cluster monitoring wells (at three cluster sites) for the logging of water levels surrounding the City's wellfield.

Aquifer Storage and Recovery (ASR), City of Naples, FL. Project Hydrogeologist responsible for the design, bidding, and general project management for an ASR exploratory test well.

Wetland Monitoring, City of Daytona Beach, FL. Project Hydrogeologist responsible for the design and installation of 18 wetland monitoring stations for the logging of water levels surrounding the City's wellfield.

WATER TREATMENT

James Christopher, PE, BCEE

Mr. Christopher is highly qualified in environmental engineering with special expertise in water resources, water quality, reverse osmosis, pumping system analysis/station design, hydraulic analysis, pipeline design, wastewater collection, treatment, effluent reuse/utilization/disposal, facility planning, construction and administration, and overall project administration and coordination.

education:

MS, Environmental Engineering and Science, University of Central Florida, 1980

BS, Chemistry, Duke University, 1976

years of experience:

40

years with Tetra Tech:

30

certifications:

Professional Engineer: Florida, No. 34204

TETRA TECH

Experience

Shell Creek Water Treatment Plant Reverse Osmosis Addition, City of Punta Gorda, FL. Technical Leader. Responsible for supervision and oversight. The project includes the final design of a brackish reverse osmosis (RO) treatment facility to provide low total dissolved solids (TDS) permeate for blending with TDS treated surface water containing seasonally elevated TDS. Ongoing services to be provided for the project include final design, permitting, and construction administration for the proposed 4.0 MGD expandable to 8.0 MGD RO treatment facilities. The proposed improvements include conversion of existing Aquifer Storage and Recovery wells to be used for RO supply wells and construction of an on-site deep injection well. The proposed RO treatment facilities will be located on undeveloped land at the existing 10.0 MGD surface water treatment plant site.

Water Treatment Plant #3 Reverse Osmosis Addition, City of Clearwater, FL. Project Manager. Due to increases in the raw water total dissolved solids (TDS) the City needed a method to reduce the finished water TDS to be able to use all the existing wells. The project includes the design and permitting of a 1.5 MGD reverse osmosis treatment facility, associated chemical feed and storage facilities, 10,000 linear foot concentrate disposal force main, and site improvements to the City's existing Water Treatment Plant #3.

Reverse Osmosis Water Treatment Plant Nos. 1 & 2 Fluoride Addition, City of Clearwater, FL. Senior Process Engineer/Engineer of Record. Addition of fluoride storage and feed systems at the City's Reverse Osmosis Water Treatment Plants 1 and 2. Services included the preparation of a preliminary design report, final design documents, and obtaining required environmental regulatory permits.

Harmony Water Treatment Plant Disinfection By-Product Technology Review, Toho Water Authority, Kissimmee FL. Project Manager. Review of technologies for disinfection by-products (DBPs) control for the Harmony water

treatment plant as an alternate to the existing MIEX system. Services included the identification and listing of over 14 different treatment technologies to control or reduce disinfection by-product formation. A description and summary of each technology was developed to describe their application, performance, limitations, reliability, design criteria, equipment suppliers, cost, and example installations. Phased improvements were recommended for implementation of facilities to improve disinfection by-product compliance.

Sodium Hydroxide Feed System, City of Tarpon Springs, FL. Project Manager. Design, permitting and construction services for the addition of a sodium hydroxide storage and feed system at the existing City of Tarpon Springs reverse osmosis water treatment plant for post treatment final pH adjustment of the finished water.

Alternative Water Supply Design/Build, Tarpon Springs, FL. Design Manager for design and technical services associated with the design/build construction of the City's 6.4 MGD alternative water supply facility. The facility is designed to accommodate high salinity brackish water, 16,000 mg TDS/L, from a group of 15 Floridan aquifer supply wells and includes three 2.0 MGD reverse osmosis skids, degasification, biotrickling filters for odor control, chlorine contact, transfer pumping, 5 MG ground storage reservoir, and high-service pumping. Raw water system and reverse osmosis skids are designed using duplex stainless steel to accommodate high salinity and seawater membranes. Services included preparing the final design, services during construction, and facility startup and testing.

Cypress Lake Water Treatment Plant, Toho Water Authority, Kissimmee, FL. Process Team Leader for the preparation of the conceptual and preliminary design reports, cost budgets, and schedules for a proposed 34.0 MGD regional reverse osmosis water treatment supply facility, raw water supply well field, and deep injection well disposal system.

Alexander Orr Jr. WTP Process Optimization Study, Miami-Dade County Water and Sewer Department, FL. Project Manager responsible for Tetra Tech's work as subconsultant to HDR for bench scale testing, field testing, review of plant operating information, development of water quality goals, and development of alternatives to optimize the cost-effective operation of the lime softening and stabilization process for this 262.0 MGD facility.

Alternative Water Supply Blending Study, Orange County Utilities, FL. Technical Leader. Blending study to determine the best method and required treatment to accept a supplemental source of water from another utility treating both surface and groundwater. Services included development of sampling programs to determine the quality and efficiency of the other utility's treatment at various stages in the process; bench scale testing; laboratory analysis to determine total organic carbon and disinfectant by-product removal by membranes, MIEX, and granular activated carbon; and development and costing of blending and treatment alternatives.

REUSE TREATMENT

Gary ReVoir, PE

Mr. ReVoir has extensive experience in the municipal and industrial water, wastewater and reuse industry. His experience encompasses a full range of wastewater collection, transmission, treatment and effluent disposal planning, as well as water supply, treatment and distribution. Mr. ReVoir's experience also includes planning, funding, permitting, final design, construction administration, start-up, and project management with emphasis on advanced water and wastewater treatment processes, as well as potable reuse.

education:

MS, Environmental Engineering, University of Central Florida, 1995

BS, Environmental Engineering, University of Florida, 1988

years of experience:

32

years with Tetra Tech:

14

certifications:

Professional Engineer: Florida, No. 46684

TETRA TECH

Experience

Direct Potable Demonstration Testing Program, City of Daytona Beach, FL. Principal-in-Charge. Direct Potable Reuse (DPR) Demonstration Program to determine the feasibility of potable reuse as a source water supply. The DPR Demonstration Program includes a $3.1 million "demonstration scale" advanced water purification system. The project was identified by the St. Johns River Water Management District as an innovative alternative water source project for its potential to address two emerging issues with one solution; by improving impaired river water quality by eliminating effluent discharge and offsetting current groundwater withdrawal practices. The Demonstration Testing System will add full advanced treatment (FAT) to the City's existing Westside Regional Water Reclamation Facility (WRWRF) to purify approximately 200,000 gallons per day (gpd) of reclaimed effluent. Services included feasibility study, grant funding assistance, design, bidding, public outreach, and construction management services.

Alternative Water Supply, Demonstration Scale Feasibility Study, City of Daytona Beach, FL. Engineering Support. For the development of a feasibility study to determine ideas, observations and suggestions for the City in implementation of a treated reuse demonstration facility at the City's wastewater treatment facilities. Engineering tasks included determining the appropriate size, type and cost of a facility associated with conducting a demonstration test of potable reuse concept.

Reuse Project Staging Plan, Seminole County, FL. Project Manager. Re-assessment of construction sequence for projects associated with the expansion of the County's reuse distribution system from 2007 through 2013. Changes in construction schedules for residential retrofit projects necessitated review of original reuse master plan, and the timing of planned storage, repump, and transmission projects. Project tasks included revised hydraulic

modeling, reuse model calibration, and modifications to several critical transmission projects to ensure viable reuse service to new users over the project period.

Cypress Lake Water Treatment Plant, STOPR, Kissimmee, FL. Client Manager. Strategic planning efforts which determined that a regional project yielding a minimum 30 MGD of water supply would help to collectively meet the Utility Partners (Toho Water Authority, City of St. Cloud, Orange County Utilities, Polk County, and Reedy Creek Improvement District) needs for the near future. The Groundwater Desalination Regional Alternative Water Supply Preliminary Design Report as completed and presents a basis of design, preliminary layout of proposed facilities (buildings, site and yard piping), facility implementation, overview of regulatory requirements, and an estimate of probable capital and O&M costs for the 34 MGD Cypress Lake water treatment plant, wellfield, and raw water main, and concentrate disposal facilities.

Alternative Water Supply Design/Build, City of Tarpon Springs, FL. Client Manager. Services include preliminary engineering, final design, permitting, and construction administration. Project consists of raw water supply wells and a new reverse osmosis water treatment plant capable of treatment up to 6.4 MGD which is designed for high salinity groundwater treatment.

Phase I, Rangeline Water Treatment Plant, City of Port St. Lucie, FL. Project Manager. Planning, permitting, design and construction administration for the first phase of a 30 MGD reverse osmosis water treatment plant. This phase included the site planning, storage and repump facilities including 25,000 linear feet of 24-inch water main and 15,000 linear feet of 24-inch force main.

Southport Water Repump Station Expansion, City of Port St. Lucie, FL. Project Manager. Expansion included discounting use of the existing facilities, demolition of some of the existing structures, and the design and construction of a new 3.0 MGD ground storage tank, high service pumping station and yard piping.

Northwest Regional Utility Service Area (NWRUSA) Water Use Permitting Assistance, Polk County, FL. Client Manager. The scope of services consisted of preparing a permit application and all of the supporting documentation including, groundwater modeling and hydraulic modeling services in support of a new water use permit with SWFWMD.

Northeast Regional Utility Service Area (NERUSA) Potable Water Master Plan Update, Polk County, FL. Principal-in-Charge. 25-year planning period Water Master Plan project. The Master Plan includes updated projections for demands, hydraulic modeling, a capacity analysis of the NERUSA water facilities, and an updated community investment plan.

Eastern Regional Water Supply Facility, Orange County Utilities, FL. Technical Advisor. Expansion of an existing groundwater treatment facility to a capacity of 62.5 MGD with master planning for an ultimate capacity of 75 MGD. The existing process facilities occupy a constrained site with adjacent residential properties. Both a conjunctive use study and an evaluation of plant redundancy and reliability were conducted to determine viable preliminary design concepts for expansion of the existing facilities.

Northeast Booster Pump Station and Price Boulevard Water Main Improvements, City of North Port, FL. Project Manager. Planning, designing, permitting and construction of approximately 28,000 linear feet of 16-inch diameter, 30,040 linear feet of 12-inch diameter and 6,130 linear feet of 8-inch diameter potable water transmission mains to inter-connect this new regional water re-pump station with the City's existing potable water transmission and distribution system.

WATER & REUSE MASTER PLANS

Andrew Woodcock, PE

Mr. Woodcock has been involved with many different facets of environmental engineering for 30 years. He has special expertise in utility master planning, due diligence investigations, utility valuations, financial feasibility analyses and business plans. Mr. Woodcock's water and wastewater utility planning experience includes several master plans and capital improvements programs that include water, wastewater and reclaimed water utilities.

education:

MBA, Rollins College, 2001

MS, Environmental Engineering, University of Central Florida, 1989

BS, Environmental Engineering, University of Central Florida, 1988

years of experience:

31

years with Tetra Tech:

29

certifications:

Professional Engineer: Florida, No. 47118; Georgia, No. 043070

TETRA TECH

Experience

Reuse Master Plan Update, City of Pompano Beach, FL. Technical Lead. This Plan evaluated the existing system, estimated demand projections using current growth assumptions, updated the existing hydraulic model to assist in identifying system sizing deficiencies and developed a capital improvement program to accommodate future demands. The plan evaluated the current treatment transmission and distribution systems to meet future demands through project build-out.

Integrated Utilities Master Plan, Palm Beach County, FL. Project Manager. Develop an Integrated Utility Master Plan that guides the operations, maintenance and capital improvements of the utility through 2050. The project is focused on developing a process rather than a document that leverages the County's CMMS, SCADA and GIS information to identify issues and develop effective solutions for implementation. The goals and metrics to align with and support the County's goal to achieve ISO 55001 certification in Asset Management.

TA-13 Water Supply and Interim Facilities Planning (20 Year), Miami-Dade Water and Sewer Department, FL. Lead Engineer for a system wide master plan of MDWASD's water treatment plants. Planning efforts involve a detailed analysis of the feasibility of combining the Hialeah and Preston water treatment plants (WTPs) collocated in the northern part of the service area. The analysis includes a condition analysis, performance review, and capacity analysis of both facilities to determine the ability of the Preston WTP to assume the treatment capacity utilized by the older Hialeah WTP. As part of the analysis, a capital program will be developed for both the decommissioned scenario as well as for continued independent operation. The feasibility of the decommissioning was determined through a 20-year life cycle cost analysis.

Reuse Water Master Plan, City of Daytona Beach, FL. Project Manager. The master plan evaluated the existing city reuse system and provided a listing of projects to expand the City's use of reclaimed water over the projection period. A hydraulic model of the system was created in Innovzye software using the City's existing CAD drawings and as-builts of recent projects. A unique feature of the modeling effort was to effectively simulate a low pressure reclaimed water transmission line that also acts as an outfall to the Halifax River. When the WWTP produces water that does not meet public reuse standards, the pipeline is the sole form of effluent disposal. The model was used to develop an operational protocol for the pipeline given these two conflicting uses. Once the CIP was determined, a full reclaimed water rate study was performed to demonstrate how varying levels of investment in the CIP would affect reclaimed rates.

Water Master Plan, City of Daytona Beach, FL. Project Manager. Prepared an update to the City's Water Master Plan that included analysis of the existing distribution system, 20-year water demand projections, hydraulic model update, and compilation of the capital improvements program to meet projected growth in the system. The Capital Program included identification of facility requirements (storage, treatment, pumping, transmission, and distribution systems) and prioritization of improvements.

State Revolving Fund Facilities Plan, City of Orlando, FL. Project Manager. Facilities plan prepared to meet requirements of the Clean Water State Revolving Fund (CWSRF) loan funding for seven wastewater projects estimated at $66,300,000 over the next five years. The plan described alternative methods for addressing identified projects and proposed a specific course of action for each project. The plan also considered the projected growth in the City's service area and identified the need for each project. Tetra Tech evaluated two alternatives for each project, including estimated costs for each alternative and other non-monetary factors. The analysis also considered environmental effects including project benefits and potential impacts to surface waters, endangered/threaten species, and flood zones were also considered in the analysis.

Collection System Master Plan, City of Clearwater, FL. Project Manager. The City of Clearwater's collection system consists of 72 pump stations, 370 miles of gravity sewer, 38 miles of force main, and more than 8,300 manholes spread over three wastewater service areas. The field work for the master plan consisted of a condition analysis and drawdown test of all lift stations and air release valves as well as a review of gravity sewer CCTV data and identification of areas with high incidences of SSOs. Additional information from the City's ongoing I&I projects were also incorporated into the analysis. All assets were assigned a condition and criticality based on the field review, and a business risk evaluation was performed to assist in identifying areas of concern and prioritizing capital projects. The results of the condition assessment and business risk evaluation were linked with the City's existing GIS and asset management platform. A hydraulic model of the collection system was developed, calibrated, and verified to predict current system performance, identify levels of services, and develop capital improvements to meet projected needs.

Water, Wastewater and Reclaimed Water Master Plan, City of Clermont, FL. Project Manager. The three master plans were driven by near term permit limitations and accelerated growth in the City's service area. A key component of the joint master planning effort was developing new hydraulic models for all three systems using WaterGEMSTM. Critical to the modeling effort was to simulate system changes as potable water irrigation customers are systematically converted to reclaimed service. As a result of the modeling pressure problems in the potable were alleviated once the conversions were complete allowing the City to reduce its near-term CIP without compromising customer levels of service.

SURVEY

education:
Maryville College, Maryville, Tennessee

years of experience:
40

years with Keith & Associates:
10

certifications:
Professional Surveyor & Mapper:
Florida, No. 5660

KEITH & ASSOCIATES

Michael Mossey, PSM

Mr. Mossey has over 40 years of experience in land surveying and mapping in South Florida. He has extensive senior project management experience for large-scale projects and continuing service, on-call type contracts for both public and private sector clients. He is a highly talented Quality Surveyor with a successful track record in budget estimation, valuation of items and completing projects on time. Mr. Mossey's experience includes a wide range of projects incorporating GIS deliverables for various agencies including Broward County, the Federal Aviation Administration (FAA) and municipalities.

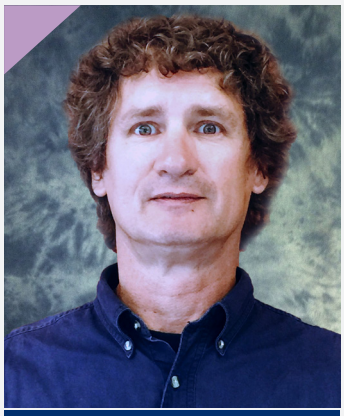
Experience

A-1-A / S.R. 814 Atlantic Boulevard, Pompano Beach, FL. Survey Project Manager. Mr. Mossey prepared extensive Topographic Design Surveys for this Pompano Beach CRA roadway improvement project. Project included design and right-of-way survey as well as a FDEP Coastal Topographic Survey required for design and permitting of coastal roadways, pedestrian walkways, and beach and dune beautification improvements. Concept includes reconstruction of roadway, water, sewer and drainage, streetscapes and beatifications.

Pompano Beach Boulevard Streetscape, Pompano Beach, FL. Mr. Mossey was responsible for the Coastal Hydrographic and Topographic Surveys for FDEP Permitting for the design and construction of the roadway and pedestrian pathways adjacent to the beachfront. The project was situated seaward of the Coastal Construction Control Line therefore the design required extensive hydrographic and topographic survey in accordance with the requirements of the Florida Department of Environmental Protection-Division of Beaches and Shores as set forth in Section 62B-33.0081.

Pompano Beach Oceanside Fire Station #11, Pompano Beach, FL. KEITH is working with a team of consultants with the primary responsibility of surveying and platting to construct a new barrier island Oceanside Fire Station (Station # 11) in Pompano Beach. The proposed site required a land use plan amendment, rezoning, platting and site plan approval before the station could be permitted. KEITH coordinated with City staff and other consultants to properly time the plat approval in conjunction with the plan amendment as well as coordinating with the architect and FDOT for the plat opening along A-1-A for the fire station driveway. As Survey Project Manager, Mr. Mossey prepared Boundary and Topographic Design Survey including tree locations and identifications for this new public facility station on A-1-A including offsite improvements.

FIELD & CONSTRUCTION



Ed Wills, PE

education:
BS, Environmental Engineering, University of Central Florida, 2001

years of experience:
19

years with Tetra Tech:
4

certifications:
Professional Engineer: Florida, No. 69065

TETRA TECH

Mr. Wills specializes in environmental engineering and has experience in assisting clients in areas of engineering services during construction. Mr. Wills provides construction administrative and resident project representative services. His duties include assisting in responding to requests for information, developing and evaluating cost changes for field modifications, developing meeting agenda and minutes, organizing progress meetings, reviewing pay applications, reviewing construction activities and mechanical installations, resolving construction conflicts, reviewing the construction schedule, and preparing the closeout documentation including punch list, as-builts, record drawings, and operation and maintenance manuals.

Experience

Cypress West Water Reclamation Facility Upgrade, Toho Water Authority, Kissimmee, FL. Project Engineer. The project scope included upgrade and expansion of an existing 3.0 million gallon per day (MGD) sequencing batch reactor facility to provide a capacity of 6.0 MGD via implementation of the Modified Ludzack Ettinger (MLE) process with conventional settling, filtration, and disinfection unit operations. New equipment included: additional process aeration blowers; two additional internal recycle pumps; two new cloth filtration facilities; new dual-chamber chlorine contact tank with effluent transfer pumps; new sodium hypochlorite storage and feed facilities; two 7.5 million gallon (MG) wet-weather storage tanks; new reclaimed water pumping facility; blowers and coarse bubble aeration systems to convert two existing package treatment structures into aerated sludge holding basins; and various appurtenant facilities such as an electrical building and standby power system. Mr. Wills assisted with the specifications, drawings, and equipment selection and process design including the yard piping and process equipment evaluation and recommendation.

South Water Reclamation Facility, Orange County Utilities, Orlando, FL. Project Engineer. The project scope included preliminary design of the Phase V expansion of the existing Orange County South Water Reclamation Facility, preliminary design report preparation, preliminary and final design of the preliminary treatment facility, biosolids improvements, effluent facilities, and associated yard piping for the Phase V improvements. Mr. Wills assisted with the yard piping modifications and upgrades for the screen and grit system modifications.

PIPELINES

Janine Alexander, PE

education:
BS, Environmental Engineering, University of Central Florida, 1996

years of experience:
23

years with Tetra Tech:
5

certifications:
Professional Engineer: Florida, No. 59244

NPDES-Certified Inspector, 2005 and 2012

TETRA TECH

Ms. Alexander has more than 23 years of utility experience, including project management for the design of new facilities, relocations of existing facilities, utility coordination, permitting, construction administration, construction management, inspections, and certifications for numerous public and private-sector projects.

Experience

East Las Olas Boulevard (SR 842) 12-inch Force Main Replacement, City of Ft Lauderdale, FL. Project Manager. Design, permitting, bidding, and construction administration services for 280 feet of 18-inch DR-11 HDPE FM piping, 1,775 feet of 16-inch DR-11 HDPE FM piping, 150 feet of 12-inch Protecto 401 lined DIP piping, and stub-outs for future FM connections from lift stations on adjacent Isles. Permitting included FDOT utility permitting and Broward County Health/DOH permitting.

Royal Poinciana Sewer Expansion, City of Hollywood, FL. Project Manager. Septic to sanitary conversion project from Sheridan Boulevard south to Taft Street and from Federal Highway (US1) to N. 21st Avenue. Project included three preliminary sanitary sewer system design layouts for addition of a new lift station location on Coolidge Street, evaluation of the existing E-22 lift station at the current location, and a split-flow plan.

Pump Stations D10 and D11 Flow Analysis and Redesign Project, City of Ft. Lauderdale, FL. Project Manager. Wastewater flow analysis due to increased land use densities from single family residential to condo and multifamily uses and evaluation of existing duplex pump stations and upstream influent manholes for rehabilitation or replacement for two city pump stations located adjacent to East Las Olas Boulevard on the Isle of Venice (PS D10) and Hendricks Isle (PS D11). Second project phase included PS upgrades for D10 and D11 with new pumps and wetwell and valve vault piping, coating, new control panels and conduit, upstream discharge piping and manhole(s) and CIPP lining with coordination with the City for gravity sewer mains to be lined.

Toho I Gravity Sewer Improvements, Toho Water Authority, Kissimmee, FL. Project Manager. Construction administration project phase included 10,000 feet of deteriorating gravity sewer line ranging from 8 to 24 inches and 100 feet of 8-inch sanitary sewer force main within the service area. A combination of complete replacement and cured-in-place lining were used.

HYDRAULIC MODELING

Kevin Roe, PE, CFM

Mr. Roe is a project engineer and hydraulic modeler with diverse experience in the study, planning, design, and construction of water, wastewater, stormwater, and general civil/site projects for municipal and industrial clients. As a hydraulic modeler, he plays an integral role in analyzing existing water, wastewater, and stormwater systems and facilities and recommending infrastructure improvement alternatives.

education:
BS, Civil Engineering, Arizona State University, 2008

years of experience:
11

years with Tetra Tech:
7

certifications:
Professional Engineer:
Georgia, No. 39494
Arizona, No. 62523

NCEES Record No. 68028

TETRA TECH

Experience

Reuse Water Master Plan Update, City of Pompano Beach, FL. Hydraulic Modeler. Model review, update, calibration, existing system evaluation, and future system recommendations as part of the City's reuse water master plan update using InfoWater software.

Integrated Utilities Master Plan, Palm Beach County, FL. Project Engineer and Lead Hydraulic Modeler. Project Engineer and Lead Hydraulic Modeler for the existing reclaimed water system evaluation as part of the Integrated Utility Master Plan. Specific tasks include reclaimed water customer evaluation and flow characterization, future flow projections, model update and calibration, existing system evaluation, and future system recommendations. Hydraulic modeling is being done using InfoWater software.

Water, Wastewater, and Reclaimed Water Master Plans, City of Clermont, FL. Project Engineer and Hydraulic Modeler. Developed and evaluated the wastewater model, which included 24 miles of force main, 6.5 miles of gravity sewer, and 33 lift stations. Mentored junior-level engineer on hydraulic modeling while assisting on the development and evaluation of the existing and future water and reclaimed water system models. Tasks for all three systems included model development and calibration, demand forecasting, and evaluating capital improvements. Wastewater modeling was done using InfoWorks CS software. Water and reclaimed water modeling was done using WaterGEMS software.

Water System Interconnect Study for City of Lakeland, Polk County Utilities and Bartow County, FL. Lead Hydraulic Modeler. Planning and model analysis of a proposed 16" waterline interconnection for the City of Lakeland, Polk County Utilities, and Bartow County, FL water systems using WaterGEMS software.

CIVIL & STORMWATER

education:

BS, Civil Engineering, University of Hartford, 2012, Summa Cum Laude

years of experience:

8

years with Tetra Tech:

8

certifications:

Professional Engineer: Florida, No. 83331

CDT

ENV SP

TETRA TECH

Michael Thatcher, PE, CDT, ENV SP

Mr. Thatcher's technical background encompasses the complete project lifecycle, and includes project start-up services, subcontractor coordination, conceptual studies, preliminary and final design, permitting, bidding procurement, construction administration services, project closeout, as well as the management of multi-disciplinary teams to meet the expectations of his clients. Mr. Thatcher has wide-ranging experience in the execution of stormwater management projects. He has an extensive background in the design and implementation of stormwater infrastructure improvements; including municipal capital improvement projects, regional stormwater management, flood mitigation and retrofit projects, and stormwater master planning.

Experience

Storm and Surface Water Augmentation to Reduce Ground Water Demands for Irrigation at the Alexander Avenue Water Management Site, Deltona, FL. Project Engineer. The proposed treatment facilities at the Alexander Avenue Water Management Site have been designed to treat up to 4.0 million gallons per day (MGD) average annual daily flow stormwater and in the future, surface water to comply with Florida Department of Environmental Protection public access reuse standards. The overall project (Project 4A and 4B) included a surface water intake and pump station on Lake Monroe, 24-inch transmission main to the Alexander Avenue Water Management Site, storage for raw surface water and stormwater, treatment consisting of coagulation and flocculation pretreatment, sedimentation, filtration, disinfection, and finished water storage. The project was funded by the Florida Department of Environmental Protection and St. Johns River Water Management District grants and a state-revolving fund (SRF) loan.

Saxon Boulevard Stormwater Forcemain, City of Deltona, FL. Project Engineer and Engineer of Record. Designed 14,000 linear feet of 20-inch raw water forcemain, stormwater ponds, and yard piping to pump stormwater from a future vault that will collect water from the FDOT I-4 beyond-the-ultimate project to the City's Alexander Avenue water management site. Performed a preliminary design of the stormwater vault, pumps, and forcemain, as well as obtained an Environmental Resource Permit through St. Johns River Water Management District.

GIS

education:
AA, University of Florida, 1995

years of experience:
23

years with Tetra Tech:
16

TETRA TECH

Alex Montalvo

Mr. Montalvo has over 23 years of data analytics, Geographical Information Systems (GIS) and asset management experience. He currently serves as the GIS Group Manager and has been instrumental in the expansion of GIS services offered by Tetra Tech. A key component of his job function is to coordinate and integrate GIS with engineering practices. GIS is a tremendous benefit to all disciplines in its ability to analyze and exhibit complex data, and its ability to place this information in the hands of key decision makers.

Experience

Water, Wastewater, & Reclaimed Water Master Planning, Miami-Dade County, FL. GIS Analyst. Serves to identify and quantify water, wastewater, and reclaimed demands throughout existing and potential service areas. This effort includes identifying unserved areas, projecting demands, and developing alternatives for future utility service connections. Existing utility assets from other owners in the county are analyzed to identify any potential conflicts. In addition to utility data, detailed analysis of planning datasets such as zoning, special districts, and existing and future land uses are performed as well.

Water Main Replacement Program, City of Hollywood, FL. GIS Analyst. GIS services associated with the design, permitting, and construction administration services on multiple projects concurrently. To date, the program includes over 225,000 LF (42 miles) of water main replacement, over 1,000 service connections, new fire hydrants, conflict resolution for numerous underground and overhead utilities, permitting through multiple regulatory agencies, and construction within schedule and budget.

PortMiami Hydraulic Analysis and Upgrades Recommendations, Miami-Dade Water and Sewer Department (WASD), FL. GIS Analyst. The WASD requested that Tetra Tech assist in preparing a multi-year capital plan for PortMiami, which necessitated extensive coordination with the Seaport and Water and Sewer Departments. A substantial amount of field work conducted by Tetra Tech was successfully coordinated with MDWASD, PortMiami, equipment manufacturers, and others, without impacting any cruise or cargo operations on one of the busiest Ports in the world. Existing infrastructure data was analyzed and prepared for Hydraulic Modeling effort including the identification of existing asset locations for installation of calibration and monitoring equipment.

ELECTRICAL & INSTRUMENTATION

David Burger, PE

Mr. Burger has 32 years of experience in the design of electric power, controls, instrumentation, SCADA, telemetry, fire alarm, lighting, lightning protection, grounding, and gas detection for water/wastewater, commercial, industrial, and military projects working for municipal, state and federal, commercial and industrial clients. His experience includes lift stations, master pump stations, reverse osmosis, and surface and well water treatment as well as CSO and waste water treatment.

education:
BS, Electrical Engineering, Gannon University, 1997

years of experience:
32

years with Tetra Tech:
6

certifications:
Professional Engineer: Florida, No. 47146

TETRA TECH

Experience

Reverse Osmosis Water Treatment Plant, City of Punta Gorda, FL. Senior Electrical Engineer. Services to be provided for the project include pilot testing, final design, permitting, and construction administration for the proposed 4.0 MGD expandable to 8.0 MGD reverse osmosis treatment facilities. The proposed improvements include conversion of two existing ASR wells to be used for RO supply wells and construction of an on-site deep injection well. The proposed RO treatment facilities will be located on undeveloped land at the existing surface water treatment plant site.

Alternative Water Supply Project, City of Tarpon Springs, FL. Electrical Engineer. Tetra Tech provided preliminary engineering, final design, permitting, and construction administration. The new alternative water supply project consists of raw water supply wells and a new reverse osmosis water treatment plant capable of delivery up to 6.4 MGD on a maximum day average daily demand basis. This project includes the design, permitting, and construction for a new 5.0 MG ground storage tank and associated high service pump station.

Reclaimed Water Storage and Pumping Facility, City of Tarpon Springs, FL. Electrical engineer for a new remote reclaimed water storage and pumping facility, consisting of 5.0 MG tank and 5.2 MGD high service pump station located at a city municipal golf course to help manage and expand the reclaimed water system, meet water conservation goals, and decrease discharge to surface water. Provided preliminary engineering, final design, cost estimating, and permitting services. Worked with City to provide design meeting City's current and future needs while keeping construction costs within budget limits. Project also included approximately 2,000 feet of parallel 16-inch ductile iron transmission pipelines including jack and bore installation under county road.

STRUCTURAL

education:

MS, Civil Engineering, University of Central Florida, 2005

BS, Civil Engineering, University of Central Florida, 2003

years of experience:

15

years with Tetra Tech:

15

certifications:

Professional Engineer: Florida, No. 69879

Structural Engineer: Illinois, No. 081007184

Model Law Structural Engineer, No. 47938

TETRA TECH

Jason Burkett, PE, SE, MLSE

Mr. Burkett is a structural engineer who is experienced with many structural systems including composite steel, prestressed/precast concrete, concrete framing, steel framing, masonry, timber, tilt-up concrete panels, light-gauge steel, and aluminum. He has completed projects for water treatment facilities, federal government, Department of Defense, municipal, industrial, commercial, residential, health care, education, aviation, marine construction, performing arts, roofing components, hurricane shelters, high-velocity hurricane zones, renovations, additions, and investigations.

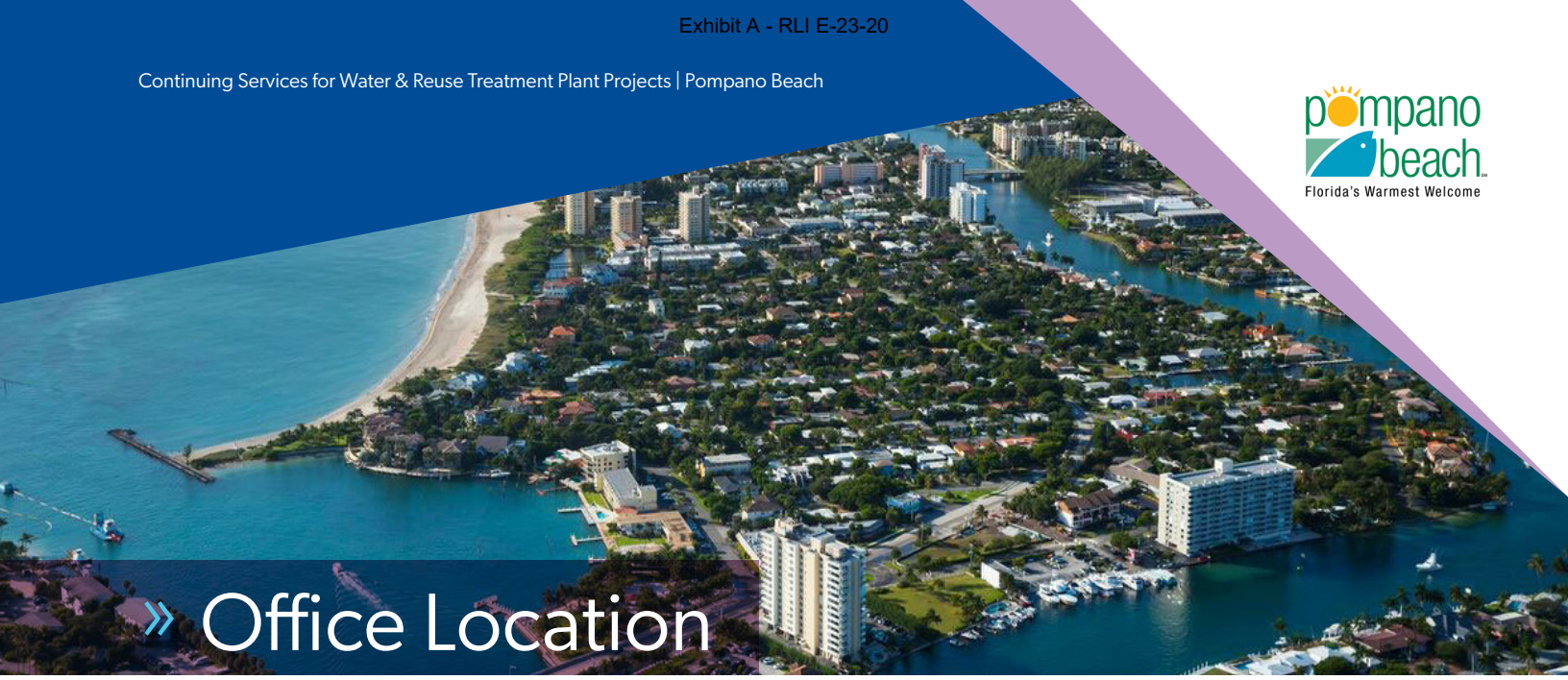
Experience

Hardening Projects, City of Pompano Beach, FL. Engineer of Record. Provided design drawings for five existing buildings to be strengthened to meet the current hurricane wind forces. The buildings were constructed from 1960 through 1988 and are critical to the communities' drinking water supply and need to remain operational during and after a major storm event. The existing drawings were reviewed, and a field investigation was performed to verify the information on the record drawings and document as-built information that were not available. After the investigation phase, a retrofitting design was performed to strengthen the buildings for 180 mph design wind speeds.

SW Reverse Osmosis WTP Odor Control Stack Replacement, City of Cape Coral, FL. Structural QA/QC Review. Responsible for replacing odor control stacks with new 70-foot-tall stacks for improved dispersion and air quality. Structural design included new mat foundations for the odor stacks and new aluminum frame for the air ducts.

Clearwater Groundwater Replenishment Facility, City of Clearwater, FL. Structural Engineer. Structural design included a main process building, administration building, pretreatment basin, well pads, pump stations, and bulk chemical storage at the groundwater replenishment facility.

Tarpon Springs Reverse Osmosis Water Treatment Plant, Tarpon Springs, FL. Lead Structural Engineer. Responsible for the design of all the process structures and buildings for the new reverse osmosis water treatment plant.



» Office Location

OVERVIEW

Tetra Tech will manage and perform work under this contract from our Hollywood (4601 Sheridan Street, Suite 212; Hollywood, FL 33021) office which is located approximately 18 miles from the City of Pompano Beach Public Works. We will also utilize our nearby Miami office (6303 Blue Lagoon Dr. Ste. 305; Miami, FL 33126) as well as our southeastern design center located in Orlando. We serve surrounding municipalities from this location and find that the close proximity allows our team to provide cost-effective services while maintaining strict schedule time frames. Our Project Manager, Jennifer Ribotti, will facilitate coordination and good communication between the Tetra Tech team and City staff, which is essential to successfully completing any project.

Additionally, the key personnel assigned to this project have a strong local presence and established relationships with local regulatory agencies. We understand the importance of providing local services and we are available to interface with the City staff on a daily basis throughout the duration of this contract. The table below shows the number of full time professional and administrative staff that is maintained by Tetra Tech offices in South Florida, throughout Florida and company-wide, in addition to the local offices for our subconsultants.

BY THE NUMBERS

Tetra Tech - Hollywood, FL Office	**10**
South Florida Tetra Tech Employees	**52**
State of Florida Tetra Tech Employees	**721**
Total Tetra Tech Employees	**20,000+**
Keith & Associates - Pompano Beach Office	**145**
Pace Analytical Services - Pompano Beach Office	**72**
JLA Geosciences - Jupiter Office	**12**
The Chappell Group - Pompano Beach Office	**7**

» Local Businesses

LOCAL BUSINESS EXHIBIT "A"
CITY OF POMPANO BEACH, FLORIDA
LOCAL BUSINESS PARTICIPATION FORM

Solicitation Number & Title: E-23-20 CONTINUING CONTRACT FOR ENGINEERING SERVICES FOR WATER AND REUSE TREATMENT PLANT PROJECTS

Prime Contractor's Name: Tetra Tech, Inc.

Name of Firm, Address	Contact Person, Telephone Number	Type of Work to be Performed/Material to be Purchased	Contract Amount or %
Keith & Associates: 301 E Atlantic Blvd, Pompano Beach, FL 33060	Alex Lazowick, 954.788.3400	Civil Engineering, Surveying & Mapping	5%
Pace Analytical: 3610 Park Central Blvd N, Pompano Beach, FL 33064	Nick Rachell, 954.459.7660	Water Quality Analysis	5%
JLA Geosciences: 1907 Commerce Ln Suite 104, Jupiter, FL 33458	James Anderson 561.758.2475	Water Supply and Hydrogeology	5%
The Chappell Group: 714 E McNab Rd Pompano Beach, FL 33060	Tyler Chappell, 954.782.1908	Environmental Consulting	5%

LOCAL BUSINESS EXHIBIT "A"

LOCAL BUSINESS EXHIBIT "B"
LOCAL BUSINESS
LETTER OF INTENT TO PERFORM AS A LOCAL SUBCONTRACTOR

Solicitation Number E-23-20

TO: Tetra Tech, Inc.
(Name of Prime or General Bidder)

The undersigned City of Pompano Beach business intends to perform subcontracting work in connection with the above contract as (check below)

_____ an individual
x a corporation
_____ a partnership
_____ a joint venture

The undersigned is prepared to perform the following work in connection with the above Contract, as hereafter described in detail:

civil engineering, surveying & mapping

at the following price: TBD

8/4/2020
(Date)

Keith and Associates, Inc., dba KEITH
(Print Name of Local Business Contractor)
301 E. Atlantic Boulevard
(Street Address)
Pompano Beach, FL 33060
(City, State Zip Code)
BY: _____
(Signature)

IMPORTANT NOTE: Signatures on this form MUST be by an authorized employee of Subcontractor and must be uploaded to the Response Attachment Tab

LOCAL BUSINESS EXHIBIT "B"

LOCAL BUSINESS EXHIBIT "B"
LOCAL BUSINESS
LETTER OF INTENT TO PERFORM AS A LOCAL SUBCONTRACTOR

Solicitation Number E-23-20

TO: Tetra Tech, Inc.
(Name of Prime or General Bidder)

The undersigned City of Pompano Beach business intends to perform subcontracting work in connection with the above contract as (check below)

_____ an individual __X__ Limited Liability Company _____ Corporation

_____ a partnership _____ a joint venture

The undersigned is prepared to perform the following work in connection with the above Contract, as hereafter described in detail:

Laboratory Analytical Testing Services

at the following price: _____

08/04/2020
(Date)

Pace Analytical Services , LLC
(Print Name of Local Business Contractor)

3610 Park Central Blvd. N
(Street Address)

Pompano Beach, FL 33064
(City, State Zip Code)

BY: _____
(Signature)

IMPORTANT NOTE: Signatures on this form MUST be by an authorized employee of Subcontractor and must be uploaded to the Response Attachment Tab

LOCAL BUSINESS EXHIBIT "B"

LOCAL BUSINESS EXHIBIT "B"
LOCAL BUSINESS
LETTER OF INTENT TO PERFORM AS A LOCAL SUBCONTRACTOR

Solicitation Number E-23-20

TO: Tetra Tech, Inc.
(Name of Prime or General Bidder)

The undersigned City of Pompano Beach business intends to perform subcontracting work in connection with the above contract as (check below)

_____ an individual
__X__ a corporation
_____ a partnership
_____ a joint venture

The undersigned is prepared to perform the following work in connection with the above Contract, as hereafter described in detail:

Water supply and hydrogeology as related to the RLI

at the following price: Unknown at this time, due to general nature of the RLI

August 4, 2020
(Date)

JLA Geosciences, Inc.
(Print Name of Local Business Contractor)

1907 Commerce Lane, Suite 104
(Street Address)

Jupiter, FL 33458
(City, State Zip Code)

BY: _____
(Signature)

IMPORTANT NOTE: Signatures on this form MUST be by an authorized employee of Subcontractor and must be uploaded to the Response Attachment Tab

LOCAL BUSINESS EXHIBIT "B"

LOCAL BUSINESS EXHIBIT "B"
LOCAL BUSINESS
LETTER OF INTENT TO PERFORM AS A LOCAL SUBCONTRACTOR

Solicitation Number E-23-20

TO: Tetra Tech, Inc.
(Name of Prime or General Bidder)

The undersigned City of Pompano Beach business intends to perform subcontracting work in connection with the above contract as (check below)

_____ an individual
✓ a corporation
_____ a partnership
_____ a joint venture

The undersigned is prepared to perform the following work in connection with the above Contract, as hereafter described in detail:

Environmental Consulting Services

at the following price: TBD

August 4, 2020
(Date)

The Chappell Group, Inc.
(Print Name of Local Business Contractor)

714 E. McNab Road
(Street Address)

Pompano Beach, FL 33060
(City, State Zip Code)

BY: _____
(Signature)
Tyler Chappell, V.P.

IMPORTANT NOTE: Signatures on this form MUST be by an authorized employee of Subcontractor and must be uploaded to the Response Attachment Tab

LOCAL BUSINESS EXHIBIT "B"

LOCAL BUSINESS EXHIBIT "C

LOCAL BUSINESS
UNAVAILABILITY FORM

BID # E-23-20

I, Charles Drake, PG, Vice President
(Name and Title)

of Tetra Tech, Inc., certify that on the 10th day of

August, 2020, I invited the following LOCAL BUSINESSES to bid work items to be performed in the City of Pompano Beach:

Business Name, Address	Work Items Sought	Form of Bid Sought (i.e., Unit Price, Materials/Labor, Labor Only, etc.)
N/A - ALL FIRMS TETRA TECH REACHED OUT TO WERE AVAILABLE		

Said Local Businesses:

___ Did not bid in response to the invitation

___ Submitted a bid which was not the low responsible bid

__x__ Other: all firms accepted

Name and Title: Charles Drake, PG, Vice Presidnet

Date: 08/10/2020

Note: Attach additional documents as available.

LOCAL BUSINESS EXHIBIT "D"
GOOD FAITH EFFORT REPORT
LOCAL BUSINESS PARTICIPATION

BID # E-23-20

1. What portions of the contract have you identified as Local Business opportunities?

Civil Engineering, Surveying & Mapping

Water Quality Analysis

Water Supply and Hydrogeology

Environmental Consulting

2. Did you provide adequate information to identified Local Businesses? Please comment on how you provided this information.

Yes, by email

3. Did you send written notices to Local Businesses?

____ Yes __x__ No

If yes, please include copy of the notice and the list of individuals who were forwarded copies of the notices.

4. Did you advertise in local publications?

____ Yes __x__ No

If yes, please attach copies of the ads, including name and dates of publication.

5. What type of efforts did you make to assist Local Businesses in contracting with you ?

Prior established relationships of working together

7. List the Local Businesses you will utilize and subcontract amount.

Keith & Associates $ As needed

Pace Analytical $ As needed

JLA Geosciences $ As needed

8. Other comments: The Chappel Group $ As needed

» Litigation

In the normal course of business, Tetra Tech, Inc. is subject to certain claims and lawsuits typically filed against the engineering and consulting professions, including contractual disagreements, workers' compensation, personal injury and other similar lawsuits. Tetra Tech maintains insurance coverage for its business and operations, subject to certain deductibles and policy limits against such claims. As described in Tetra Tech's most recent quarterly and annual reports filed with the U.S. Securities and Exchange Commission, Tetra Tech believes that the resolution of any such claims will not have a material effect on its financial position or results of operations.

L00421 | HRK Holdings v. Ardaman
Date Opened: 01/10/13

Plaintiff: HRK Holdings, LLC
Defendant: Ardaman & Associates, Inc.
Case Number: 2013-CA-000098-0
Date Filed: 01/07/13
Court: Circuit Court, Manatee County, FL, Civil Division
Cause of Action: Breach of Contract, Negligence
Disposition of Case: Ongoing

L00491 | Regions Bank v. Ardaman
Date Opened: 10/16/15

Plaintiff: Regions Bank D/B/A Regions Mortgage
Defendant: Ardaman & Associates, Inc.
Case Number: 2015CA011328
Date Filed: 10/7/15
Court: Circuit Court, 15th Circuit, Palm Beach County, FL
Cause of Action: Foreclosure litigation
Disposition of Case: Closed

L00508 | Callaway Marine Tech. v. Tetra Tech
Date Opened: 03/16/16

Plaintiff: Callaway Marine Technologies, Inc.
Defendant: Tetra Tech, Inc.
Case Number: 1:16-cv-20855-DPG
Date Filed: 3/9/16
Court: U. S. District Court for the Southern District of Florida, Miami Division
Cause of Action: Contract Indebtedness
Disposition of Case: Closed

L00516 | Aanya Hospitality v. Tetra Tech
Date Opened: 7/8/16

Plaintiff: Aanya Hospitality, Inc.
Defendant: Tetra Tech, Inc.
Case Number: 2016-CA-550
Date Filed: 5/24/16
Court: Circuit Court, Fourth Judicial Circuit, in and for Clay County, FL
Cause of Action: Breach of Contract
Disposition of Case: Settled

L00517 | Phoenix Building Corp v. Tetra Tech
Date Opened: 8/4/16

Plaintiff: Phoenix Building Corp SE
Defendant: Tetra Tech, Inc.
Case Number: 16-2016-CA-004896-XXXX-MA
Date Filed: 7/25/16
Court: Circuit Court of the 4th Judicial Circuit in and for Duval County, FL
Cause of Action: Breach of Contract
Disposition of Case: Settled

L00527 | Two City Plaza Condo. Assoc. v. Ardaman
Date Opened: 10/21/16

Plaintiff: Two City Plaza Condominium Association, Inc.
Defendant: Ardaman & Associates, Inc.
Case Number: 50-2016-CA-011149-XXX-MB
Date Filed: 10/18/16
Court: Circuit Court of the 15th Judicial Circuit, Palm Beach County, FL
Cause of Action: Negligence
Disposition of Case: Dismissed

L00528 | Phoenix Building Corp SE v. Tetra Tech
Date Opened: 10/31/16

Plaintiff: Phoenix Building Corp SE
Defendant: Tetra Tech, Inc.
Case Number: 2016-ca-009194-o
Date Filed: 10/19/16
Court: Circuit Court of the 9th Judicial Circuit, Orange County, FL
Cause of Action: Breach of Contract
Disposition of Case: Closed

L00532 | Chubb Custom Insurance Co. v. Ardaman
Date Opened: 12/16/16

Plaintiff: Chubb Custom Insurance Company as subrogee of First Church of Christ Scientist
Defendant: Ardaman & Associates, Inc.
Case Number: 2016-031146-CA-01
Date Filed: 12/08/16
Court: Circuit Court of the 11th Judicial Circuit in and for Miami Dade County, Florida
Cause of Action: Negligence
Disposition of Case: Closed

PL00004 | Barcelona I Condominium Assoc. v. Ardaman
Date Opened: 07/17/17

Plaintiff: Barcelona I Condominium Association, Inc.
Defendant: Ardaman & Associates, Inc.
Case Number: 17-12847 CA 09
Date Filed: 05/26/17
Court: 11th Judicial Circuit, Miami Dade County, Florida
Cause of Action: Negligence
Disposition of Case: Dismissed, Reopened, Closed 9/19/18

PL00008 | Cecilia Sed et al. v. Ardaman
Date Opened: 08/08/17

Plaintiff: Cecilia Sed and Jorge Sed
Defendant: Ardaman & Associates, Inc.
Case Number: 17-CA-7271
Date Filed: 08/02/17
Court: Hillsborough County, Florida
Cause of Action: Negligence, Breach of Contract
Disposition of Case: Ongoing

» City Forms

COMPLETE THE PROPOSER INFORMATION FORM ON THE ATTACHMENTS TAB IN THE EBID SYSTEM. PROPOSERS ARE TO COMPLETE FORM IN ITS ENTIRITY AND INCLUDE THE FORM IN YOUR PROPOSAL THAT MUST BE UPLOADED TO THE RESPONSE ATTACHMENTS TAB FOR THE RFP IN THE EBID SYSTEM.

PROPOSER INFORMATION PAGE

RFP E-23-20 (number), CONTINUING CONTRACT FOR ENGINEERING SERVICES FOR WATER AND REUSE TREATMENT PLANT PROJECTS (RFP name)

To: The City of Pompano Beach, Florida

The below named company hereby agrees to furnish the proposed services under the terms stated subject to all instructions, terms, conditions, specifications, addenda, legal advertisement, and conditions contained in the RFP. I have read the RFP and all attachments, including the specifications, and fully understand what is required. By submitting this proposal, I will accept a contract if approved by the City and such acceptance covers all terms, conditions, and specifications of this proposal.

Proposal submitted by:

Name (printed) Charles Drake, PG Title Vice President

Company (Legal Registered) Tetra Tech, Inc.

Federal Tax Identification Number 95-4148514

Address 201 E Pine St. Suite 1000

City/State/Zip Orlando, FL 32801

Telephone No. 407-480-3912 Fax No. 407-839-3790

Email Address charles.drake@tetratech.com

TIER 1/TIER 2 COMPLIANCE FORM

IN ORDER FOR YOUR FIRM TO COMPLY WITH THE CITY'S LOCAL BUSINESS PROGRAM AS A TIER 1 OR TIER 2 VENDOR, BIDDERS MUST COMPLETE THE INFORMATION BELOW AND UPLOAD THE FORM TO THE RESPONSE ATTACHMENTS TAB IN THE EBID SYSTEM.

TIER 1 LOCAL VENDOR

_____ My firm has maintained a permanent place of business within the city limits and maintains a staffing level, within this local office, of at least 10 % who are residents of the City of Pompano Beach.

And/Or

_____ My firm has maintained a permanent place of business within the city limits and my submittal includes subcontracting commitments to Local Vendors Subcontractors for at least 10 % of the contract value.

Or

__x__ My firm does not qualify as a Tier 1 Vendor.

TIER 2 LOCAL VENDOR

_____ My firm has maintained a permanent place of business within Broward County and maintains a staffing level, within this local office, of at least 15% who are residents of the City of Pompano Beach

And/Or

__x__ My firm has maintained a permanent place of business within Broward County and my submittal includes subcontracting commitments to Local Vendors Subcontractors for at least 20% of the contract value.

Or

_____ My firm does not qualify as a Tier 2 Vendor.

I certify that the above information is true to the best of my knowledge.

July 30, 2020
(Date)

Tetra Tech, Inc.
(Name of Firm)

BY: Charles W. Drake
(Name)
Charles (Chuck) Drake, PG

BIDDERS ARE TO COMPLETE FORM AND UPLOAD COMPLETED FORM TO THE EBID SYSTEM

EXHIBIT E

MINORITY BUSINESS ENTERPRISE PARTICIPATION

RLI # E-23-20

List all members of your team that are a certified Minority Business Enterprise (as defined by the State of Florida.) You must include copies of the MBE certificates for each firm listed with your electronic submittal.

Name of Firm	Certificate Included?
The Chappell Group	Y

State of Florida

Woman Business Certification

The Chappell Group

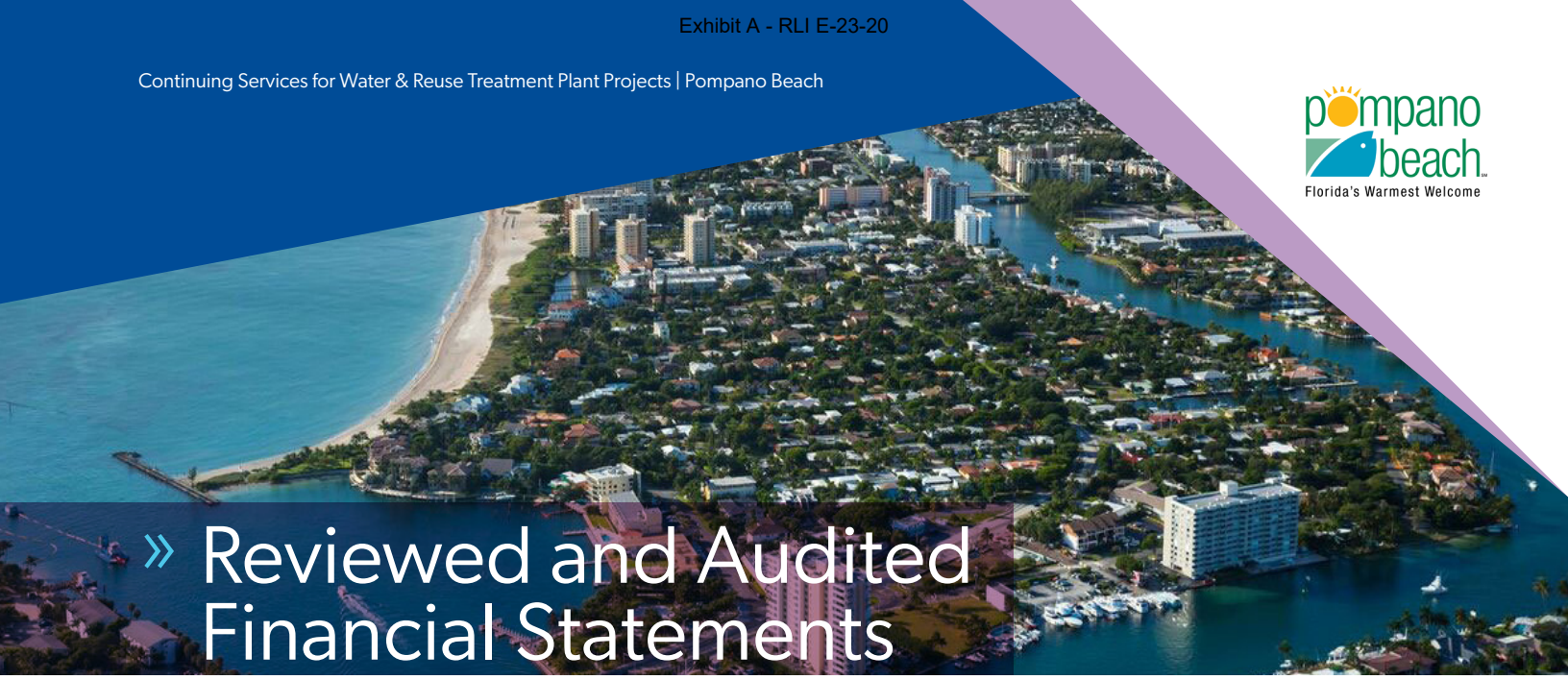
Is certified under the provisions of
287 and 295.187, Florida Statutes, for a period from:

10/28/2019 to 10/28/2021

Jonathan R. Satter, Secretary
Florida Department of Management Services

Department of MANAGEMENT SERVICES
Office of Supplier Diversity

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



» Reviewed and Audited Financial Statements

Tetra Tech's most recent audited financial statements, indicating our organization's financial condition was uploaded as a separate document to Pompano's eBid system. Per the RLI instructions, the document was marked "Financial Statements" and "Confidential."

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ADDRESS
4601 Sheridan Street, Suite 212
Hollywood, FL 33021

TELEPHONE
954.364.1752

WEBSITE
tetratech.com

TETRA TECH

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