TASK ORDER NO. 04

Dated this _____ day of _____, 2016

FORT LAUDERDALE PUBLIC WORKS DEPARTMENT

PUMP STATIONS D-10 and D-11 FLOW ANALYSIS AND REDESIGN PROJECT

PROFESSIONAL SERVICES

This Task Order between the CITY of Fort Lauderdale, a Florida municipal corporation ("CITY") and Tetra Tech, Inc., a Delaware corporation authorized to transact business in Florida, ("CONSULTANT") is pursuant to the 626-10881 Consulting Services Agreement dated November 6, 2012 and expiring on November 5, 2016 ("MASTER AGREEMENT").

PROJECT BACKGROUND

The CITY contacted the CONSULTANT to evaluate and design improvements to Pump Stations D-10, on Isle of Venice, and D-11, on Hendricks Isle. Theses pump stations collect and pump wastewater from the respective gravity sewer systems into existing 6-inch diameter force mains, which connect to existing gravity system manholes on East Las Olas Boulevard. The purpose of this task order is to:

1. Estimate the service area wastewater flows to each existing pump station, which may be inadequately sized to handle increases in densities from development of multifamily (MF) condominiums/townhomes/apartments since the stations were put into operation.

2. Determine future service area flows to the pump stations based on current zoning and potential future development within the basin of each station.

3. Review existing information related to the current conditions and use of the pump stations.

4. Evaluation for replacement of the existing duplex pump stations and associated pump station electrical equipment within the CITY's right-of-way.

5. Provide survey, engineering design, permitting, bidding and construction administration services to replace the existing duplex pump stations, if it is determined that the existing station is not adequate to handle the existing/projected flows and a new station needs to be proposed.

Exhibit A depicts the approximate project areas.

If, after the evaluations of Pump Stations D-10 and D-11 are completed, and it is determined that they require replacement, conceptual plans for bypass of the existing pump stations are included in this scope. However, prior to construction, the selected Contractor(s) will be required to provide a detailed and specific plan showing their proposed bypass operations for approval by the CITY and CONSULTANT.

The CITY owns and operates various water, wastewater and stormwater utility infrastructure within the right-of-ways (ROWs). Other existing utilities that typically share the right-of-way include power, telephone, cable, gas, and others. The CITY would like to implement the pump stations improvements while avoiding relocation of existing utilities. However, due to the limited ROW available for the lift station siting, this may not be obtainable. Therefore, the consultant will coordinate with utility owners if it is determined that portions of the utility will need to be relocated in order to accommodate the proposed improvements. During the evaluation and design process, the CONSULTANT will determine which utilities will require relocation for the installation of the proposed improvements.

The CONSULTANT shall review CITY, County, and State records, data and/or other documentation available to determine other restrictions that may affect the project.

GENERAL REQUIREMENTS

DESIGN STANDARDS

The CONSULTANT shall be solely responsible for determining the standards the work shall meet to obtain all the requisite regulatory approvals. The design shall include, but is not limited to, the plans and specifications, which describe all systems, elements, details, components, materials, equipment, and any other information necessary for construction. The design shall be accurate, coordinated between disciplines, and in all respects, adequate for construction, and shall be in conformity, and compliance, with all applicable laws, codes, permits, and regulations.

QUALITY CONTROL

The CONSULTANT is responsible for the quality control (QC) of their work and of its sub-consultants. The CONSUTLANT shall provide to the CITY the list of sub-consultants which shall be used for this project. This list shall not be changed without prior approval of the CITY. All sub-consultant documents and submittals shall be submitted directly to the CONSULTANT for their independent QC review. The CITY shall only accept submittals for review and action from the CONSULTANT.

The CONSULTANT shall be responsible for the professional quality, technical accuracy, and coordination of all pre-design services, designs, drawings, specifications, and other services furnished by the CONSULTANT and their sub-consultant(s). It is the CONSULTANT's responsibility to independently and continually QC their plans, specifications, reports, electronic files, progress payment applications, schedules, and all project deliverables required by this task order. The CONSULTANT shall provide the CITY with a marked up set of plans and/or specifications showing the CONSULTANT's QC review. Such mark-ups shall accompany the CONSULTANT's scheduled deliverables. The submittal shall include the names of the CONSULTANT's staff that performed the QC review for each component (structures, roadway, drainage, etc.).

PROJECT SCHEDULE

The CONSULTANT shall submit a preliminary project schedule as an exhibit of this task order (Exhibit C). The schedule shall be prepared in Microsoft Project, and shall utilize an estimated Notice-to-Proceed (NTP), based on best available information.

The CONSULTANT shall submit a final project schedule to the CITY, for approval, within 10 business days after receiving the NTP and prior to beginning work. No work shall commence without an approved

schedule. The final schedule shall include design, permitting activities, submittal review timeframes, and other project activities as required to complete the work. The CONSULTANT shall submit updated project schedules as required in the specific scope of services.

PERMITTING

The CONSULTANT shall coordinate with the CITY, regulatory agencies, and any other government entity having jurisdiction, which may require permits for this project. The CONSULTANT shall provide an estimate of fees and duration associated with the permitting process. Some of the regulatory or permitting agencies associated with this project include, but are not limited to:

- Broward County Department of Health (BCDOH)
- Broward County Environmental Protection and Growth Management Department (BCEPGMD)
- Broward County Environmental Licensing and Building Permitting (Dry Run/ pre-application submittal)
- CITY' s Department of Sustainable Development (DSD)

SCOPE OF SERVICES

This task order will include the professional engineering and surveying services required for the evaluations and designs of the pump station improvements at Isle of Venice and Hendricks Isle.

The CONSULTANT is responsible for all work of its subconsultants and subcontractors to meet the deliverables included on this task order. The CONSULTANT shall provide the following services described in the tasks that follow:

TASK 1 – Wastewater Flow and Pump Station Evaluations Memoranda

Task 1.1 – Kick-off Meeting, Data Collection and Review

The CONSULTANT will attend and conduct a project initiation/kick-off meeting with the CITY to discuss key project features and initiate a data request for existing CITY information. The CONSULTANT will prepare meeting notes and distribute to the attendees following the meeting. Additionally, the following activities will be part of this sub-task:

1. Obtain and review existing system as-built plans, Geographic Information System (GIS)/shape files, atlases, pumps stations as-builts, hydrographs and other documents as provided by the CITY for review of existing pump stations D-10 & D-11 infrastructure and potential conflicts.

2. Perform one (1) field review of each pump station project area (Isle of Venice and Hendricks Isles) to document existing site conditions, existing above ground utility features, utilities markings (as provided by others) and other site conditions that may impact the project. During this field review, visual observations of the existing pump stations will be performed to attempt to determine their conditions and rehabilitation or replacement requirements. This field visit will be coordinated with and facilitated by CITY staff to provide access and open the pump stations vaults and covers and the gravity sewer manhole covers directly upstream of Pump Stations D-10 and D-11.

Deliverables: The following deliverables shall be provided under Task 1.1:

- Meeting notes
- Field Investigation Photos and Memoranda

Not-to-Exceed: $6,120

Task 1.2 – Existing and Future Wastewater Flows and Improvements Evaluations

The CONSULTANT will estimate the current basins' wastewater flows based on CITY gathered information for one week of VoluCalc or flow data from each pump station and existing systems curves from the CITY. In addition, an estimation of future flows will be performed based on the full build-out of the basins assuming that the current zoning (RMM-25, Residential Multi-Family Mid-Rise/Medium High Density) will remain. The CONSULTANT will utilize Broward County Code of Ordinances Section 27-201 or CITY Standards, which ever criteria is more conservative, to estimate the maximum expected flows from the users. In addition, the CONSULTANT may also correlate the estimated per capita wastewater flows during wet and dry weather relative to the estimated pump stations flows, utilizing customer water billing data provided by the CITY. The CITY will provide available data in electronic formats (Word or Excel) for the analyses. Because the future flow estimations will be done based on build-out conditions, it is assumed that no zoning/land use changes will occur.

The CONSULTANT shall evaluate the existing lift stations wastewater flow capacities based on review of existing as-builts, pump stations curve information and flow data, draw down tests data, or run times data as provided by the CITY. The following specific activities will be performed under this sub-task:

1. Review the information identified above.

2. Review field services histories and pump station inspection reports as provided by the CITY.

3. Perform calculations to understand the relationships between the pump stations and the overall collection/transmission systems, including the tributary areas, operation, capacity requirements, and locations.

4. Estimate the current wastewater flows based on information provided by the CITY. The CONSULTANT, with customer water billing data from the CITY may also correlate the estimated per capita wastewater flows during wet and dry weather relative to the estimated pump stations flows.

5. Estimate future wastewater flows assuming build-out conditions based on present zoning. Broward County Code of Ordinances Section 27-201 or CITY Standards will be used for this estimation. It is assumed that the projected wastewater flows will suffice for future lift stations performances.

6. Estimate the capacities of the influent gravity lines considering wet wells storage volumes, CITY standards, and generally accepted engineering practice to ascertain the ability of the wet wells to accommodate the design flows. Subsequently, documenting the capacities and

operational conditions for the pump stations and provide up to three (3) pump curve selections, for each pump station, based on CITY preferred manufacturer(s) feedback.

7. Identify and develop alternatives for the pump stations regarding locations, capacities, and replacement options. The scope and fee are based on two (2) siting alternatives for each station and assume that the CITY will require the stations to be placed within existing ROW limits and no property will be acquired. It should be noted that temporary construction easements may be necessary to be secured for constructability of the pump stations and this proposal excludes services related to construction easements beyond identifying where they may be required and their approximate limits.

8. Prepare Wastewater Flow and Pump Station Evaluation Memorandum (WFPSEM) for each pump station, which will include, but is not limited to, the following:

   a. Background
   b. Data collection summary
   c. Existing conditions
   d. Existing and future wastewater flows
   e. Existing system capacity evaluation
   f. Capacity requirements and associated flow calculations
   g. Pump station siting options (2)
   h. Proposed pump station recommendations for pump and wet well sizing, pump curves, rehabilitation options, and sea-level rise considerations (if applicable).
   i. Utility and construction considerations
   j. Opinion of probable construction costs for selected site
   k. Appendices with site photos and background information, design calculations for pump sizing, etc.

9. Meet with the CITY to discuss the WFPSEMs and obtain CITY feedback/comments. Prepare and distribute meeting summary and comments list.

10. Revise and finalize the WFPSEMs, based on CITY comments.

Deliverables: The following deliverables shall be provided under Task 1.2:

- Meeting notes
- Draft WFPSEM for each pump station
- Final WFPSEM for each pump station

Not-to-Exceed: $41,075

TASK 2 - Final Design, Permitting, Bidding and Construction Administration Services

Task 2 is an optional task and all subtasks within Task 2 will not commence until authorized and requested by the CITY in writing. The CITY will issue a separate notice to proceed for Task 2. It is possible that not all services described under Task 2 will be required and are dependent on the findings and recommendations of Task 1.

Task 2.1 – Surveying

Surveying services will be performed by F.R. Aleman (Surveyor) and shall provide a topographic survey around each existing pump station right of way site, extending approximately 100 feet in each direction.

All survey work will comply at all times with the Standards and Practice for Surveying and Mapping, according to Chapter 5J-17.052 of Florida Administrative Code, as adopted by the Board of Professional Surveyors, Chapter 472, Florida Statutes and CITY of Fort Lauderdale Standards.

Surveying will consist of the following:

1. Full topographic survey of each existing pump station right of way site, extending 100 feet in each direction.

2. Horizontal control will be referenced to the State Plane Coordinate System, Florida East Zone North American Datum NAD83/90. Vertical control will be referenced to North American Vertical Datum 1988 (NAVD88)

3. Rim, top and invert elevations of existing sanitary sewer manholes, drainage culverts, manholes and catch basins within the survey site will be provided.

Deliverables: The following deliverables shall be provided under Task 2.1:

- One (1) CD with electronic copies of the Topographic Survey in Civil3D format and PDF format
- Two (2) signed and sealed original copy of the Topographic Survey

Not-to-Exceed: $9,809

Task 2.2 – Utilities Evaluation and Subsurface Utility Evaluations

The CONSULTANT will perform utility evaluation for the existing power, telecommunication, cable television, gas, water, sewer, drainage, and other identified facilities within the area of the existing pump station or potential relocation sites. The following activities will be part of this sub-task:

1. Coordinate with Sunshine State One Call of Florida (SSOCOF) to open Design Tickets. Contact all existing utilities provided by SSOCOF and submit sketches of the proposed work to obtain available atlas, mark-ups, records, as-builts, etc.

2. Subsurface Utility Evaluations (SUE): Up to eight (8) test holes. Reports will include a data sheet for every test hole performed and a summary table of verified utility detailing the test hole information, including the top and bottom of pipe elevations of the utilities being evaluated.

3. Depict the locations of the existing underground utilities based on the records received, by using the above ground visible features (i.e. valves, manhole covers, inlets) to approximate the locations of the utilities. The horizontal locations of tie-ins will be approximated, to the extent possible, based on the limited information provided and above ground visible features within the right-of-way. The vertical locations for sewers will be approximated, to the extent possible, based on invert elevations at manholes and inlets, if accessible, etc. Vertical locations for services and laterals will be assumed based on CITY standards.

Deliverables: The following deliverables shall be provided under Task 2.2:

- Meeting notes
- Design ticket information
- Utility Matrices (in Excel format)

Not-to-Exceed: $10,555

Task 2.3 – Geotechnical Investigations

Ardaman & Associates, Inc. will perform geotechnical engineering evaluations and subsurface explorations to facilitate design and construction of the proposed pump stations. The scope for the geotechnical investigation provided in Exhibit B includes the following:

1. At each pump station site, one (1) 25-foot deep Standard Penetration Test auger boring for determination of soil conditions in the area where the wet well will be installed.

2. Associated laboratory testing and office analysis.

3. Report preparation for each pump station site shall include soil borings logs and classifications, existing groundwater levels, estimated seasonal high levels, trench and backfill requirements, and roadway reconstruction requirements.

4. Project vicinity map, plan view showing the location of boring(s), basis and results of tests performed, detailed description of findings, and recommendations.

Deliverables: The following deliverables shall be provided under Task 2.3:

- Geotechnical Report

Not-to-Exceed: $4,065

Task 2.4 – 60 Percent Design Plans and Specifications

The CONSULTANT will prepare 60 percent drawings, technical specifications, and estimates of probable construction costs for each pump station's rehabilitation. Based on the WFPSEMs, the preferred pump station improvements will be designed using the CITY's standard pump station details, electrical control panel details and associated infrastructure for the force main tie-in.

The activities envisioned under this task include the following for each pump station:

1. Prepare drawings in AutoCAD based on survey and geotechnical engineering information. A preliminary list of drawings for each pump station is presented below:

    - Cover Sheet and Location Map
    - Legends, Abbreviations and General Notes
    - Pump Station Site Plan, Section, and Details (2 Sheets)
    - Lift Station Electrical and Control Panel Details (3 Sheets)
    - Bypass Plan (1 Sheet, if required)
    - Pollution Prevention Notes, Specs and Details (2 Sheets)

2. Attend a 60 percent design review meeting with CITY Engineering and Operations staff; prepare agenda, and meeting notes.

3. Prepare a 60 percent estimate of Probable Construction Cost for each pump station, based on previous bid tabulations, vendor quotes, and estimates.

4. QA/QC of plans and specifications by senior Tetra Tech review staff.

    Deliverables: The following deliverables shall be provided under Task 2.4:

    - Meeting notes
    - Three (3) sets of 60 percent design plans and technical specifications
    - Estimate of probable construction cost for each pump station

    Not-to-Exceed: $32,450

Task 2.5 – Permitting

The CONSULTANT will prepare and submit permit applications and supporting documentation necessary to obtain permits required for the two (2) pump stations to the Broward County Environmental Protection and Growth Management Department (EPGMD), Broward County Department of Health (BCDOH), and City of Fort Lauderdale Building Department for the pump station and force main replacement project. Accordingly, the CONSULTANT will perform the following tasks for the two (2) pump stations together to obtain permits simultaneously for both pump stations:

1. Prepare and submit one (1) "Notification/Application for Constructing a Domestic Wastewater Collection/Transmission System" [DEP Form 62-604.300(8) (a))] and one (1) "Application to Construct a Wastewater Collection/Transmission System" [Broward County Domestic Wastewater

Licensing Program Form] to the EPGMD and respond to up to two (2) "Requests for Additional Information" (RAI) issued by the regulatory agency or two (2) teleconferences with agency staff. All permit application fees are to be paid by the CITY.

2. Prepare, submit and finalize one (1) "Request for Approval to Place a Domestic Wastewater Collection/Transmission System into Operation" [DEP Form 62-604.300(8) (b))] through the BCDOH for project certification. Clearance applications are budgeted based on receipt of a single Contractor submittal containing five (5) hardcopy sets and one (1) AutoCAD CD set of as-built drawings that depict the information required in the contract documents along with signed passing pressure test forms. Failure of the Contractor to provide the required information or submission of poor quality as-built drawings will count as an application review. Poor quality as-built drawings will be returned with comments one (1) time and subsequent reviews of poor quality as-built drawings submitted by the Contractor will be counted as one (1) application review per instance. The project manual and/or the drawings will specify the Contractor's responsibilities for submittal of acceptable as-builts and other supporting documentation requirements. In addition, it shall be clearly stipulated in the specifications that additional costs incurred due to more than one (1) review, or required due to unacceptable quality of documentation, will be the responsibility of the Contractor and at their cost.

3. Prepare and submit two (2) signed and sealed sets of plans to the CITY of Fort Lauderdale Building Department for "dry run" review and response to two (2) anticipated "Requests for Additional Information" (RAI) issued by the regulatory agency or two (2) teleconferences with agency staff. The selected Contractor will be required to obtain the building department permit.

4. All permit application fees will be provided by the CITY upon written request from the CONSULTANT.

Deliverables: The following deliverables shall be provided under Task 2.5:

- Permit application submittals
- Final approved permits

Not-to-Exceed: $14,430

Task 2.6 – 100 Percent Design Plans and Specifications

The CONSULTANT will prepare 100 percent drawings, technical specifications, and estimate of probable construction cost for each pump station's rehabilitation. The 100 percent pump station improvements submittals will incorporate the comments received from all applicable regulatory agencies including the CITY's Engineering and Operations staff, Building Department, and the EPGMD. The plans will comply with CITY AutoCAD standards. The plans will be submitted in AutoCAD's latest version at the time of notice to proceed (NTP) and PDF format. Specifications files will be submitted in Word and PDF format.

1. Prepare drawings in AutoCAD based on survey and geotechnical engineering information. A preliminary list of drawings for each pump station is presented below:

   - Cover Sheet and Location Map
   - Legends, Abbreviations and General Notes

- Pump Station Site Plan, Section, and Details (2 Sheets)
- Lift Station Electrical and Control Panel Details (3 Sheets)
- Bypass Plan (1 Sheet, if required)
- Pollution Prevention Notes, Specs and Details (2 Sheets)

2. Prepare a 100 Percent Final Estimate of Probable Construction Cost for each pump station, based on previous bid tabulations, vendor quotes, and estimates.

Deliverables: The following deliverables shall be provided under Task 2.6:

- Three (3) sets of 100 percent design plans and technical specifications
- Estimate of probable construction costs for each pump station

Not-to-Exceed: $14,170

Task 2.7 - Bidding and Award

The proposed improvements will be bid as one (1) project. Bidding and award activities will be led by the CITY. The CONSULTANT will conduct the following services during the bidding process:

1. Work with the CITY staff to provide a master copy of the Bid Set construction drawings and specifications in electronic format (PDF). It is our understanding that the CITY will be responsible for distribution of bid packages to potential bidders via online plan distribution through BidSync.

2. Attend the pre-bid meeting at the CITY, prepare agenda and notes.

3. Support with addenda. The CONSULTANT will respond to technical questions forwarded by the CITY for up to four (4) anticipated addenda as part of this scope of services. The CONSULTANT will respond to questions using the Addendum Form provided by the CITY for expedited response time and will generate necessary supporting documents, as applicable, and submit them to the CITY for distribution to registered plan holders.

4. Evaluate the bid schedules, contact and verify references, provide support for evaluation of the apparent low bidder's utilities contractor's qualifications for undertaking the utility work on the project, and provide a recommendation of award.

Deliverables: The following deliverables shall be provided under Task 2.7:

- Bid evaluation and recommendation

Not-to-Exceed: $4,360

Task 2.8 – Construction Administration

The following scope is based on six (6) months of construction / contract time and on total hours specified within for the two (2) pump stations. The scope of services to be provided is for construction observation services to include limited / periodic observation of the construction of the project. Any additional time beyond this will require an approved agreement. The CITY shall furnish and assign a Construction Project Manager and Project Inspector(s) to perform routine and periodic inspections during the course of the project construction activities. All instructions to the Contractor will be issued through the CITY's Project Manager or Inspector, in writing on an as-needed basis. During the construction phase, the CONSULTANT will, for each project:

1. Prepare conformed Contract Documents, if addenda changes were required during bidding, and attend one (1) pre-construction conference, prepare agenda and notes.

2. Periodically observe construction of the proposed improvements on key inspections as requested and authorized in writing by the CITY. The overall project construction is expected to have a total duration of up to six (6) months including project kick-off, shop drawing review and substantial and final completion. Site visits will occur after the monthly progress meetings and a total of 6 visits are anticipated. An additional two (2) key inspections/site visits have been included for observations and will be conducted as requested and authorized in writing by the CITY.

3. Attend up to six (6) monthly progress meetings. The CITY Construction Project Administrator will be responsible for preparing meeting agenda and notes for distribution.

4. Provide interpretation or clarification of the design documents during active construction (up to 6 months) when requested.

5. Review shop drawings and other submittals one (1) time per submittal subject area for general conformance with the Contract Documents. The Contract Documents will require the Contractor to pay for all additional reviews.

6. Evaluate and determine the acceptability of substitute materials and equipment proposed by the Contractor.

7. Assist the CITY's full time Project Inspector or Construction Project Manager with review of applications for payment, test reports for soils, concrete and other materials on a monthly basis.

8. Assist the CITY's Construction Project Manager to evaluate claims made by the Contractor and prepare change orders as required.

9. Conduct substantial and final completion inspections and punch lists.

10. Perform observations and recording of required pressure testing and connection to the existing force main.

11. Attend lift station start up/testing with the presence of the pump manufacturer's representative and CITY operations staff. All testing reports and documentation is to be provided to the CONSULTANT for review and adherence to pump station design criteria.

12. Review as-built drawings prepared, signed, and sealed by the Contractor's surveyor to identify deficiencies in information.

13. Finalize "Request for Approval to Place a Domestic Wastewater Collection/Transmission System into Operation" [DEP Form 62-604.300(8)(b))] permit through the BCDOH for project certification

14. The deliverables shall include DWG, PDF, WORD, EXCEL, or other relevant files in the original format as required. The drawings will comply with CITY CAD Standards. In addition, pump station start up reports will be provided for CITY files.

Deliverables: The following deliverables shall be provided under Task 2.8:

- Two (2) sets of 24x36 plans and specifications for each project
- Meeting agendas and notes
- Photos and shop drawing logs and reviews
- Substantial and final completion checklists
- Any other construction administration documentation necessary to finalize the project

Not-to-Exceed: $26,165

Task 2.9 – Reimbursable Expenses

Reimbursable expenses will include reproduction of the following submittals for submittal to the CITY or permitting agencies:

- Field investigation memorandum (4 sets)
- WFPSEM (4 final sets)
- 60 percent plans and specifications (6 sets)
- 100 percent plans and specifications (6 sets)
- Conformed plans and specifications (4 sets)
- Cost Estimates (6 sets)
- Broward County Environmental Protection and Growth Management Department
- Broward County Department of Health
- CITY of Fort Lauderdale Building Department

Not-to-Exceed: $500

PROJECT ASSUMPTIONS

- **The CITY will evaluate and obtain hydraulic modeling by others, if required.**

- The CITY shall provide standard details to incorporate into the construction plans.

- The CITY shall provide the water, sewer, pump station, and drainage as-builts and atlas information in GIS format or hard copy format for this portion of the CITY's service area.

- It is assumed that any abandoned CITY lines within the work area which may be in conflict with the new force main installation can be removed.

- The CITY shall review and provide comments on design deliverables within 14 working days.

- The CITY shall provide access to the site.

ADDITIONAL SERVICES

If authorized in writing by the CITY as an amendment to this Task Order, the CONSULTANT shall furnish, or obtain from others, Additional Services of the types as listed in the Master Agreement. The CITY, as Indicated in the Master Agreement, will pay for these services.

The following services are NOT included in this proposal and will be considered Additional Services, which will be addressed in a separate contractual agreement. The services include but are not limited to:

1. Architectural, mechanical (i.e. fire pumps), fire protection, environmental assessments or wetlands impacts and permitting, power, gas, telephone, cable television, site lighting services.

2. Utilities relocation services, plans, or coordination for utilities relocations other than CITY force main or pump station facilities ONLY.

3. Calculations of off-site flood stages.

4. Off-site engineering and negotiations for off-site easements.

5. Professional services required due to conditions different from those itemized under the Scope of Services or due to events beyond the control of CONSULTANT.

6. Professional services required, due to changes in the site plan initiated by the CITY, their representatives or other CONSULTANTs (e.g. architects, landscape architects, etc.) after either design or preparation of the construction drawings has commenced.

7. Determination of quantities for payment application review / processing.

8. NPDES compliance.

9. Other Permits - This proposal does not include permitting services for any permits not previously listed.

10. Costs for advertising the Project are to be paid by the CITY.

11. Obtaining easements on property for construction of the project is not included in this scope.

12. Coordination with homeowners is not included in this scope and no time has been budgeted for attendance at any meetings not previously listed. For private water service relocation and reconnection, the Contractor will coordinate with property owners to obtain signed Right-of-Entry forms consenting to allow contractors to perform the necessary work within the private property.

13. All construction related layout and record drawing survey work and geotechnical services, including materials testing and other services are to be provided by the Contractor. This pertains only to such work that is completed during the construction phase.

14. Services related to permitting pipeline construction through wetlands or environmentally sensitive areas are not anticipated and are not included in this scope. Water Management District or Army Corps of Engineers (ACOE) permitting is not included in this scope.

15. Hydraulic modeling.

16. All permitting fees are to be paid by the CITY.

17. Preparation of record drawings. (Drawings are to be prepared by the Contractor).

18. Additional reviews, beyond the single review in this proposal, of project submittals, such as shop drawings, as-builts, and other submittals.

19. Attendance at any enforcement action meetings with regulatory agencies.

20. Work related to any existing force main breaks or wastewater spills.

21. Additional structural evaluations other than visual evaluations of the wet well and bridge strap support(s).

22. Additional structural modifications for force main piping greater than 6-inches in diameter.

23. Field visits or meetings related to emergency spills or breaks.

24. Conditions assessments of the existing force main.

25. Additional plan or specifications sets other than those as listed. Digital transmittals will be at no additional cost.

PERFORMANCE SCHEDULE

The CONSULTANT shall perform the services identified in Tasks 1-2 within the timeframe specified in the below table which is approximately 288 calendar days from the written Notice to Proceed. Time of completion may change depending on reviews by others. Task 2.7 and 2.8 schedules shall be determined based on the bid dates and construction award period. See Appendix C for project schedule. The CONSULTANT shall commence services immediately after the written Notice to Proceed.

Task	Description	Estimated Days
1	**Wastewater System Evaluation Memorandum**	
1.1	Kick-off Meeting, Data Collection and Review	7
1.2	Existing and Future Wastewater Flow and Pump Station Capacity Evaluation	45
2	**Final Design, Permitting, Bidding and Construction Administration Services**	
2.1	Surveying	21
2.2	Utilities Evaluation and Subsurface Utility Evaluations	45
2.3	Geotechnical Investigation	21
2.4	60 Percent Design Plans and Specifications	60
2.5	Permitting	45*
2.6	100 Percent Design Plans and Specifications	30
2.7	Bidding and Award	60
2.8	Construction Administration	120

* Requires assistance from the CITY of Fort Lauderdale to expedite permitting agency reviews and comments.

PROJECT FUNDING

Performance of this project is at the CITY's discretion and may be contingent upon the CITY receiving funding and work shall not begin until the CITY provides a Notice to Proceed to the CONSULTANT.

METHOD OF COMPENSATION

The services performed will be accomplished using the Not-to-Exceed method of compensation. The total hourly rates payable by the CITY for each of CONSULTANT's employee categories, reimbursable expenses, if any, and sub-consultant fees, if any, are shown on **Exhibit B** attached hereto and made a part hereof. Pay application requests shall be prepared on the CITY's approved pay application request form. The CONSULTANT shall submit the pay application request to the CITY's Project Manager for review and approval. Once the CITY's Project Manager approves the CONSULTANT's pay application request, the CONSULTANT may submit it to the CITY's account payable department via email (AcctsPayable@fortlauderdale.gov). Pay application requests shall be submitted monthly.

TERMS OF COMPENSATION

Services will be provided for the following Not-to-Exceed amounts:

Task	Description	Fee
1	**Wastewater System Evaluation Memorandum**	
1.1	Kick-off Meeting, Data Collection and Review	$6,120
1.2	Existing and Future Wastewater Flow and Pump Station Capacity Evaluation	$41,075
	Task 1 Subtotal	**$47,195**
2	**Final Design, Permitting, Bidding and Construction Administration Services**	
2.1	Surveying	$9,809
2.2	Utilities Evaluation and Subsurface Utility Evaluations	$10,555
2.3	Geotechnical Investigation	$4,065
2.4	60 Percent Design Plans and Specifications	$32,450
2.5	Permitting	$14,430
2.6	100 Percent Design Plans and Specifications	$14,170
2.7	Bidding and Award	$4,360
2.8	Construction Administration	$26,165
2.9	Reimbursable Expenses	$500
	Task 2 Subtotal	**$116,504**
	NTE Total	**$163,699**

NOTE:

Exhibit A – Project Boundary Map
Exhibit B – Fee Breakdown and Sub-Consultant Proposals
Exhibit C – Project Schedule

CITY CONTACTS

Requests for payments should be directed to City of Fort Lauderdale Accounts Payable via e-mail to AcctsPayable@FortLauderdale.gov after getting approval from the CITY's Project Manager, Daniel Lizarazo, P.E. All other correspondence and submittals should be directed to the attention of the CITY's Project Manager, at the address shown below. **Please be sure that all correspondence refers to the CITY project number and title as stated above.**

Daniel Lizarazo, P.E.
Project Manager II
Public Works
City of Fort Lauderdale
City Hall, 4th Floor Engineering
100 North Andrews Avenue
Fort Lauderdale, FL 33301
(954) 828-XXXX
dlizarazo@fortlauderdale.gov

Jorge Holguin
Senior Project Manager
Public Works
City of Fort Lauderdale
City Hall, 4th Floor Engineering
100 N. Andrews Ave.
Fort Lauderdale, FL 33301
(954) 828-XXXX
jholguin@fortlauderdale.gov

CONSULTANT CONTACTS

Ken Caban, P.E., BCEE
Tetra Tech, Inc.
Senior Project Managing Principal
450 North Park Road, Suite 502
Hollywood, FL 33021
Phone: 305-849-3404
Email: ken.caban@tetratech.com

IN WITNESS WHEREOF, the parties hereto have set their hands and seals as of the date first above written.

ATTEST:

_____
JEFFREY A. MODARELLI
City Clerk

(SEAL)

CITY OF FORT LAUDERDALE, a municipal corporation of the State of Florida.

_____
LEE R. FELDMAN, City Manager

Approved as to form:

_____
RHONDA MONTOYA HASAN,
Assistant City Attorney

CONSULTANT

WITNESSES:

TETRA TECH, INC. a Delaware corporation authorized to transact business in Florida

_____ By: _____

_____ Name: _____
Print Name

_____ Title: _____

_____

_____
Print Name

ATTEST:

(CORPORATE SEAL)

By: _____

Name: _____

Title: _____

STATE OF FLORIDA
COUNTY OF _____

The foregoing instrument was acknowledged before me this _____ day of _____, 2016, by _____ as _____ of _____ , a _____ corporation, who is__ personally known to me or ___ has produced _____ as identification.

(SEAL)

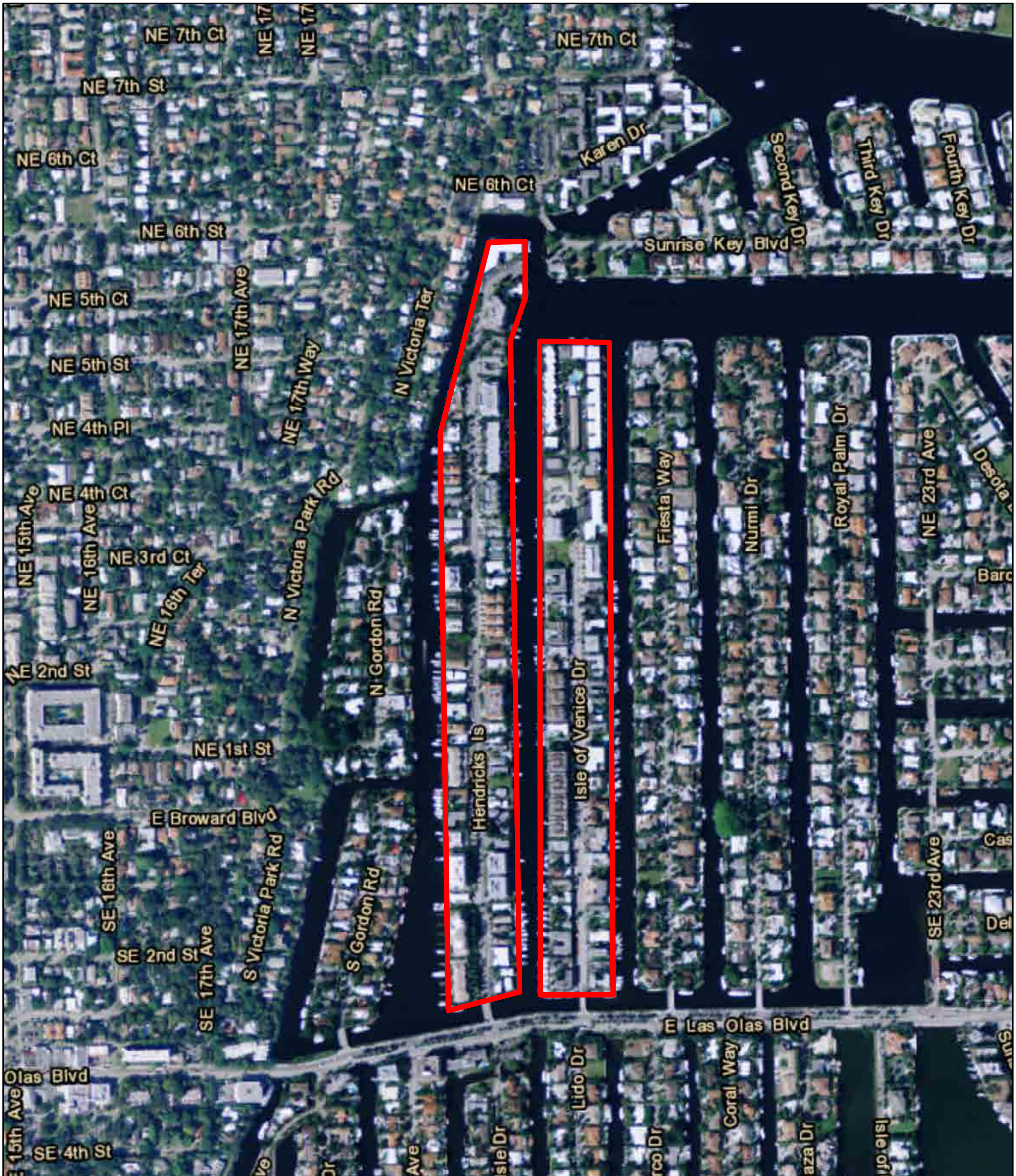
_____
Notary Public, State of Florida
Signature of Notary taking Acknowledgement

_____
Printed Name

_____
My Commission Expires

_____
Commission No.

EXHIBIT A
PROJECT BOUNDARY



N

0 500

Feet

LEGEND

Project Boundary

HENDRICKS ISLE AND ISLE OF VENICE
PROJECT BOUNDARY

TETRA TECH

FIGURE 1

E:\78549 - Fort Lauderdale\Fort Lauderdale Isle Projects ArcGIS\Both Islands

EXHIBIT B
FEE BREAKDOWN AND SUBCONSULTANT PROPOSALS

Price Proposal

Isle of Venice and Hendricks Isle Wastewater System Evaluation and Improvements

WW Evalaution and Improvements on Isle of Venice and Hendricks Isle

Submitted to: City of Fort Lauderdale (Attn: Daniel Lizarazo)

Contract Type: T&M

Project Phases / Tasks	Total Labor Hrs	Senior Project Managing Principal	Senior Project Manager	Engineer 3	Engineer 1	CAD Designer 2	Project Administrator	Construction Administrator	Labor	Subs	Travel	Mat'ls & Equip	ODCs	Task Pricing Totals
Bill Rate >		205.00	175.00	125.00	85.00	90.00	65.00	80.00						
Labor Plan		7 Resource												
Price Summary / Totals									Task Pricing Totals					163,699
									Total Price					**163,699**
									Pricing by Resource					
Project Phases / Tasks	**1,257**	67	359	14	469	276	38	34	148,205	14,994	-	-	500	**163,699**
Task 1: Wastewater System Evaluation Memoranda	**391**	**25**	**120**	**-**	**204**	**40**	**2**	**-**	**47,195**	**-**	**-**	**-**	**-**	**47,195**
1.1 - Kick-off Meeting, Data Collection and Review	**48**	**2**	**20**	**-**	**26**	**-**	**-**	**-**	**6,120**	**-**	**-**	**-**	**-**	**6,120**
1.2 - Existing and Future Wastewater Flows and Pump Stations Capacity Evaluations	**343**	**23**	**100**	**-**	**178**	**40**	**2**	**-**	**41,075**	**-**	**-**	**-**	**-**	**41,075**
Task 2: Final Design, Permitting, Bidding & Construction Administration	**866**	**42**	**239**	**14**	**265**	**236**	**36**	**34**	**101,010**	**14,994**	**-**	**-**	**500**	**116,504**
2.1 - Surveying	**8**	**-**	**4**	**-**	**4**	**-**	**-**	**-**	**1,040**	**8,769**	**-**	**-**	**-**	**9,809**
2.2 Utilities Evaluation and Sursurface Utility Evaluations	**67**	**2**	**14**	**-**	**19**	**32**	**-**	**-**	**7,355**	**3,200**	**-**	**-**	**-**	**10,555**
2.3 - Geotechnical Investigation	**8**	**-**	**4**	**-**	**4**	**-**	**-**	**-**	**1,040**	**3,025**	**-**	**-**	**-**	**4,065**
2.4 - 60 Percent Design Plans and Specifications	**294**	**17**	**56**	**9**	**88**	**100**	**24**	**-**	**32,450**	**-**	**-**	**-**	**-**	**32,450**
2.5 - Permitting	**122**	**6**	**36**	**-**	**60**	**20**	**-**	**-**	**14,430**	**-**	**-**	**-**	**-**	**14,430**
2.6 - 100 Percent Design Plans and Specifications	**130**	**3**	**26**	**5**	**32**	**60**	**4**	**-**	**14,170**	**-**	**-**	**-**	**-**	**14,170**
2.7 - Bidding and Award	**28**	**6**	**14**	**-**	**8**	**-**	**-**	**-**	**4,360**	**-**	**-**	**-**	**-**	**4,360**
2.8 - Construction Administration	**209**	**8**	**85**	**-**	**50**	**24**	**8**	**34**	**26,165**	**-**	**-**	**-**	**-**	**26,165**
2.9 - Reimbursable Expenses	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**500**	**500**
Totals	**1,257**	**67**	**359**	**14**	**469**	**276**	**38**	**34**	**148,205**	**14,994**	**-**	**-**	**500**	**163,699**

F.R. ALEMAN
& Associates, Inc.

CONSULTING ENGINEERS & SURVEYORS
www.FR-Aleman.com

10305 NW 41 Street, Suite 200
Miami, Florida 33178
TEL: (305) 591-8777
FAX: (305) 599-8749

March 25 2016

Tetra Tech | Water, Environment & Infrastructure Group
Kenneth L. Caban, PE, BCEE | Vice President
Southeast Florida Regional Manager
Cell: 305.849.3404
ken.caban@tetratech.com
150 West Flagler Street | Suite 1625 | Miami, Florida 33130
www.tetratech.com

RE: Design (Topographic) Survey for:

- Design (Topographic) Survey for **Pump Station** at E. Hendricks Isle, Fort Lauderdale,
- Design (Topographic) Survey for **Pump Station D10** located near 90 Isle of Venice.

Dear Mr. Caban,

This is our estimate for the Design (Topographic) Survey for the Pump Station located at E. Hendricks Avenue. The Topographic Survey will extend approximately 100 LF north and south from the limits of the Pump Station. This estimate also includes the design survey for Pump Station located near 90 Isle of Venice Drive, Fort Lauderdale, Fl. The Topographic Survey will extend approximately 100 LF north and south from the limits of the Pump Station.

Topographic Survey will include the following.

- Full topographic survey for the two Pump Stations areas and approximately 100LF north and south along the adjacent roads from the Pump Station Limits. Topographic Survey will include but not limited to asphalt pavement, sidewalks, trees, above ground evidence of underground utilities, clean outs, drainage structures with invert information, driveways, roadway signs, etc.
- FRA will generate a DTM Surface for the project area.
- Cross sections will be performed at 100 foot intervals.
- Topographic Survey will extend from Right of Way to Right of Way (back of sidewalk to back of sidewalk) with an additional shot beyond the Right of Way line.
- Right of Way Monumentation recovery and/or re-establishment in order to provide Right of Way Lines throughout limits of project. This will require field recovery of centerline control, and property corners through the project site.

- Horizontal control will be referenced to the State Plane Coordinate System, Florida East Zone North American Datum NAD83/90. Elevations will be based on North American Vertical Datum 1988 (NAVD88).
- Trees with 3-inch diameter trunk or larger will located.
- Rim, top and invert elevations of all existing sanitary sewers' manholes, drainage culverts, manholes and catch basins will be provided.
- Cross Section will include elevation at the centerline, edge of pavement, top of curb, back of sidewalk, low and high points, lane line, drainage ditches (when applicable).

FR-Aleman will deliver the CIVIL3D file; showing with existing Topographic features, and the drainage information, including Inverts, pipe size, material and direction of each pipe as well as the location of the test holes performed by FRA SUE Department.

This estimate includes the Survey effort to collect and plot the Test Holes performed for FRA SUE Department.

The Baselines of Survey will be set on the field at 100 feet intervals and elevation value for every Baseline Point will be provided and shown on the Topographic Survey.

1. **Topographic (Design Survey) Survey for Hendricks Isle Pump Station**

This estimate is based on 250Linear Feet of Topographic Survey.

CATEGORY	UNITS		RATE	
Field Crew 3 men	24	Hours	$140.00	$3,360.00
Cadd Technician	12	Hours	$65.50	$786.00
Survey Technician	2	Hours	$84.00	$168.00
Surveyor and Mapper	2	Hours	$105.36	$210.72
SR. Surveyor and Mapper	1	Hours	$140.00	$140.00
TOTAL for Survey Services				**$4,664.72**

Subsurface Utility Engineering (SUE) for Hendricks Isle.

CATEGORY	UNITS		RATE	
Test Holes	4	Each	$360.00	$1,440.00
Preparation of Reports and CADD files	4	Hours	$40.00	$160.00
Total for SUE Services				$1,600.00

2. **Topographic (Design Survey) Survey for Venice Isle Pump Station:**

This estimate is based on 250 LF of Survey.

CATEGORY	UNITS		RATE	
Field Crew 3 men	20	Hours	$140.00	$2,800.00
Cadd Technician	12	Hours	$65.50	$786.00
Survey Technician	2	Hours	$84.00	$168.00
Surveyor and Mapper	2	Hours	$105.36	$210.72
SR. Surveyor and Mapper	1	Hours	$140.00	$140.00
TOTAL for Survey Services				**$4,104.72**

Subsurface Utility Engineering (SUE) for Venice Isle.

CATEGORY	UNITS		RATE	
Test Holes	4	Each	$360.00	$1,440.00
Preparation of Reports and CADD files	4	Hours	$40.00	$160.00
Total for SUE Services				$1,600.00

Test Hole Unit Rates were obtained from existing FRA Contract with City of Fort Lauderdale.

The Total combined Survey and SUE fee for the services described above is Eleven Thousand Nine Hundred and Sixty Nine with 44/100 dollars. ($11,969.44)

All survey work will comply at all times with the Standards and Practice for Surveying and Mapping, according to Chapter 5J-17 of Florida Administrative Code, as adopted by the Board of Professional Surveyors, Chapter 472, Florida Statutes. Survey work will comply with City of Fort Lauderdale Standards.

Delivery
FRA will submit a CD with the electronic copies of the Topographic Survey on CIVILD3D format. Additionally FRA will provide two signed and sealed originals of the Topographic Survey. Topographic Survey will include the location of the Test Holes performed. FRA will also prepare a report for every Test Hole performed and a Table (Summary) of Verified Utility detailing the test hole information, including the top and bottom of pipe elevations of the utilities in conflict with the proposed water-main.

All Survey work will be completed and submitted between 2 to 4 weeks from Notice to Proceed.

If you have any questions, please do not hesitate to contact our office.

Very truly yours,

Frank Paruas

_____
Frank Paruas PSM
Project Surveyor

Ardaman & Associates, Inc.
Geotechnical, Environmental and
Materials Consultants
2608 W 84 Street, Hialeah, FL 33016
PH 305-825-2683, FX 305-825-2686

March 28, 2016
Proposal No.: 16-3107

Ms. Alicia M. Verea-Feria, EI
Project Manager
Tetra Tech
150 West Flagler Street, Suite 1625
Miami, Fl. 33130
Alicia.verea-feria@tetratech.com

PROPOSAL FOR GEOTECHNICAL ENGINEERING SERVICES
NEW PUMP STATION AT HENDRICKS ISLE
NEW PUMP STATION AT ISLE OF VENICE AVENUE
FORT LAUDERDALE, FL

In accordance with your request, we are pleased to submit our proposal to perform subsurface explorations and geotechnical studies for the above project. The purpose of the exploration is to obtain general subsurface soil information so that recommendations can be provided for site preparation procedures, foundations, and other geotechnical aspects of the project.

We understand your project will consist of new pumps stations within Hendricks Isle and Isle of Venice Avenue. Based on our experience with subsurface conditions in the general site vicinity and our understanding of the proposed structural loads, we propose to perform two (2) Standard Penetration Test (SPT) borings to a depth of 25 feet below existing ground surface.

An engineering report will be prepared which will present the findings of our exploration and our recommendations for site preparation and foundation design.

It is our understanding that the boring locations will be accessible to our truck-mounted drilling equipment. Also notice that clearance for utilities within the subject site will be provided prior to drilling operations.

FEE ESTIMATE

Based on our knowledge of the project to-date, the estimated cost of our geotechnical services for this project is **$3,025.00** itemized as follows:

1. Initial site visit, layout of boring locations, coordination of underground utility locating, permit submittals, etc.:
   - Staking / Coordinating / Utility Clearance 7 hours @ $95/h $665.00

2. Mobilization/Demobilization of drilling equipment..... $360.00

3. Standard Penetration Test borings (2 borings to 25')
   50 feet of borehole of depth of 25 feet @ $15.00/foot..... $750.00

4. Laboratory testing:
   - Visual classification by Staff Engineer - 2 hours @ $95.00/hour $190.00

5. Engineering Services & Report Preparation
   Staff Engineer – 8 hours @ $95.00/hour $760.00
   Senior Project Engineer – 2 hour @ $150.00/hour $300.00

Weather conditions permitting, we will start the field exploration program within ten working days after receiving your authorization to proceed.

Should we encounter conditions on the site that warrant more investigative effort than anticipated, we will inform you immediately. We will not proceed with additional work without your approval.

Please contact us if you should have any questions concerning the scope of work or the fee estimate.

If the terms above are acceptable to you, please return one signed copy of our Proposal Acceptance Form as an indication of your acceptance and authorization to proceed with the work.

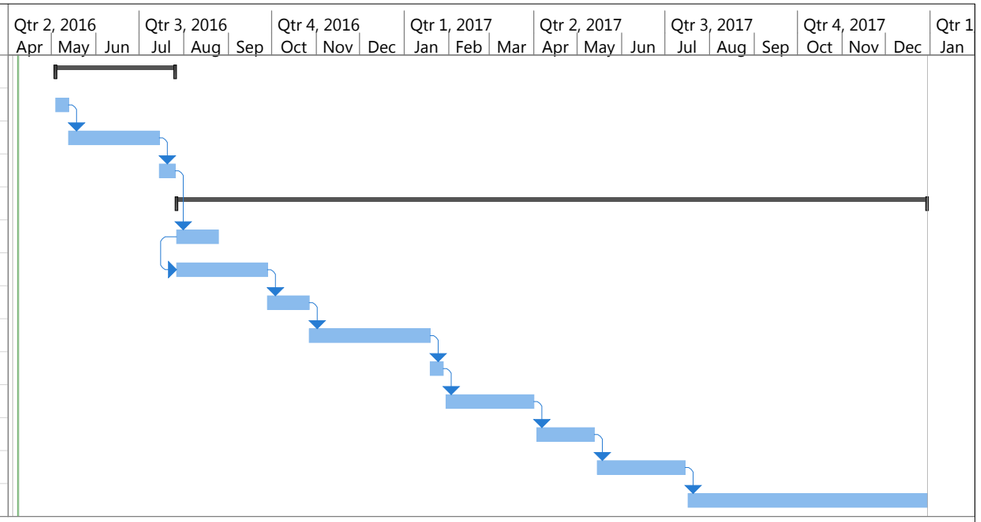
Very truly yours,

ARDAMAN & ASSOCIATES, INC.

Evelio Horta, Ph.D., P.E., G.E.
Vice President

EXHIBIT C
PROJECT SCHEDULE

ID	Task Mode	Task Name	Duration	Start	Finish
1		**Wastewater System Evaluation Memorandum**	**59 days**	**Wed 5/4/16**	**Mon 7/25/16**
2		Kick-off Meeting, Data Collection and Review	7 days	Wed 5/4/16	Thu 5/12/16
3		Existing and Future Wastewater Flow and Pump Station Capacity Evaluation	45 days	Fri 5/13/16	Thu 7/14/16
4		City Review of Memo	7 days	Fri 7/15/16	Mon 7/25/16
5		**Final Design, Permitting, Bidding and Construction Administration Services**	**373 days**	**Wed 7/27/16**	**Fri 12/29/17**
6		Surveying	21 days	Wed 7/27/16	Wed 8/24/16
7		Utilities Evaluation and Subsurface Utility Evaluations	45 days	Wed 7/27/16	Tue 9/27/16
8		Geotechnical Investigation	21 days	Wed 9/28/16	Wed 10/26/16
9		60 Percent Design Plans and Specifications	60 days	Thu 10/27/16	Wed 1/18/17
10		City Review of 60% Plans	7 days	Thu 1/19/17	Fri 1/27/17
11		Permitting	45 days	Mon 1/30/17	Fri 3/31/17
12		100 Percent Design Plans and Specifications	30 days	Mon 4/3/17	Fri 5/12/17
13		Bidding and Award	45 days	Mon 5/15/17	Fri 7/14/17
14		Construction Administration	120 days	Mon 7/17/17	Fri 12/29/17



Project: 12202 - Schedule
Date: Fri 4/8/16

Task	Project Summary	Manual Task	Start-only	Deadline
Split	Inactive Task	Duration-only	Finish-only	Progress
Milestone	Inactive Milestone	Manual Summary Rollup	External Tasks	Manual Progress
Summary	Inactive Summary	Manual Summary	External Milestone	