



TETRA TECH

July 19, 2024

Mr. Thomas Marinelli
City of Palm Bay
250 Osmosis Dr. SE
Palm Bay, FL 32909

**Subject: North Regional Water Treatment Plant ROWTP Final Design
Task Order 01-2019-008**

Tt # 200-08507-BP

Dear Mr. Marinelli:

Please see attached our revised professional services proposal for the subject Task Order. This proposal includes preliminary design, final design and permitting services for the North Regional WTP (NRWTP) RO Facilities, production wells, deep injection well, and off-site raw water piping.

If you should have any questions, please do not hesitate to contact me at 407-839-3955.

Very truly yours,

Tetra Tech

Jon Bundy, P.E.
Vice President

Attachments

JCB/ab/SRWTP Expansion/Marinelli_071924.doc

C: Jon Fox, PE Tetra Tech

Tetra Tech, Inc.

201 E. Pine Street, Suite 1000, Orlando, FL 32801
Tel 407.839.3955 Fax 407.839.3790 www.tetratech.com

EXHIBIT I

SCOPE OF SERVICES

CITY OF PALM BAY, FL

PROFESSIONAL SERVICES FOR THE SRWTP EXPANSION AND NRWTP REVERSE OSMOSIS REHABILITATION ENGINEERING

**In Accordance with the City's Master Agreement #47-0-2018/JM
January 9, 2019**

TASK ORDER 01-2019-008

I. PROJECT DESCRIPTION

The City of Palm Bay (City) owns and operates the North Regional Water Treatment Plant (NRWTP), which consists of a lime softening plant and a reverse osmosis (RO) plant. The lime softening plant was originally constructed in 1975 and has gone through multiple expansions and improvements over the years. The lime softening plant utilizes raw water from the surficial aquifer. The RO plant was constructed in 2001 and utilizes groundwater from the Floridan Aquifer. The existing lime softening plant has a rated capacity of 10.0 million gallons per day (MGD) and the existing RO plant has a rated capacity of 1.5 MGD, with an ultimate planned capacity between 3.0 and 4.5 MGD. The RO plant has been offline since January 2009. In order to utilize the Floridan aquifer water source to supplement and eventually replace the surficial aquifer supply, the City would like to replace the existing RO plant to meet the City's water quality goals and water supply needs.

On August 2, 2018, the City of Palm Bay authorized the Utilities Department to enter into negotiations with Tetra Tech, Inc. regarding RFQ No 47-0-2018 for professional architecture and engineering services related to the South Regional Water Treatment Plant (SRWTP) expansion and NRWTP RO rehabilitation design. Tetra Tech completed a preliminary design investigation in 2020 under Task Order 2 to review three alternatives for putting the existing RO plant back on-line. Recommendations from the preliminary design investigations report were the basis for the preliminary design report and included replacement of the existing RO equipment in the RO Building, replacement of the existing chemical storage and feed facilities associated with the RO facilities, replacement of the permeate degasifier and odor control unit, new RO permeate transfer pumps on top of the existing permeate clearwell, a new deep injection well for concentrate disposal, a new production well to replace RO Well 1 and associated electrical, controls, site and yard piping improvements. Tetra Tech prepared a preliminary design report for the NRWTP in June 2022. The preliminary design report was based upon replacing the existing RO treatment capacity by installing 1.5 MGD of permeate capacity in the current phase with expansion to 3.0 MGD of permeate capacity in the future. The City has recently decided to plan for greater RO capacity due to limitations with the surficial aquifer supply for the lime softening process at the NRWTP. The ultimate capacity envisioned from the RO plant may be up to 10 MGD of finished water capacity. The current direction from the City is to incorporate a first phase of at least 3.0 MGD of permeate from RO treatment and up to 3.33 MGD of finished water capacity with raw water blending, which would allow a reduction in surficial aquifer usage, and water produced from the lime softening process.

Tetra Tech completed a RO Master Plan Report in 2024 to evaluate the proposed RO treatment facilities for NRWTP RO rehabilitation design for an initial phase of at least 3.33 MGD finished water, including plan for future buildout expansion to 10.0 MGD under Task order 01-2019-007 NRWTP RO Master Plan under the original agreement. The scope of services herein is associated with construction of the new RO plant at the NRWTP based on the recommendations from the RO Master Plan Report. Engineering services for this Task Order consist of preliminary design, final design and permitting. This Task Order will replace the previously authorized Final Design Task Order 01-2019-006 which only included a treatment capacity of 1.5 MGD and on-site wells.

Services for State Revolving Fund acquisition support, bidding assistance, construction administration and startup will be performed under a separate Task Order and are not included in the scope of services below. Additionally, the SRWTP Expansion project is being delivered under separate task orders and are therefore not included in the scope of services below.

SUMMARY OF PROPOSED FACILITIES

The exact size and configuration of the proposed facilities remains to be determined; however, the following treatment components to design a new RO plant at the NRWTP associated with an initial RO capacity of 3.0 MGD have been assumed for this scope. The facilities will be laid out and planned for future expansion to 10.0 MGD as described in the RO Master Plan Report with additional details to be developed in the Preliminary Design update portion of this Task Order. Planning and site layout will address both the initial facilities as well as the contemplated facilities needed under build-out conditions. Raw water supply is anticipated to be provided by four (4) new Floridan aquifer wells with a capacity of 1,000 gpm each. Well RO-2 will be refurbished if it determined to be cost effective to provide additional redundancy and well rotation. Backup concentrate disposal is not included in the proposed scope of services (concentrate storage or a second deep injection well). Since the City can rely on the existing lime softening process to provide finished water in the event the proposed deep injection well is off-line for mechanical integrity testing, backup concentrate disposal is not required in the initial phase and can be added in the future.

Scope for NRWTP RO Treatment Facilities includes:

- Abandonment of one (1) existing Floridan well RO-1,
- Refurbishment of one (1) existing Floridan well RO-2,
- Installation of four (4) new Floridan supply wells and well pumps,
- Installation of a new deep injection well and dual zone monitoring well and sampling pumps,
- Demolition of the existing RO process building, including the process equipment and piping inside the building,
- Demolition of two (2) existing degasifier towers, one (1) existing odor control tower, and one (1) existing clearwell,
- Demolition of the existing caustic soda and sulfuric acid storage and feed facilities,

- Demolition of the existing warehouse building, VOC stripper, and filter No.4, excavation and backfilling of existing lime drying beds, and relocation of the existing stormwater pond may be required depending on the final site layout selected.
- Construction of a new RO Process Building for Risk Category III wind speed sized for a buildout capacity of 10 MGD with an initial installed treatment capacity of 3 MGD, to include the following:
 - RO chemical pre-treatment and cartridge filters,
 - RO feed pumps,
 - RO skids,
 - Travel bridge crane,
 - RO clean-in-place system,
 - RO process piping within pipe trenches,
 - Control room with single person restroom,
 - Associated electrical, utility, power, and instrumentation and control systems,
- Construction of a new RO Post Treatment Structure sized for a buildout capacity of 10 MGD with an initial installed treatment capacity of 3.33 MGD, to include the following:
 - Forced draft degasification and odor control system,
 - Chlorine Contact Clearwell,
 - Finished water transfer pumps and piping to connect to the existing finished water storage tanks,
- Construction of a new Electrical and Blower Building for the new electrical service, post treatment electrical feed and degasifier blowers,
- Construction of a new Chemical Storage Structure consisting of chemical containment areas and a canopy covering sized for a buildout capacity of 10 MGD with an initial installed treatment capacity of 3.33 MGD, to include the following:
 - Sodium hydroxide storage and feed system,
 - Sodium hypochlorite storage and feed system,
 - Ammonia storage and feed system,
 - Fluoride storage and feed system,
 - Phosphate corrosion inhibitor storage and feed system,

- Construction of a new carbon dioxide storage and feed system on a new equipment pad,
- Installation of yard piping, including concentrate line, dual zone monitoring sampling line, and raw water main to connect to the new offsite brackish raw water mains,
- Site improvements, including drainage, plant roadway expansion and improvement, site lighting, regrading and fencing,
- Construction of a new electrical service and new electrical equipment, to including the following:
 - Main incoming electrical utility circuit breakers, auxiliary generator switchgear, and motor control centers for the RO facilities and post treatment facilities,
 - Construction of new utility power transformer pad,
 - Construction of a new diesel generator in a prefabricated enclosure, and diesel fuel storage tank,
 - Electrical, Instrumentation and controls for the plant facilities as described above.

Scope for NRWTP Brackish Raw Water Main includes installation of raw water mains from the four (4) new offsite Floridan wells to the new RO plant. The raw water main will be sized for ultimate water flow to support the buildout 10 MGD capacity. The proposed route is illustrated in Attachment A. The extension of raw water mains will include approximately 10,000 LF of raw water main from the new Floridan wells to the new RO plant. Tetra Tech will subcontract with Southeastern Surveying for them to provide subsurface utility locating. Geotechnical services will be provided by Ardaman and Associates.

This proposal was developed assuming four (4) separate construction projects, to include:

1. NRWTP RO Treatment Facilities Project.
2. NRWTP Additional Brackish (Floridan) Supply Wells Project.
3. NRWTP Deep Injection Well and Dual Zone Monitoring Well Project.
4. NRWTP Brackish (Floridan) Raw Water Main Project.

In order to provide logical, orderly completion of this assignment, the project has been broken down into three (3) major Parts, including Part 1 NRWTP RO Treatment Facilities, Part 2 - Hydrogeological Services and Part 3 - NRWTP Brackish Raw Water Main. It is anticipated that outfitting of the off-site wells will be included with the RO Treatment Facilities. A detailed summary of the scope of work provided in each Part is provided below.

II. SCOPE OF SERVICES

PART 1 - NRWTP RO TREATMENT FACILITIES

TASK 1: PROJECT MANAGEMENT AND PROGRESS MEETINGS

This task consists of overall management of the NRWTP RO treatment facilities design during preliminary design, final design and permitting, including contract administration, budget management, invoicing, scheduling, and coordination with the City and subconsultants.

Tetra Tech will attend and prepare meeting agenda and meeting minutes for the project kick-off meeting with the project team and Palm Bay staff to discuss different alternatives listed in the master plan evaluation report with utility staff, a preliminary design report review meeting and three (3) design review meetings. Tetra Tech will maintain comment tracking sheet with responses following each review meeting.

Tetra Tech will attend up to three (3) interim review meetings or site visits during the design phase.

TASK 2: WTP PRELIMINARY DESIGN

The City has determined due to limitations with the surficial aquifer supply for the lime softening process at the NRWTP that they will plan for an initial RO capacity of 3.33 MGD and a buildout capacity of up to 10.0 MGD from the ROWTP. Master planning of the raw water supply, pretreatment, RO facilities and post treatment facilities required for these improvements has been completed under Task order 01-2019-007. The results from the ROWTP facilities master plan evaluation will be used to update the preliminary design report to reflect proposed facilities and upgrades for the initial phase of the ROWTP. The updated preliminary design report will be used as the basis for the final design of the initial phase and will be used for permitting the proposed facilities.

Tasks to be completed in this phase are described below:

1. Update the previously prepared preliminary design report to reflect the changes from the buildout and phasing evaluation to present the basis of design for the recommended facilities, and the size and configuration of the facilities. Provide the City with one (1) copy of the draft "revised" preliminary design report and one (1) PDF format copy for review. The PDR Update will include:
 - a. Updated site layout with new facilities based on the RO Master Plan and kickoff meeting discussions.
 - b. Updated figures for new process flow diagram, hydraulic profile, chemical feed system layout, cartridge filter layout, RO skid layouts, post treatment structure, blower layout and membrane cleaning system layout.
 - c. Updated process calculations for new and future facilities.
 - d. Updated impervious calculations to evaluate stormwater impacts and permitting requirements.

- e. Updated process basis of design for the raw water wells, pretreatment, RO Feed pumps, RO process, cleaning system, post treatment and concentrate disposal.
 - f. Updated electrical, instrumentation and controls, mechanical/HVAC/plumbing, structural and architectural basis of design for the proposed facilities.
 - g. Update Engineer's opinion or probable construction cost (EOPCC)
2. Following, the review meeting with City staff, modify the report as required and provide the City two (2) copies of the "final" Preliminary Design Report and a PDF format copy.

Additional services to be performed under this task related to potential sources of funding and ERP permitting include the following:

1. Tetra Tech will meet with the City and provide a summary of potential sources of funding that the City could pursue for this project and outline the requirements and applicability of each funding sources.
2. There does not appear to be an Environmental Resource Permit (ERP) for the existing site as the original site development pre-dated current ERP permitting requirements. Tetra Tech will meet with the SJRWMD/FDEP and perform an ERP Exemption Inquiry and Verification. The inquiry will include any supporting documentation required by the SJRWMD/FDEP.

TASK 3: WTP FINAL DESIGN

Site Investigations

Utility Locates and Soft Digs

Utility locates were performed during the initial preliminary design task. This task order includes additional utility locate services for the expanded footprint of the proposed facilities to supplement the survey. Soft digs to verify connection points to existing utilities and to verify elevations where buried utility crossings are proposed. A total of 20 soft dig utility locates are assumed for final design.

Survey

A limited survey was performed during preliminary design. This task order includes additional survey services to pick up data provided from the previous survey and to perform additional survey for the entire Southern area of the plant (South of existing 0.5 MG GST No.1 and existing Filters No. 1, 2, and 3). Tree, ecological, and wetland surveys or investigations are not anticipated or included in this proposed scope of services.

Subsurface Geotechnical Investigation

Perform a soils investigation for the necessary soils data and other pertinent information required for final design of structural elements and yard piping design. Soil boring logs and classifications, existing groundwater levels and estimated seasonal high levels, pipe trench and backfill requirements, and structures foundation requirements will be submitted in report format. A program of sixteen (16) Standards Penetration Tests (SPT) and five (5) auger borings

will be conducted at the WTP site as summarized below. The borings will be conducted in accordance with ASTM D-1586. The field investigation for the pipelines includes a program of auger borings along the proposed yard piping alignments. A breakdown of the depth and quantity of borings assumed for design includes:

- Process Building: three (3) 25-foot SPT
- Electrical and Blower Building: three (3) 25-foot SPT
- Post Treatment Structure: One (1) 50-foot SPT and two (2) 25-foot SPT
- Chemical Storage and Feed Facilities: three (3) 25-foot SPT
- Deep Injection Well Pad: one (1) 25-foot SPT
- Supply Well Pad: one (1) 25-foot SPT
- Extensions to Yard Piping: five (5) auger borings to a depth of 10-feet
- Stormwater Pond: Two (2) 25-foot SPT and two (2) permeability tests

Results of the geotechnical investigations will be summarized into an engineering analysis and report and provided as three (3) hard copies and one (1) PDF format copy.

New RO Treatment Plant Design

The final design will result in preparation of the bid documents, engineering drawings and technical specifications, which will be submitted to the City for review at 60-, 90- and 100-percent completion levels, as well as the preparation of an opinion of probable construction cost. It is assumed that any chemical facilities can be located in an unattached adjacent building so no fire sprinkler system is required in the new RO building and therefore, no services related to fire sprinkler design are included. Design of landscaping and irrigation systems are also not anticipated or included.

One (1) set of drawings and technical specifications along with the opinion of probable cost will be provided to the City for each review. To ensure proper design of the facilities, Tetra Tech will obtain approval from the City for any substantial changes in the preliminary design prior to incorporation in the final design. Tasks to be completed during this phase are summarized below:

60-percent submittal: Engineering drawings from all disciplines for the major facilities that incorporate the findings, recommendations, and approved layouts contained in the preliminary design report and project technical specifications in Construction Specifications Institute (CSI) format, and an updated opinion of probable construction cost.

90-percent submittal: Updated engineering drawings (90% complete of all disciplines) and technical specifications incorporating the comments received from the City on the 60% submittal, and updated opinion of probable construction cost.

100-percent submittal: Updated engineering drawings and technical specifications incorporating the comments received from the City on the 90% submittal.

1. Prepare construction drawings necessary to clearly depict the improvements identified during preliminary design. The drawings will be prepared using AutoCAD version 2023 and Revit 2023. Drawings will be prepared for production on 22-inch x 34-inch full scale drawings that will allow reproduction at ½-scale on 11-inch x 17-inch sheets. A preliminary list of drawings is provided in Attachment B.
2. Prepare a comprehensive project manual that contains technical specifications and general requirements (Divisions 1 through 16) for competitive bidding. It is assumed for the purposes of this scope of services that the City will provide Division 0 Contract Requirements to be incorporated into the bid set. The project manual and its contents will be formatted in accordance with the Construction Specification Institute (CSI) and prepared using Microsoft WORD.

Final design services include the above grade mechanical and electrical outfitting of the new production wells and the deep injection well. Additional design services related to the new production wells and the deep injection well are included in the hydrogeological services section of this scope of services.

TASK 4: WTP PERMITTING

Tetra Tech will prepare and submit permit applications and supporting documentation to the Florida Department of Environmental Protection (FDEP) as required to secure permits for construction and operation of the proposed facilities. Tetra Tech will also respond to requests for additional information (RAIs) from FDEP to clarify the original application. All permit application fees will be paid by the City. The following are the permit applications that have been included:

1. FDEP Application for a Specific Permit to Construct PWS Components [DEP Form 62.555.90(1)].
2. City of Palm Bay Planning and Zoning (Site Plan). (Dry run permit application)
3. City of Palm Bay Building Permit. (Dry run permit application)
4. An ERP Exemption Inquiry and Verification will be performed during Task 1. Services for permitting stormwater facilities for the new facilities will be provided as part of the permitting task. It is not anticipated an ERP for the entire site will be required therefore additional services will be required should an ERP permit for the site be required by SJRWMD/FDEP.

The selected Contractor will be responsible for pulling the permit applications for the Building Construction permit through the City of Palm Bay Building Division. Services associated with assisting the Contractor with this permit will be provided under a separate task order with the Construction Administration services following selection of the Contractor. Additional services will be required should a Site Plan Review be required by the City.

NPDES permitting is not included within this scope of services, however the bid documents prepared under this scope will include a requirement for the Contractor to apply for and obtain a NPDES permit if greater than 1 acre of the site will be disturbed during construction.

Additional permitting services related to the new production well and the deep injection well are included in the hydrogeological services section of this scope of services.

PART 2 – HYDROGEOLOGICAL SERVICES

Hydrogeologic services relative to NRWTP Upgrades will be provided by Ardaman and Associates.

TASK 1: PROJECT MANAGEMENT AND PROGRESS MEETINGS

This task consists of overall management of the Hydrogeological services during the production well and deep injection well design and permitting, including contract administration, budget management, invoicing, scheduling, and coordination with the City and subconsultants.

Tetra Tech will attend and prepare meeting agenda and meeting minutes up to three (3) meetings with the City representatives to coordinate and discuss project design and permitting issues.

TASK 2: EVALUATION OF BUILDOUT WELL NEEDS

Ardaman and Associates will provide an evaluation of buildout well needs based on the City's RO Master Plan Report to account for the larger buildout capacity. The evaluation will include the number and sizing of production wells as well as the Class I deep injection well requirements for the project buildout.

TASK 3: PRODUCTION WELL DESIGN

The final design will result in preparation of bid documents and technical specifications for construction of four (4) Floridan aquifer wells for the NRWTP, which will be submitted to the City for review at 90- and 100-percent completion levels, as well as the preparation of an opinion of probable construction cost. A well capacity of 1,000 gpm and a 17.4-inch diameter casing are assumed for each well. An opinion of probable construction cost will be provided with each submittal. Wellhead design, including pump and discharge piping is included in Part 1 (NRWTP RO Treatment Facilities).

Prepare a comprehensive project manual that contains technical specifications and general requirements (Divisions 1 through 16) for competitive bidding. It is assumed for the purposes of this scope of services that the City will provide Division 0 Contract Requirements to be incorporated into the bid set. The project manual and its contents will be formatted in accordance with the Construction Specification Institute (CSI) and prepared using Microsoft WORD.

TASK 4: CLASS I DEEP INJECTION WELL DESIGN

The final design will result in preparation of bid documents and technical specifications for construction of one (1) Class I Deep Injection Well to be used for concentrate disposal for the NRWTP which will be submitted to the City for review at 60-, 90- and 100-percent completion levels, as well as the preparation of an opinion of probable construction cost. The Class I DIW will be designed to accommodate the required concentrate flows from the RO facility (up to 2.5 MGD of concentrate). Wellhead design for the DIW and dual zone monitoring well is included in Part 1 (NRWTP RO Treatment Facilities).

Prepare a comprehensive project manual that contains technical specifications and general requirements (Divisions 1 through 16) for competitive bidding. It is assumed for the purposes of this scope of services that the City will provide Division 0 Contract Requirements to be incorporated into the bid set. The project manual and its contents will be formatted in accordance with the Construction Specification Institute (CSI) and prepared using Microsoft WORD. An opinion of probable construction cost will be provided with each submittal.

TASK 5: PRODUCTION WELL PERMITTING

The permitted location for the proposed Floridan aquifer production wells will need to be modified per recommendations from the RO Master Plan Report. The subconsultant will prepare and submit a letter modification to the St. Johns River Water Management District (SJRWMD) to relocate the wells to the new location and provide responses to one request for additional information from the SJRWMD. All permit application fees will be paid by the City.

The subconsultant will also assist the well driller in obtaining a well construction permit and generic permit for discharge of groundwater if needed during construction and testing of the water supply well. The selected Contractor will be responsible for any permit application fees.

TASK 6: CLASS I DEEP INJECTION WELL PERMITTING

The subconsultant will prepare the UIC permit application for the concentrate disposal deep injection well and prepare the supporting engineering report. The supporting documentation for the permit will include but not be limited to the following required supporting information:

1. An updated map showing the location of the injection wells or well field area for which a permit is sought and the applicable area of review.
2. A tabulation of data on all wells within the area of review (one (1)-mile radius of the well) which penetrate into the injection zone, confining zone, or monitoring zone.
3. Maps and cross sections indicating the general vertical and lateral limits within the area of review of all underground sources of drinking water.
4. Maps and cross sections detailing the hydrology and geologic structures of the local area.
5. Generalized maps and cross sections illustrating the regional geologic setting.

6. Proposed operating data.
 - a. Average and maximum daily rate and volume of fluid
 - b. Average and maximum injection pressure
 - c. Source and analysis of the chemical, physical, radiological, and biological characteristics of injection fluids
7. Proposed formation testing program to obtain an analysis of the chemical, physical and radiological characteristics of the injection zone.
8. Proposed stimulation program.
9. Proposed injection procedure.
10. Engineering drawings of the surface and subsurface construction details of the system.
11. Contingency plans to cope with all shut-ins or well failures, so as to protect the quality of the waters of the State as defined in Rule 62-3 and 62-520, F.A.C., including alternate or emergency discharge provisions.
12. Plans (including maps) and proposed monitoring data to be reported for meeting the monitoring requirements in Rule 62-528.425, F.A.C.
13. For wells within the area of review which penetrate the injection zone but are not properly completed or plugged, the corrective action proposed to be taken under Rule 62-528.300(5), F.A.C.
14. Construction procedures including a cementing and casing program, logging procedures, deviation checks, proposed methods for isolating drilling fluids from surficial aquifers, proposed blowout protection (if necessary), and a drilling, testing and coring program.
15. A certification that the applicant has ensured, through a performance bond or other appropriate means, the resources necessary to close, plug or abandon the well as required by Rule 62-528.435(9), F.A.C.

Prepare a draft of the permit application and supporting documentation and submit it to the City for review and comment. Following the City's review, the subconsultant will finalize the permit application and supporting documentation and submit it to the FDEP for processing with a check provided by the City. The subconsultant will work with the City to respond to one round of requests for additional information from the FDEP and will submit the responses to the FDEP. All permit application fees will be paid by the City.

PART 3 - NRWTP BRACKISH RAW WATER MAIN

TASK 1: Project Management and Progress Meetings

This task consists of overall management of the NRWTP brackish raw water main preliminary design, final design and permitting, including contract administration, budget management, invoicing, scheduling and coordination with the City and subconsultants.

Tetra Tech will attend and prepare meeting agenda and meeting minutes for the kick-off meeting with the project team and Palm Bay staff to discuss configuration of the raw water main, tasks delegated, deadlines and action items; a preliminary design draft technical memorandum review meeting and two (2) design review meetings. Tetra Tech will maintain comment tracking sheet with responses following each review meeting.

Tetra Tech will attend up to two (2) an interim review meetings or site visits during the design phase.

TASK 2: RWM PRELIMINARY DESIGN

The purpose of the preliminary design is to gather information, develop, evaluate, and present the basis of design, and configuration of the proposed raw water main improvements. The proposed pipe routing will be discussed during the kick-off meeting and site visit, and the final proposed wellsite selections are made. This task will also present a budgetary cost estimate. Services to be completed in this Task are described below.

1. On the day of the kick-off meeting, visit the pipeline route with City staff.
2. Prepare and submit a project area GIS data and City owned buried utilities data request.
3. Develop a hydraulic model of the proposed brackish raw water main system to simulate both initial and buildout flow conditions and establish main sizes to support the buildout RO treatment capacity of 10 MGD. The model will be developed using InfoWater or WaterGEMS modeling software.
 - a. The model will utilize the GIS data of the existing raw water mains and will incorporate the proposed mains and proposed on-site raw water piping.
 - b. The proposed well flows, equal to the well capacities, will be applied to the model nodes at the proposed well head locations. The existing well flows will be applied to the model nodes at the appropriate tie-in locations for the existing raw water mains.
 - c. Discharge pressures from the model output will be provided to support the sizing of the well pumps.
4. Survey and Utility Designations

- a. Survey and utility designation services shall include the following. Tetra Tech will subcontract Southeastern Surveying to provide the utility designation services.
 - i. Topographic survey of the right-of-way (ROW) along the pipeline routes. Topographic coverage will be limited to half of the right-of-way and 5-ft outside of the right of way at cross sections every fifty (50) feet along the pipeline route identified in Red on Attachment A. Survey will be performed in accordance with the standards of practice for surveys as set forth by the Florida Board of Professional Surveyors and Mappers, Chapter 5J-17, Florida Administrative Code (F.A.C.).
 - ii. Notify Sunshine One Call of Florida (SSOCOF) for a Design Ticket to acquire utility provider information for the specified work areas. Anticipated existing utilities that may be impacted and/or in conflict with the proposed route include AT&T, Spectrum, Crown Castle Fiber, Florida City Gas, FPL and the City of Palm Bay.
 - iii. Horizontally locate and field mark all subsurface utility mains found using electronic devices for designating the full right-of-way.
 - iv. Perform subsurface utility excavation (SUE) services to ascertain detailed locations and materials of existing subsurface utilities at critical points along the pipeline route. The pipeline route is assumed to flow the proposed alignment shown in the RO Master Plan (Attachment A). If an alternative route is selected, an adjusted boring count may be required and not included in this scope of services. The budget will include up to thirty (30) total digs, including twenty (20) "soft digs" and ten (10) "hard digs" as shown on Attachment A and are exclusive of any maintenance of traffic and jurisdictional permitting. If additional soft-digs or hard-digs (pavement/concrete) are required, a separate cost proposal will be provided for approval prior to commencement of any additional work.
- b. Tetra Tech will review survey to determine if acquisition of any permanent easements and/or temporary construction easements are required for this project. If easements are required, easements will be identified in the preliminary design report. This task does not include services for securing rights-of-way, easements, or land acquisition. Any title work to identify any easements along the project route will be paid by the City.

5. Geotechnical Services:

- a. Tetra Tech will subcontract Ardaman and Associates to provide the following geotechnical services:
 - i. Perform a soils investigation for the necessary soils data and other pertinent information required for final brackish raw water main yard piping design. Soil boring logs and classifications, existing groundwater

levels and estimated seasonal high levels, and pipe trench and backfill requirements will be submitted in report format. A program of sixteen (16) Standards Penetration Tests (SPT) and auger borings will be conducted along the pipeline route identified in Red in Attachment A as summarized below. The borings will be conducted in accordance with ASTM D-1586. A breakdown of the depth and quantity of borings assumed for design includes:

- 1) Four (4) 40-foot SPT
- 2) Twelve (12) 12-foot SPT

ii. Results of the geotechnical investigations will be summarized into an engineering analysis and report and provided as three (3) hard copies and one (1) PDF format copy.

b. Tetra Tech will coordinate and schedule this geotechnical services work with the surveying and utility designation tasks described above.

6. Tetra Tech will contact the local utility companies (identified through Sunshine One Call) to be informed about the project once a topographic survey has been established. Copies of the proposed drawings will be provided to each local utility company to mark on the drawing its existing or proposed facilities for potential conflicts to be avoided. Tetra Tech will follow-up with the utility companies and maintain a log of correspondence and documentation sent to the utility companies.
7. Collect and review available road and utility record drawings, aerials, soil publications, and underground utility data along the pipeline route that have bearing and impact on planning, design, permitting, and construction or operation of the proposed improvements. The proposed raw water main route is located mainly on the City's jurisdiction roads, with the exception of the route along Clearmont St. Coordination with the City and L3Harris Technologies Inc is anticipated, which will be coordinated during permitting.
8. Evaluate conditions along the pipeline route and establish preliminary recommendations regarding pipe location and construction methods. The following three (3) methods of construction will be considered: Open trench installation, jack and bore installation, and horizontal directional drill (HDD) installation.
9. Prepare a preliminary layout of the pipeline showing major conflicts with existing facilities and utilities and areas where special construction techniques must be considered.
10. Prepare an engineer's preliminary opinion of probable construction cost based on the Class 4 estimate class as defined by the Association for the Advancement of Cost Engineering (AACE).

11. Prepare a draft technical memorandum that presents the results of the pipeline route evaluation and the basis of design for the brackish raw water mains with related costs. Provide an electronic copy in PDF format of the draft technical memorandum.
12. Following the draft technical memorandum review meeting with the City, Tetra Tech will modify and finalize the technical memorandum as required to develop concurrence regarding the proposed improvements prior to final design. Provide an electronic copy in PDF format of the final technical memorandum.

TASK 3: RWM FINAL DESIGN

RWM Design

Upon acceptance of the technical memorandum completed as part of Task 1, Tetra Tech will initiate final design of the Project. Final design will result in preparation of the engineering drawings and specifications, which will be submitted for review at 75% and 100% completion levels. Design submittals are defined as follows:

1. 75% submittal will consist of construction drawings with the pipeline shown in plan and profile view and draft technical specifications with draft front-end documents.
2. 100% submittal will consist of updates to the documents above and revisions based on 75% review comments.

Provide an electronic copy of the drawings and specifications in PDF format for each review. A review meeting will be held following each submission. Engineer's opinion of probable costs will be submitted at both the 75% and 100% completion levels. To ensure proper design of the facilities, Tetra Tech will obtain approval from City for any substantial changes in the preliminary design prior to incorporation in the final design. Services to be completed during Task 6 are summarized below:

1. Drawings will be prepared using AutoCAD Version 2023. Full scale drawings will be 22"x34". A preliminary list of drawings is provided below:

General

Cover Sheet
Index of Drawings and General Notes
Legend and Abbreviations
Key Map

Survey

Survey Control Sheets (10 Double Plan Sheets)

Civil

Plan and Profile (20 Sheets @ 1" = 20' horizontal and 1"=5' vertical scales)
Sections and Details (5 Sheets)
Erosion and Sedimentation Control Plans and Details

Maintenance of Traffic

MOT Details (10 Sheets) – FDOT Standard Plans Index 102, current year

Prepare a comprehensive project manual to contain bidding, contract and general requirements (Divisions 0 and 1), and technical specifications (Divisions 2 through 16) for competitive bidding. The project manual and its contents will be formatted in accordance with the Construction Specification Institute (CSI) and prepared using Microsoft WORD®. The technical specifications will be in compliance with the most current City of Palm Bay Engineering Standards, FDOT Standards, , and all State of Florida Department of Environmental Protection (FDEP) Rules and Regulations.

TASK 4: RWM PERMITTING

Tetra Tech will prepare and submit the following permit applications and supporting documentation to the Florida Department of Environmental Regulation (FDEP) to obtain permits for construction and operation of the proposed facilities. Tetra Tech will also respond requests for additional information (RAIs) from permitting agencies the permitting agencies to clarify the original application. All permit application fees will be paid by the City.

1. Prepare and submit one (1) FDEP Permit Application for Notice of Intent to Use the General Permit to Construct Water Main Extensions for PWSs, Form 62-555.900(7).
2. Prepare and submit up to one (1) City Right-of-Way Use Permit involving FDOT Standard Plan Index 102 for any necessary Maintenance of Traffic (MOT).
3. Coordinate with The Bermuda Walk, The Courtyards Sandy Pines Preserve, and The Sandy Pines Preserve Homeowner's Association (HOA). Up to two (2) meetings with the HOAs have been included if required for coordination.
4. Respond to requests for additional information from permitting agencies.

III. PROJECT REPRESENTATIVES

City of Palm Bay: Thomas Marinelli, Assistant Utility Director

Tetra Tech: Jon Bundy, P.E./Jarrett Kinslow, P.E.

Subconsultants: Electrical, Instrumentation and Control, Fuel System Design – Wade Trim

Hydrogeological and Geotechnical – Ardaman and Associates

Utility Locates/Test Holes – Southeastern Surveying and Mapping Corporation

IV. OWNER'S RESPONSIBILITIES

The City will provide all pertinent information needed for designing the proposed RO treatment facilities and brackish raw water mains. The anticipated information that is needed was provided during the preliminary design task. Additional data required during the preliminary design update and final design will be requested as needed.

ASSUMPTIONS

1. Public participation services are not requested by the City for this project, except for the HOA meetings identified in Part 3.
2. Chemical Feed Facilities will be provided in a separate building from the RO Building and therefore it is anticipated that no fire sprinklers will be required. If a fire sprinkler system is required on any of the proposed buildings, it will require additional services.
3. It is anticipated that no landscaping or irrigation design will be required. If landscaping and irrigation is required as part of the site plan review, it will require additional services.
4. Services for State Revolving Fund acquisition support, bidding assistance, construction administration and startup will be performed under a separate Task Order and are not included in the scope of services for this project.
5. The SRWTP Expansion project is being delivered under separate task orders and are therefore not included in the scope of services for this project.
6. NPDES permitting is not included within this scope of services, however the bid documents prepared under this scope will include a requirement for the Contractor to apply for and obtain a NPDES permit if greater than 1 acre of the site will be disturbed during construction.
7. Ecological Investigations: The project corridor is in developed areas of the City and ecological investigations are not anticipated to be required for permitting. The scope of services does not include wetland investigation or mitigation and threatened or endangered species relocation services. These will be considered additional services if required.
8. Tetra Tech will meet with SJRWMD/FDEP to determine if ERP permit is required. This scope of work includes services for permitting stormwater system for the new facilities but does not include preparation of ERP permit for the existing site. Additional services will be required should an ERP permit be required by SJRWMD/FDEP.
9. This scope of work does not include services for securing rights-of-way, easements, or land acquisition at the plant site nor for the proposed brackish raw water pipelines.
10. The proposed brackish raw water pipeline design does not include provisions for re-evaluation of pipeline route, easements, MOT, additional property acquisition, etc. If these are required during final design, supplemental amendment will be submitted for additional services.

11. Borings for geotechnical evaluation does not include provisions for MOT plans. If MOT plans are required for geotechnical evaluation, these will be considered additional services.
12. Backup concentrate disposal is not included in the proposed scope of services (concentrate storage or a second deep injection well). Since the City can rely on the existing lime softening process to provide finished water in the event the proposed deep injection well is off-line for integrity testing, backup concentrate disposal is not required in the initial phase and can be added in the future.

V. DELIVERABLES

PART 1 - NRWTP RO TREATMENT FACILITIES

RO Water Treatment Plant

- Draft and Final Preliminary Design Report Update (PDF format/1 Draft and 2 Final Hard Copies)
- Design Progress Submittals (60%, 90%, 100%) with Updated Opinion of Probable Construction Costs (OPCC) (PDF format/1 Hard Copy)
- Geotechnical Report (PDF format/3 Hard Copies)
- Bid Set Construction Documents (PDF format/1 Hard Copy)
- Draft and Final FDEP and City of Palm Bay Building Permit Applications (PDF Format/1 Hard Copy)

PART 2 – HYDROGEOLOGICAL SERVICES

Production Wells

- Design Progress Submittals (90%, 100%) with Updated Opinion of Probable Construction Costs (OPCC) (PDF format/1 Hard Copy)
- Bid Set Construction Documents (PDF format/1 Hard Copy)
- Draft and Final Well Construction Permit Applications (PDF Format/1 Hard Copy)

Deep Injection Well

- Design Progress Submittals (60%, 90%, 100%) with Updated Opinion of Probable Construction Costs (OPCC) (PDF format/1 Hard Copy)
- Bid Set Construction Documents (PDF format/1 Hard Copy)
- Draft and Final FDEP UIC Permit Application (PDF Format/1 Hard Copy)

PART 3 - NRWTP BRACKISH RAW WATER MAIN

- Draft and Final Technical Memorandum (PDF format/1 Hard Copy)
- Geotechnical Report (PDF format/3 Hard Copies)

- Design Progress Submittals (75% and 100%) with Updated Opinion of Probable Construction Costs (OPCC) (PDF format/1 Hard Copy)
- Bid Set Construction Documents (PDF format/1 Hard Copy)
- Draft and Final FDEP, FDOT, Palm Bay Permit Applications (PDF Format/1 Hard Copy)

VI. SCHEDULE

A general project schedule that addresses each activity is presented below, to commence following notice to proceed. We are prepared to proceed immediately upon receipt of the signed contract/purchase order.

Task	Estimated Duration (Weeks)	Cumulative Schedule (Weeks)
Part 1 – NRWTP RO Treatment Facilities		
Draft Preliminary Design Report Update	12	12
Final Preliminary Design Report Update	4	16
Site Investigations	8	20
60% Design Submittal	24	44
90% Design Submittal	12	56
Permitting (WTP)	12	68
100% Design Submittal	8	72
Part 2 – Hydrogeological Services		
90% Design (Production Well)	12	12
60% Design (DIW)	12	12
90% Design (DIW)	8	20
Permitting (Production Well)	12	24
100% Design (Production Well)	4	28
Permitting (DIW)	12	32
100% Design (DIW)	8	40
Part 3 – NRWTP Brackish Raw Water Main		
Draft Technical Memorandum	16	16
Final Technical Memorandum	4	20
75% Design	12	32
Permitting	8	40
100% Design	8	44

Note: Schedule does not include time for review of deliverables by the City.

VII. COMPENSATION

The total lump sum compensation for the Scope of Services described in Section II is **\$2,851,186**. A detailed breakdown of the estimated compensation for the Scope of Services is presented in Exhibit II. The project will be billed monthly as a lump sum based on the percentage complete. A copy of the Subconsultant proposals is provided following Exhibit II. A task level breakdown of fees is provided below.

Part 1 - NRWTP RO Treatment Facilities

Task 1 – Project Management and Progress Meetings	\$178,719
Task 2 – WTP Preliminary Design Update	\$268,963
Task 3 – WTP Final Design	\$1,758,737
Task 4 – WTP Permitting	\$96,598

Part 2 – Hydrogeological Services

Task 1 – Project Management and Progress Meetings	\$21,120
Task 2 – Evaluation of Buildout Well Needs	\$4,336
Task 3 – Production Well Design	\$18,093
Task 4 – Class I Deep Injection Well Design	\$36,179
Task 5 – Production Well Permitting	\$25,958
Task 6 – Class I Deep Injection Well Permitting	\$67,997

Part 3 – NRWTP

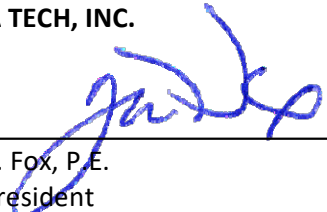
Task 1 – Project Management and Progress Meetings	\$56,204
Task 2 – RWM Preliminary Design	\$186,956
Task 3 – RWM Final Design	\$110,511
Task 4 – RWM Permitting	\$20,815

Total **\$2,851,186**

VIII. ACCEPTANCE

If the above scope and fees meet your approval, please indicate by your signature in the space provided below and return one (1) signed copy which will constitute an Agreement and Notice to Proceed for the accomplishment of this work.

TETRA TECH, INC.



Jon. D. Fox, P.E.
Vice President

July 19, 2024

Date

CITY OF PALM BAY

Date

[illegible]

**NORTH REGIONAL WATER TREATMENT PLANT (NRWTP)
REVERSE OSMOSIS REHABILITATION ENGINEERING
ELECTRICAL ASSISTANCE**

**July 16, 2024
TASK ORDER NO. 8**

SECTION I: BACKGROUND

In 2024, Wade Trim assisted Tetra Tech with the electrical services to complete the RO Master Plan Report for the evaluation of the proposed reverse osmosis (RO) treatment facilities for City of Palm Bay (City) North Regional Water Treatment Plant (NRWTP) RO rehabilitation design for an initial phase of at least 3.33 MGD finished water, including plan for future buildout expansion to 10.0 MGD.

The scope of services herein is associated with the design of a new RO plant at the NRWTP and associated off-site production well based on the recommendations from the RO Master Plan Report. Engineering services for this Task Order consist of updating the preliminary design report and providing the electrical and controls final design to accompany and support Tetra Tech's design.

SECTION II: SCOPE OF WORK

Task 1 – WTP Preliminary Design Update

The City has determined due to limitations with the surficial aquifer supply for the lime softening process at the NRWTP that they will plan for an initial RO capacity of 3.33 MGD and a buildout capacity of up to 10.0 MGD from the ROWTP.

The results from the ROWTP facilities master plan evaluation will be used to update the preliminary design report to reflect proposed facilities and upgrades for the initial phase of the ROWTP. The updated preliminary design report will be used as the basis for the final design of the initial phase and will be used for permitting the proposed facilities.

Tasks to be completed in this phase are described below:

1. Attend a project kick-off meeting with the project team and Palm Bay staff and discuss different alternatives for RO design listed in the master plan evaluation report with utility staff.
2. Update the previously prepared electrical and controls sections of the preliminary design report to reflect the changes from the buildout and phasing evaluation to present the basis of design for the recommended facilities, and to size and configure the new facilities. Updated sections will be provided to Tetra Tech in Microsoft Word format for incorporation into the overall PDR document. Wade Trim's revision of the PDR will include:
 - a. Updated electrical, instrumentation and controls basis of design for the proposed facilities.
3. Participate in three internal coordination calls with Tetra Tech, as needed.

4. Participate in one review meeting with the City and update the BODR with comments generated from the review meeting.

Task 2 – Final Design (60, 90, 100)

Task 2A – Project Management and Progress Meetings

Tasks under this scope of work will provide project management services over the course of the project to include project set up, filing and document control set up, planning, tracking and reporting, and monthly billing.

Project management services on this project will include defining project objectives, coordinating internal team meetings and managing QC reviews of deliverables. Wade Trim's project manager will oversee all project activities, monitor progress against milestones, and manage any changes or issues that arise.

Wade Trim will budget a total of fifteen 30-minute coordination conference calls with Tetra Tech staff during the preparation of design documents. It is assumed meetings will utilize Microsoft Teams.

Task 2B – Site Investigations

Conduct up to two site visits to perform additional site investigations with discipline-specific staff members to progress the design, document visual observations, confirm major process assumptions and record actual dimensions.

Task 2C – New RO Treatment Plant Design

Wade Trim will provide the following services to assist in the electrical and controls design:

The electrical system for the new facilities will be designed in conformance with the National Electric Code. Fire alarm, security, and site lighting design will be included as part of the design.

Electric service: Coordinate with Florida Power and Light for sizing and specification of utility transformers and revenue metering and will be sized to serve 10MGD plant. The new service will be a central point of power for the plant when complete. The electric service for the high service pump station will be replaced by this service.

Switchgear: Switchgear will comply with IEEE C37.20.1, 480V, and sized to serve the 10MGD plant. Switchgear will be designed to provide redundant power feeds to plant equipment and used as automatic transfer of power between utility transformers and two diesel generators (1 new and 1 existing).

Standby diesel generator: Design will include one stand-alone diesel generator on a belly tank sized to serve the 10 MGD plant. The generator will be equipped with an enclosure for sound attenuation.

Design an electrical distribution system to serve new reverse osmosis plant sized to serve 10MGD plant. Specified equipment will include motor control centers, power panels, lighting panels, building lighting. Control diagrams for pumps and equipment will be developed as required. Lightning protection will be designed for the new buildings.

Design the rewiring of power feed to lime softening plant. With the relocation of the existing generator to the switchgear, it will be necessary to refeed the lime softening plant from the new switchgear. The electrical service and automatic transfer switch at the lime plant will remain until it is eventually demolished.

Design the rewiring of power feed to high service pump station. With the relocation of the existing generator to the switchgear, it will be necessary to refeed the high service pump station from the new switchgear. Demolition of existing Automatic Transfer Switch and existing Florida Power & Light service will be designed at this time. To maintain proper redundancy, the existing motor control centers will be modified or replaced to accept two power feeds from the switchgear.

Design an electrical system for a deep injection well and four off-site wells. Power will come from nearest plant source.

Design of electrical site plan; Underground duct banks will be designed to distribute cables throughout the plant and to well site.

Design a replacement for existing UPS in electrical room.

The instrumentation and control system for the new facilities will be designed in conformance with Palm Bay Communication and Information Technology Department (CIT) design guidelines. Interfaces with existing and future systems shall be coordinated. Temporary interfaces among project facilities and other facilities, including control and instrumentation considerations, shall be included in the work. Temporary and permanent interfaces between Project facilities and other facilities, and with existing and future systems shall be included in the Work. The interfaces shall be analyzed, included in the design, and coordinated with the construction sequencing.

Provide P&IDs to serve new reverse osmosis plant (up to 17 drawings) and a typical well pump site. Coordination with process engineers and equipment manufacturers will be included.

panel, by fiber optic cable, into the existing network rack and included in the Lime Softening Plant SCADA. SCADA will only monitor the RO plant, with a new remote terminal located in the Lime Softening Plant control room. All RO control will be provided at the RO panel only. SCADA programming and graphics will be specified. SCADA programming and graphics will not be provided, it will be expected any programming will be done by an integrator.

Design update to plant fiber optic loop providing necessary redundancy to equipment.

DELIVERABLE: Wade Trim will provide Tetra Tech with the electrical and controls design for the 60%, 90%, and 100% design deliverables. Wade Trim will provide Tetra Tech with design plans and specifications at each phase of design in PDF Format. Additional time will be included for internal progress meeting conference calls and three onsite client meetings to discuss client comments. Please refer to the attachment identifying the list of anticipated electrical drawings and specifications.

Task 2D – WTP Permitting

Wade Trim will provided limited permitting assistance which will consist of signing and sealing permitting drawings and responding to RAIs.

SECTION III: PROJECT REPRESENTATIVES

Tetra Tech: Jon Bundy, PE
407-480-3904
Jon.Bundy@tetrattech.com

Wade Trim: Oscar E. Duarte, P.E.
321-728-3389
oduarte@wadetrim.com

SECTION IV: SCHEDULE

TBD – Pending review and agreement of Tetra Tech’s committed schedule with the City.

SECTION V: BASIS OF COMPENSATION

The fee for the scope of work described in Section II, shall not exceed a total lump sum fee of **\$707,730.00**. as shown in the table below. Tetra Tech shall compensate Wade Trim on a monthly basis based on mutually agreed upon percentages of completion of each task.

TASK	DESCRIPTION	FEE
1	WTP Preliminary Update	\$ 54,540.00
2A	Project Management and Progress Meetings	\$ 57,872.00
2B	Site Investigations	\$ 10,580.00
2C	New RO Treatment Plant Design	\$ 558,478.00
2D	WTP Permitting	\$ 26,260.00
	TOTAL	\$ 707,730.00

At the direction of Tetra Tech, Wade Trim may be requested to provide additional services. These additional services will be billed at the standard hourly billing rates listed below.

Senior Project Manager - \$311 / hr
Senior Electrical Engineer - \$286 / hr
Electrical Engineer V - \$220 / hr
Senior CAD Designer (Electrical) - \$180 / hr

ATTACHMENT 1

ANTICIPATED DRAWINGS TO BE SUBMITTED UNDER THIS TASK ORDER

E-0001	ELECTRICAL ABBREVIATIONS AND SYMBOLS
E-1001	SWITCHGEAR SINGLE LINE DIAGRAM
E-1002	MCC RO #1 - SINGLE LINE DIAGRAMS
E-1003	MCC RO #2 - SINGLE LINE DIAGRAMS
E-1004	MCC HIGH SERVICE #1 - SINGLE LINE DIAGRAMS
E-1005	MCC HIGH SERVICE #2 - SINGLE LINE DIAGRAMS
E-1006	SWITCHGEAR - ELEVATION
E-1007	MCC #'S - ELEVATIONS
E-1008	MCC #'S - ELEVATIONS
E-1009	ELEMENTARY CONTROL DIAGRAMS
E-1010	ELEMENTARY CONTROL DIAGRAMS
E-1011	ELEMENTARY CONTROL DIAGRAMS
E-1013	PANEL SCHEDULES
E-1014	PANEL SCHEDULES
E-1015	LIGHTING FIXTURE - SCHEDULE AND DETAILS
E-1016	ELECTRICAL SITE PLAN – NORTH
E-1017	ELECTRICAL SITE PLAN - SOUTH
E-1018	DUCT BANK SECTIONS
E-1019	TYPICAL NEW WELLHEAD ELECTRICAL PLAN
E-1020	TYPICAL EXISTING WELL MODIFICATION ELECTRICAL PLAN
E-1021	RO PROCESS BUILDING - OVERALL ELECTRICAL EQUIPMENT PLAN
E-1022	RO PROCESS BUILDING - CARTRIDGE FILTER AND RO FEED PUMPS ENLARGED PLAN
E-1023	RO PROCESS BUILDING - RO SKID ENLARGED PLAN
E-1024	RO PROCESS BUILDING – MEMBRANE CLEANING SYSTEM ENLARGED PLAN
E-1025	RO PROCESS BUILDING – ELECTRICAL ROOM ENLARGED PLAN
E-1026	RO PROCES BUILDING - LIGHTING PLAN
E-1027	RO PROCES BUILDING GROUNDING PLAN
E-1028	RO PROCES BUILDING LIGHTNING PROTECTION PLAN
E-1029	INSTRUMENTATION AND CONTROLS - CONDUIT AND WIRE RISER
E-1030	INSTRUMENTATION AND CONTROLS - CONDUIT AND WIRE RISER
E-1031	MAIN ELECTRICAL AND BLOWER BUILDING - POWER PLAN
E-1032	MAIN ELECTRICAL BLOWER BUILDING - LIGHTING PLAN
E-1033	MAIN ELECTRICAL BLOWER BUILDING - BLOWERS ENLARGED PLAN
E-1034	MAIN ELECTRICAL BLOWER BUILDING - GROUNDING PLAN
E-1035	MAIN ELECTRICAL BLOWER BUILDING - LIGHTNING PROTECTION PLAN
E-1036	INSTRUMENTATION AND CONTROLS - CONDUIT AND WIRE RISER
E-1037	INSTRUMENTATION AND CONTROLS - CONDUIT AND WIRE RISER
E-1038	CHEMICAL STORAGE AND FEED SYSTEMS - POWER PLAN
E-1039	CHEMICAL STORAGE AND FEED SYSTEMS - ENLARGED PLAN

E-1040	CHEMICAL STORAGE AND FEED SYSTEMS - POWER PLAN
E-1041	CHEMICAL STORAGE AND FEED SYSTEMS - POWER PLAN
E-1042	CHEMICAL STORAGE AND FEED SYSTEMS - POWER PLAN
E-1043	CHEMICAL STORAGE AND FEED SYSTEMS - POWER PLAN
E-1044	CARBON DIOXIDE STORAGE AND FEED SYSTEM - POWER PLAN
E-1045	CHEMICAL STORAGE AND FEED SYSTEMS - LIGHTING PLAN
E-1046	CHEMICAL STORAGE AND FEED SYSTEMS - GROUNDING PLAN
E-1047	CHEMICAL STORAGE AND FEED SYSTEMS - LIGHTNING PROTECTION PLAN
E-1048	INSTRUMENTATION AND CONTROLS - CONDUIT AND WIRE RISER
E-1049	INSTRUMENTATION AND CONTROLS - CONDUIT AND WIRE RISER
E-1050	DEGASIFIER AND ODOR CONTROL - POWER PLAN
E-1051	FINISHED WATER TRANSFER PUMPS - POWER PLAN
E-1052	POST TREATMENT STRUCTURE - LIGHTING PLAN
E-1053	POST TREATMENT STRUCTURE - GROUNDING PLAN
E-1054	POST TREATMENT STRUCTURE LIGHTNING PROTECTION PLAN
E-1055	INSTRUMENTATION AND CONTROLS - CONDUIT AND WIRE RISER
E-1056	INSTRUMENTATION AND CONTROLS - CONDUIT AND WIRE RISER
E-1057	GENERATOR AND FUEL STORAGE - PLAN
E-9901	ELECTRICAL DETAILS
E-9902	ELECTRICAL DETAILS
E-9903	ELECTRICAL DETAILS
E-9904	ELECTRICAL DETAILS
E-9905	ELECTRICAL DETAILS
I-0001	ABBREVIATIONS
I-1001	TYPICAL WELLHEAD P&ID
I-1002	RO CHEMICAL PRETREATMENT SYSTEM P&ID
I-1003	RO CARTRIDGE FILTER PRETREATMENT SYSTEM P&ID
I-1004	RO SKID FEED PUMP AND GENERAL PIPING P&ID
I-1005	TYPICAL RO SKID INTERNAL PIPING P&ID
I-1006	RAW WATER BLENDING P&ID
I-1007	RO PROCESS SAMPLING P&ID
I-1008	DEEP INJECTION WELL AND DUAL ZONE MONITORING WELL P&ID
I-1009	MEMBRANE CLEANING SYSTEM P&ID
I-1010	DEGASIFIER AND ODOR CONTROL SYSTEM P&ID
I-1011	SODIUM HYDROXIDE STORAGE AND FEED SYSTEM P&ID
I-1012	PHOSPHATE CORROSION INHIBITOR STORAGE AND FEED SYSTEM P&ID
I-1013	CHLORINE STORAGE AND FEED SYSTEM P&ID
I-1014	AMMONIA STORAGE AND FEED SYSTEMS P&ID
I-1015	CARBON DIOXIDE STORAGE AND FEED SYSTEM P&ID
I-1016	FLUORIDE STORAGE AND FEED SYSTEM P&ID
I-1017	FINISHED WATER TRANSFER PUMPING SYSTEM P&ID
I-1018	DATA ACQUISITION SYSTEM ARCHITECTURE

I-1019	ANALYTICAL PANELS
I-1020	ANALYTICAL PANELS
I-1021	ANALYTICAL PANELS
I-1022	PANEL DETAILS
I-1023	CONTROL PANELS
I-1024	CONTROL PANELS
I-1025	FIELD DEVICE INSTALLATION
I-1026	FIELD DEVICE INSTALLATION
I-1027	FIELD DEVICE INSTALLATION

ATTACHMENT 2

ANTICIPATED SPECIFICATIONS TO BE SUBMITTED UNDER THIS TASK ORDER

1. GENERAL ELECTRICAL WORK
2. ELECTRICAL TEST
3. ELECTRIC MOTORS
4. MISCELLANEOUS CONTROL DEVICES
5. LOW VOLTAGE WIRE AND CABLES
6. GROUNDING AND BONDING
7. HANGERS AND SUPPORTS
8. ELECTRICAL RACEWAYS
9. UNDERGROUND RACEWAY SYSTEMS
10. ELECTRICAL IDENTIFICATION
11. PROTECTIVE DEVICE STUDIES
12. SECONDARY UNIT SUBSTATION
13. PANELBOARDS AND DRY TYPE TRANSFORMERS
14. DISCONNECT SWITCHES
15. Low Voltage Switchgear
16. MOTOR CONTROL CENTERS
17. WIRING DEVICES
18. VARIABLE FREQUENCY DRIVES
19. UNINTERRUPTIBLE POWER SYSTEMS
20. SURGE PROTECTION DEVICES
21. LIGHTING
22. PLANT INSTRUMENTATION AND CONTROL SYSTEM GENERAL REQUIREMENTS
23. PLANT INSTRUMENTATION AND CONTROL SYSTEM FACTORY TESTING
24. PLANT INSTRUMENTATION AND CONTROL SYSTEM START-UP, COMMISSIONING, AND
FIELD TESTING
25. PLANT INSTRUMENTATION AND CONTROL SYSTEM TRAINING
26. PRIMARY SENSORS AND FIELD INSTRUMENTS
27. PROGRAMMABLE CONTROLLERS
28. CONTROL PANELS AND ENCLOSURES
29. PILOT LIGHTS, PUSH BUTTONS AND SELECTOR SWITCHES
30. DATA CABLE AND EQUIPMENT
31. FIBER OPTIC CABLE AND APPURTENANCES
32. NETWORK DEVICES
33. INTEGRATED SECURITY ENVIRONMENT
34. PLC INPUT/OUTPUT SCHEDULES
35. CONTROL PANEL INSTRUMENTS AND DEVICES



June 27, 2024

Via E-Mail: eddie.jenkins@tetrattech.com

Mr. Lawrence E. (Eddie) Jenkins | Surveying & Mapping Manager
Tetra Tech, Inc.
201 E. Pine Street, Suite #1000
Orlando, FL 32801
D. 407-480-5152 | M. 954-326-6349

**RE: City of Palm Bay NRWTP Plant
1105 Clearmont Street NE, Palm Bay, FL 32905
Section 26, Township 28 South, Range 37 East, Brevard County, Florida**

Dear Mr. Jenkins,

PROJECT STATEMENT: We are pleased to submit our proposal for Utility Services on the above-referenced project. It is our understanding that Tetra Tech Inc. requires Subsurface Utility Designation & Verification (Test Holes) with Optional survey Collection & Test Hole Collection to support the City of Palm Bay NRWTP Plant Project. The specific area is identified on Attached Exhibit. We appreciate the opportunity to provide these services to you. Please contact us if you have any questions.

SCOPE OF WORK:

1. Horizontally locate and field mark (paint & flags) all public subsurface utility mains found excluding service lines, gravity sewer lines and irrigation within the **yellow** outlined area shown on the KMZ sent by client via email on June 19, 2024.
2. Coordinate Sunshine 811 and utility locates to include supplemental calls to each locator to expedite the field marking of each subsurface utility as required by law.
3. Expose the subject utilities by using non-destructive vacuum excavation methods at **twenty (20)** specific locations as indicated on plan sheet(s) provided or marked by client in the field. The exact number and location of test holes will be decided by the client after utility designation has been completed.
4. Confirm/determine the vertical and horizontal position of the subject utilities and record the information, using the locate marks provided by the utility owners and/or their representatives unless otherwise specifically requested by client.
5. Any asphalt/concrete removed will be repaired using like materials.
6. Locate all utility data using GPS or conventional surveying equipment and control.

DELIVERABLE

The final product will be a field drafted plan sheet or utility designation field sketch(s) as well as test hole reports/sketches of the project area reflecting all pertinent data for your use.

ADDITIONAL SERVICES

Any service not explicitly provided for in the above scope will be billed as additional services and will be performed at our then current hourly rates as provided for in **Exhibit A**.

UTILITY TERMS AND CONDITIONS

It is understood that the construction contractor is responsible to abide by Sunshine 811, Florida State Statutes Chapter 556.106 and all applicable laws, and regulations that pertain to the services provided.

Tetra Tech Inc. will make available all plans and utility records that have been obtained for this site. However, the information provided by Tetra Tech Inc. is also dependent upon a Sunshine 811 request for utility owners and/or their representatives to mark their buried underground plant at the project site as required by law. Southeastern Surveying and Mapping Corporation (SSMC) has a right to rely on the accuracy of such plans and utility records and will notify Tetra Tech Inc. if there are any patently or reasonably identifiable defects in the documents.

Tetra Tech Inc. is aware that due to the inherent uncertain nature of subsurface utilities, including but not limited to deficient or misrepresentation of prints, SSMC cannot guarantee that all subsurface utility lines will be accounted for. SSMC will ensure that all reasonable efforts are made to identify the location of said underground utilities and provide the best available information within the project area with the use of Ground Penetrating Radar, Electronic Line Locating Equipment and Vacuum Excavation methods, as needed. Additional research will only be conducted by SSMC if requested in writing by Tetra Tech Inc.

In accordance with the Underground Facility Damage Prevention and Safety Act, the Design Engineer shall perform sufficient Utility Coordination with the Utility providers in this location to affirm the information from SSMC's efforts and confirm that no other subsurface utility is possibly undetected by these efforts.

SSMC shall not be held liable for any latent or unreasonably discoverable utilities in the project area. Furthermore, in the event of a claim regarding the services provided in the proposal, SSMC shall have liability for reasonable and necessary defense costs to the extent caused by SSMC's negligence.

M.O.T. will be used only if absolutely necessary and these invoice charges will be an addition to the total per day rate and reflected on our invoice to you.

Note: If permitting is required for said work, these charges will also be additional and reflected on our invoice to you.

Note: Test Holes that require a depth of greater than ten (10) feet or require a substantial amount of increased effort (sleeving, shoring, de-watering, etc.), then said Test Holes may need to be negotiated separately on a case-by-case basis if normal vacuum excavation practices do not allow said utilities to be exposed.

Note: All utility sizes given are outside diameter unless otherwise specified and are approximate only due to uncontrollable field conditions that may be encountered during excavation.

Note: Any additional overlaying or restoration of pavement, other than the replacement of materials removed and cold patched, will be the responsibility of Tetra Tech Inc.

PROJECT TIMELINE:

We anticipate the completion of the above-described work within **six (6) weeks** after receipt of an approved permit and a written notice to proceed.

EXPENSES AND FEES

Our fee for this project will be as follows:

Subsurface Utility Designation:	\$18,374.00
--	--------------------

Test Holes/Day Rate:

\$616.00 Dirt/Each (Anticipate 20)	\$12,320.00
---	--------------------

\$765.00 Asphalt/Concrete/Each	
--------------------------------	--

M.O.T. (SSMC):

\$1,013.00 per Lane Closure/Day Rate

\$1,231.00 per Lane Closure/Night Rate

Optional Survey Collection & Drafting

Survey Collection: \$ 7,965.00

Test Hole Collection:

\$150.00/each (anticipate 20) \$ 3,000.00

Anticipated Total without optional Survey **\$30,694.00**

Anticipated total With Optional Survey \$41,659.00

PAYMENT TERMS:

Payment is expected within thirty (30) days from the date of the invoice.

LATE FEES

Late fees will assess to all payments past the 30 day mark. Late fee will be in the amount of \$50.00. Additional late fees will continue to accrue every 30 days past invoice date. Reference invoice number and please remit all payments to 6500 All American Blvd. Orlando, FL 32810.

PAYMENT OPTIONS

SSMC is committed to ensuring our clients have access to various payment options. These options include cash, paper checks, ACH transfers, wire transfers, and credit cards. Credit card payments are subject to a vendor administrative fee of 3.5% of the invoice total.

CLOSURE

In addition to the matters set forth above, our Agreement shall include and be subject to, and only to the attached General Terms and Conditions, which are incorporated by reference. **UPON SIGNATURE, NO OTHER CONTRACTS WILL BE CONSIDERED FOR THIS SCOPE OF WORK.**

We look forward to the opportunity to work with you on this project.

Sincerely,



Grozio E. Blevins
Utility Division Project Manager

GEB.CRE

Mr. Lawrence E. (Eddie) Jenkins | Surveying & Mapping Manager
City of Palm Bay NRWTP Plant
June 27, 2024



If the above scope, period of service, and method of compensation meets with your approval, please have an authorized Signatory execute the Agreement below and send via email to contracts@southeasternsurveying.com. **Fees and times stated in this agreement are valid for six months from the date of the proposal which would be (December 25, 2024).**

CLIENT AUTHORIZATION

I declare that I am authorized to sign the binding contractual document. I also declare that I have read, understand, and accept this proposal.

Signature

Date

Printed Name

Title (if any)

EXHIBIT "A"

HOURLY RATES

Surveying and Mapping Services

Category	Day Rate	Night / Weekend Rates
Professional Surveyor & Mapper/PSM	\$ 199.00	
Project Surveyor	\$ 177.00	
Expert Witness	\$ 360.00	
Senior Technician	\$ 133.00	
CAD Technician	\$ 118.00	
Clerical	\$ 79.00	\$ 118.00
One Person Field Crew	\$ 133.00	
Two Person Field Crew	\$ 178.00	\$ 267.00
Three Person Field Crew	\$ 233.00	\$ 350.00
Four Person Field Crew	\$ 289.00	\$ 433.00
Sketch of Descriptions (per SD)	\$ 676.00	
Residential Elevation Certificate	\$ 925.00	
Commercial Elevation Certificate (per bldg.)	\$ 1,306.00	
Initial and Second Plat Review (up to two sheets)	\$ 1,150.00 / per plat	
Initial and Second Plat Review (over two sheets)	\$ 200.00 / per sheet	
Plat (Third or additional reviews of same plat)	\$ 450.00 / each	

LiDAR/UAV

Category	Day Rate	Night / Weekend Rates
LiDAR Technician	\$ 133.00	
LiDAR Project Manager	\$ 177.00	
LiDAR One Person Field Crew	\$ 155.00	
LiDAR Two Person Field Crew	\$ 204.00	
Clerical	\$ 79.00	\$ 118.00
UAS/UAV Photogrammetry Crew	\$ 268.00	
Mobile Scan Crew	\$ 268.00	

Construction Services

Category	Day Rate	Night / Weekend Rates
Construction Professional Surveyor & Mapper	\$ 203.00	
Construction Project Manager	\$ 203.00	
Construction Senior Technician	\$ 153.00	
Construction CAD Technician	\$ 136.00	
Clerical	\$ 79.00	\$ 118.00
Construction One Person Field Crew	\$ 153.00	
Construction Two Person Field Crew	\$ 204.00	\$ 306.00
Construction Three Person Field Crew	\$ 268.00	\$ 402.00
Construction Four Person Field Crew	\$ 332.00	\$ 498.00

GIS Services

Category	Day Rate	Night / Weekend Rates
Professional Engineer	\$ 213.00	
GIS Project Manager	\$ 177.00	
GIS Analyst	\$ 119.00	
GIS Technician	\$ 79.00	
Clerical	\$ 79.00	\$ 118.00
Two Person GIS Crew	\$ 178.00	
One Person GIS Crew	\$ 133.00	

Subsurface Utility Engineering (SUE) Services

Category	Day Rate	Night / Weekend Rates
Project Manager	\$ 177.00	\$ 265.00
Senior Technician	\$ 133.00	\$ 200.00
Clerical	\$ 79.00	\$ 118.00
One Person Crew	\$ 178.00	\$ 267.00
Two Person Crew	\$ 216.00	\$ 324.00
Three Person Crew	\$ 301.00	\$ 451.00
Vacuum Excavation (Per Test Hole)		
1-3 Test Holes/Dirt	\$ 2,664.00	\$ 3,864.00
1-3 Test Holes/Asphalt/Concrete	\$ 2,664.00	\$ 3,864.00
4 or more Test Holes/Dirt (Per Location)	\$ 616.00 / each	\$ 924.00 / each
4 or more Test Holes/Asphalt/Concrete (Per)	\$ 765.00 / each	\$ 1,148.00 / each
One Person Concrete Radar Mapping/Imaging	\$ 217.00	\$ 336.00
Temporary Traffic Control (TTC)		
Per Lane Closure	\$ 1,013.00 / each	\$ 1,231.00 / each
Per Sidewalk Closure	\$ 500.00 / each	\$ 600.00 / each
Flagman Control (Hourly – Per Flagger)	\$ 100.00	\$ 150.00
Mast Arms (Per Location)		
Subsurface Utility Locating (QL-B & QL-A)	\$ 1,656.00	
Concrete/Asphalt Removal & Repair	\$ 436.00	
Survey Staking of Pole Location	\$ 431.00	

Miscellaneous Services

Per Diem/Lodging Expenses		
Category	Day Rate	Night / Weekend Rates
Per Day Two Person Crew	\$ 395.00	
Per Day Three Person Crew	\$ 595.00	

GENERAL TERMS AND CONDITIONS

These standard terms and conditions ("STCS") are incorporated by reference into the foregoing proposal, along with any future modifications or amendments (the "Agreement") between Southeastern Surveying and Mapping Corporation ("SSMC") and its Client ("You" or "Your") for the performance of surveying services ("Services"). These STCS are fully binding upon you just as if they were fully outlined in the body of the proposal letter and shall supersede any term or provision elsewhere in the agreement in conflict with these STCS.

SCOPE OF SERVICES.

For the fee outlined in this Proposal, you agree that SSMC shall only be obligated to render the Services expressly described in this Proposal. Unless otherwise expressly required, in no event do we have any obligation or responsibility for:

- The correctness and completeness of any document prepared by another entity.
- The correctness and completeness of any drawing we prepared unless it was properly signed and sealed by a registered professional on our behalf.
- Favorable or timely comment or action by any governmental entity on submitting any construction documents, land use or feasibility studies, appeals, petitions for exceptions or waivers, or other requests or documents whatsoever.
- Off-site circumstances other than those clearly visible and actually known to us from on-site work.
- The actual location (or characteristics) of any portion of a utility that is not entirely visible from the surface.
- The safety conditions for the entire site, construction quality, means, methods, or sequences.
- The correctness of any geotechnical services performed by others, whether or not as our subcontractor.

Should the shop drawing review be incorporated into the Services, we shall promptly pass on the shop drawings. Checking and approving shop drawings will be general for conformance with the Project's design concept to which this Proposal relates ("Project") and compliance with the information in the construction documents. They will not include quantities, detailed dimensions, or dimensions adjustments to actual field conditions. Approval shall not be construed as permitting any departure from contract requirements nor as relieving the Client of the sole and final responsibility for any error in details, dimensions, or otherwise that may exist. **SSMC does not provide legal, accounting, or insurance services.**

YOUR ORAL DECISIONS

You, or any of your directors, officers, partners, members, managers, employees or agents having apparent authority from you, may orally: (a) make decisions relating to Services or the Agreement; (b) request a change in the scope of Services under the Agreement; or (c) request SSMC to render additional services under the Agreement, subject to our right to require you to submit the request in writing before your decision or request shall be considered to have been effectively made. You may, at any time, limit the authority of any or all persons to act orally on your behalf under this Paragraph, by giving SSMC seven (7) days advance written notice.

STANDARD OF CARE

The standard of care for all professional services performed by SSMC under this Agreement shall be the skill and care used by members of SSMC's profession practicing under similar circumstances at the same time and in the same locality.

PAYMENT

SSMC may submit invoices at any time to you for Services and reimbursable expenses incurred. Invoices are payable within 30 days of the invoice date. Invoices may be based either upon our estimate of the proportion of the total services completed at the time of billing for lump sum or fixed fee services, or in the case of hourly services, upon rendering of the Services. If any invoice is not paid within 30 days of the invoice date, SSMC shall have the right either to suspend the performance of our Services until all invoices more than 30 days past due are fully paid or to terminate the agreement and to initiate proceedings to recover amounts owed by you. Additionally, SSMC shall have the right to withhold from you the possession or use of any drawings or documents prepared by SSMC for you under this or any other agreement with you until all delinquent invoices are paid in full. You shall not offset payments of our invoices by any amounts due or claimed to be due for any reason.

If you do not give SSMC written notice disputing an invoice within 20 days of the invoice date, the invoice shall conclusively be deemed correct. All payments made by you should specify the invoice numbers being paid. If SSMC receives payments that do not specify the invoices being paid, you agree that SSMC may apply payments in our sole discretion. Time is of the essence of your payment obligations, and your failure make full and timely payment shall be deemed a material breach.

PROPRIETARY RIGHTS

The drawings, specifications and other documents prepared by SSMC under this Agreement are instruments of SSMC's service for use solely for the Project and, unless otherwise provided, SSMC shall be deemed the author of these documents and shall retain all common law, statutory, and other reserved rights, including the copyright and rights to any SSMC trademarks. You shall be permitted to retain copies, including reproducible copies of SSMC's instruments of service for information and reference for the Project. SSMC's drawings, specifications, or other documents shall not be used by you or others on other projects for any reason or for completion of this Project by other professionals unless you enter into a written agreement with SSMC allowing for such use. Submission or distribution of documents to meet official regulatory requirements or for similar purposes in connection with the Project is not to be construed as publication inconsistent with our reserved rights.

TERMINATION

Either party may terminate the Agreement if the other party materially breaches the Agreement. You shall immediately pay SSMC for our services rendered and expenses incurred through the termination date, including fees and expenses that SSMC incur as a result of the termination.

ASSIGNMENT

Neither party shall assign or transfer any rights, interests or claims arising under this Agreement without the written consent of the other. This Agreement shall not confer any benefit or right upon any person or entity other than you, SSMC, and its officers, employees, agents, and subcontractors. SSMC's officers, employees, agents, and subcontractors shall have and shall be entitled to the protections afforded SSMC under this Agreement.

GOVERNING LAW

This Agreement shall be interpreted under and governed by the laws of the State of Florida. The parties agree that the courts of Orange County, Florida, and the US District Court of the Middle District of Florida (Orlando Division) shall have exclusive jurisdiction over any controversy. The parties consent to the jurisdiction of the Courts and waive any objection either party might otherwise be entitled to assert regarding jurisdiction. The parties irrevocably waive all right to trial by jury in any action, proceeding, or counterclaim arising out of or related to this Agreement.

SEVERABILITY

If any part, term, or provision of this agreement is held to be illegal or unenforceable, the validity and enforceability of the remaining parts, terms, and provisions of this agreement shall not be affected, and each party's rights shall be construed and enforced as if the agreement did not contain the illegal or unenforceable part, term, or provision.

LIMITATIONS ON LIABILITY

SSMC's liability for any loss, property damage or bodily injury of or to you caused in whole or in part by SSMC in the performance of this Agreement, or in the performance of any supplementary services in any way related to this Agreement, shall be limited in the aggregate to the amount of fees that you have paid to SSMC for the Services. The parties intend that the preceding limitation on liability shall apply to all claims, whether sounding in tort, in contract, in warranty or otherwise. You release, waive, and shall not seek contribution from, or indemnification by, SSMC for any claims of any nature made against you by any other person who may suffer any loss, property damage or bodily injury in any manner associated with SSMC's services, or SSMC's officers, employees, agents and subcontractors under this Agreement, or any supplementary services in any way related to this Agreement. SSMC shall not be liable to you, in any event or for any amount, for delays, or consequential, special or incidental damages; or punitive or exemplary damages.

PAYMENT OF ATTORNEY'S FEES

The losing party shall pay the winning party's reasonable attorney's fees and expenses for the prosecution or defense of any cause of action, claim or demand arising under this Agreement in any court or in arbitration.

INDEMNIFICATION

You agree to indemnify and hold SSMC harmless from and against any and all liability, loss, damages, claims, and demands for loss, damages, property damages or bodily injury, arising out of work undertaken on the Project by you, or your contractor, subcontractor or other independent company or consultant employed by you to work on the Project, or their respective partners, members, managers, directors, officers, employees, agents or assigns; or arising out of any other operation, no matter by whom performed, for and on behalf of you, or such contractor, subcontractor or other independent company or consultant, whether or not due in part to errors or omissions by us in the performance of this Agreement, or in the performance of any supplementary service in any way related to this Agreement, provided that you are not required to indemnify and hold SSMC harmless under this Paragraph in the event of SSMC's sole negligence.

INSURANCE

SSMC represents that it carries and will continue carry General Liability in the amount of \$1M per each occurrence and \$2M per general aggregate, Worker's Compensation in the amount of \$1M, Automobile Liability in the amount of \$1M, Professional Liability also known as Errors and Omissions in the amount of \$5M per occurrence and general aggregate, and Umbrella Coverage in the amount of \$5M. General Liability, Automobile Liability and Worker's Compensation are primary and non-contributory with Umbrella following form. Certificates of Insurance shall be provided upon request, listing your Company as the certificate holder for a period of one (1) year. SSMC and Client shall waive subrogation against one another.

COMPLETE AGREEMENT

This Agreement contains the entire agreement between the parties concerning the matters covered herein. No prior representations, statements, or inducements made by either SSMC, you, or the respective agents of either, that is not contained in the Agreement shall enlarge, modify, alter, or otherwise vary the written terms of the Agreement unless they are made in writing and made a part of the Agreement by attachment, incorporated by reference in the Agreement or signed or initialed on behalf of both parties.





June 27, 2024

Via E-Mail: eddie.jenkins@tetrattech.com

Mr. Lawrence E. (Eddie) Jenkins | Surveying & Mapping Manager
Tetra Tech, Inc.
201 E. Pine Street, Suite #1000
Orlando, FL 32801
D. 407-480-5152 | M. 954-326-6349

**RE: City of Palm Bay NRWTP Route
1105 Clearmont Street NE, Palm Bay, FL 32905
Section 26 and 27, Township 28 South, Range 37 East, Brevard County, Florida**

Dear Mr. Jenkins,

PROJECT STATEMENT: We are pleased to submit our proposal for Utility Services on the above-referenced project. It is our understanding that Tetra Tech Inc. requires Subsurface Utility Designation & Verification (Test Holes) with Optional survey Collection & Test Hole Collection to support the City of Palm Bay NRWTP Route Project. The specific area is identified on Attached Exhibit. We appreciate the opportunity to provide these services to you. Please contact us if you have any questions.

SCOPE OF WORK:

1. Horizontally locate and field mark (paint & flags) all public subsurface utility mains found excluding service lines, gravity sewer lines and irrigation within the **red** outlined area shown on the KMZ sent by client via email on June 19, 2024.
2. Coordinate Sunshine 811 and utility locates to include supplemental calls to each locator to expedite the field marking of each subsurface utility as required by law.
3. Expose the subject utilities by using non-destructive vacuum excavation methods at **thirty (30)** specific locations as indicated on plan sheet(s) provided or marked by client in the field. The exact number and location of test holes will be decided by the client after utility designation has been completed.
4. Confirm/determine the vertical and horizontal position of the subject utilities and record the information, using the locate marks provided by the utility owners and/or their representatives unless otherwise specifically requested by client.
5. Any asphalt/concrete removed will be repaired using like materials.
6. Locate all utility data using GPS or conventional surveying equipment and control.

DELIVERABLE

The final product will be a field drafted plan sheet or utility designation field sketch(s) as well as test hole reports/sketches of the project area reflecting all pertinent data for your use.

ADDITIONAL SERVICES

Any service not explicitly provided for in the above scope will be billed as additional services and will be performed at our then current hourly rates as provided for in **Exhibit A**.

UTILITY TERMS AND CONDITIONS

It is understood that the construction contractor is responsible to abide by Sunshine 811, Florida State Statutes Chapter 556.106 and all applicable laws, and regulations that pertain to the services provided.

Tetra Tech Inc. will make available all plans and utility records that have been obtained for this site. However, the information provided by Tetra Tech Inc. is also dependent upon a Sunshine 811 request for utility owners and/or their representatives to mark their buried underground plant at the project site as required by law. Southeastern Surveying and Mapping Corporation (SSMC) has a right to rely on the accuracy of such plans and utility records and will notify Tetra Tech Inc. if there are any patently or reasonably identifiable defects in the documents.

Tetra Tech Inc. is aware that due to the inherent uncertain nature of subsurface utilities, including but not limited to deficient or misrepresentation of prints, SSMC cannot guarantee that all subsurface utility lines will be accounted for. SSMC will ensure that all reasonable efforts are made to identify the location of said underground utilities and provide the best available information within the project area with the use of Ground Penetrating Radar, Electronic Line Locating Equipment and Vacuum Excavation methods, as needed. Additional research will only be conducted by SSMC if requested in writing by Tetra Tech Inc.

In accordance with the Underground Facility Damage Prevention and Safety Act, the Design Engineer shall perform sufficient Utility Coordination with the Utility providers in this location to affirm the information from SSMC's efforts and confirm that no other subsurface utility is possibly undetected by these efforts.

SSMC shall not be held liable for any latent or unreasonably discoverable utilities in the project area. Furthermore, in the event of a claim regarding the services provided in the proposal, SSMC shall have liability for reasonable and necessary defense costs to the extent caused by SSMC's negligence.

M.O.T. will be used only if absolutely necessary and these invoice charges will be an addition to the total per day rate and reflected on our invoice to you.

Note: If permitting is required for said work, these charges will also be additional and reflected on our invoice to you.

Note: Test Holes that require a depth of greater than ten (10) feet or require a substantial amount of increased effort (sleeving, shoring, de-watering, etc.), then said Test Holes may need to be negotiated separately on a case-by-case basis if normal vacuum excavation practices do not allow said utilities to be exposed.

Note: All utility sizes given are outside diameter unless otherwise specified and are approximate only due to uncontrollable field conditions that may be encountered during excavation.

Note: Any additional overlaying or restoration of pavement, other than the replacement of materials removed and cold patched, will be the responsibility of Tetra Tech Inc.

PROJECT TIMELINE:

We anticipate the completion of the above-described work within **six (6) weeks** after receipt of an approved permit and a written notice to proceed.

EXPENSES AND FEES

Our fee for this project will be as follows:

Subsurface Utility Designation:	\$22,304.00
--	--------------------

Test Holes/Day Rate:

\$616.00 Dirt/Each (Anticipate 30)	\$18,480.00
---	--------------------

\$765.00 Asphalt/Concrete/Each	
--------------------------------	--

M.O.T. (SSMC):

\$1,013.00 per Lane Closure/Day Rate

\$1,231.00 per Lane Closure/Night Rate

Optional Survey Collection & Drafting

Survey Collection: \$10,915.00

Test Hole Collection:

\$150.00/each (anticipate 30) \$ 4,500.00

Anticipated Total without optional Survey \$40,784.00

Anticipated total With Optional Survey \$56,199.00

PAYMENT TERMS:

Payment is expected within thirty (30) days from the date of the invoice.

LATE FEES

Late fees will assess to all payments past the 30 day mark. Late fee will be in the amount of \$50.00. Additional late fees will continue to accrue every 30 days past invoice date. Reference invoice number and please remit all payments to 6500 All American Blvd. Orlando, FL 32810.

PAYMENT OPTIONS

SSMC is committed to ensuring our clients have access to various payment options. These options include cash, paper checks, ACH transfers, wire transfers, and credit cards. Credit card payments are subject to a vendor administrative fee of 3.5% of the invoice total.

CLOSURE

In addition to the matters set forth above, our Agreement shall include and be subject to, and only to the attached General Terms and Conditions, which are incorporated by reference. **UPON SIGNATURE, NO OTHER CONTRACTS WILL BE CONSIDERED FOR THIS SCOPE OF WORK.**

We look forward to the opportunity to work with you on this project.

Sincerely,



Grozio E. Blevins
Utility Division Project Manager

GEB.CRE

Mr. Lawrence E. (Eddie) Jenkins | Surveying & Mapping Manager
City of Palm Bay NRWTP Route
June 27, 2024



If the above scope, period of service, and method of compensation meets with your approval, please have an authorized Signatory execute the Agreement below and send via email to contracts@southeasternsurveying.com. **Fees and times stated in this agreement are valid for six months from the date of the proposal which would be (December 25, 2024).**

CLIENT AUTHORIZATION

I declare that I am authorized to sign the binding contractual document. I also declare that I have read, understand, and accept this proposal.

Signature

Date

Printed Name

Title (if any)

EXHIBIT "A"

HOURLY RATES

Surveying and Mapping Services

Category	Day Rate	Night / Weekend Rates
Professional Surveyor & Mapper/PSM	\$ 199.00	
Project Surveyor	\$ 177.00	
Expert Witness	\$ 360.00	
Senior Technician	\$ 133.00	
CAD Technician	\$ 118.00	
Clerical	\$ 79.00	\$ 118.00
One Person Field Crew	\$ 133.00	
Two Person Field Crew	\$ 178.00	\$ 267.00
Three Person Field Crew	\$ 233.00	\$ 350.00
Four Person Field Crew	\$ 289.00	\$ 433.00
Sketch of Descriptions (per SD)	\$ 676.00	
Residential Elevation Certificate	\$ 925.00	
Commercial Elevation Certificate (per bldg.)	\$ 1,306.00	
Initial and Second Plat Review (up to two sheets)	\$ 1,150.00 / per plat	
Initial and Second Plat Review (over two sheets)	\$ 200.00 / per sheet	
Plat (Third or additional reviews of same plat)	\$ 450.00 / each	

LiDAR/UAV

Category	Day Rate	Night / Weekend Rates
LiDAR Technician	\$ 133.00	
LiDAR Project Manager	\$ 177.00	
LiDAR One Person Field Crew	\$ 155.00	
LiDAR Two Person Field Crew	\$ 204.00	
Clerical	\$ 79.00	\$ 118.00
UAS/UAV Photogrammetry Crew	\$ 268.00	
Mobile Scan Crew	\$ 268.00	

Construction Services

Category	Day Rate	Night / Weekend Rates
Construction Professional Surveyor & Mapper	\$ 203.00	
Construction Project Manager	\$ 203.00	
Construction Senior Technician	\$ 153.00	
Construction CAD Technician	\$ 136.00	
Clerical	\$ 79.00	\$ 118.00
Construction One Person Field Crew	\$ 153.00	
Construction Two Person Field Crew	\$ 204.00	\$ 306.00
Construction Three Person Field Crew	\$ 268.00	\$ 402.00
Construction Four Person Field Crew	\$ 332.00	\$ 498.00

GIS Services

Category	Day Rate	Night / Weekend Rates
Professional Engineer	\$ 213.00	
GIS Project Manager	\$ 177.00	
GIS Analyst	\$ 119.00	
GIS Technician	\$ 79.00	
Clerical	\$ 79.00	\$ 118.00
Two Person GIS Crew	\$ 178.00	
One Person GIS Crew	\$ 133.00	

Subsurface Utility Engineering (SUE) Services

Category	Day Rate	Night / Weekend Rates
Project Manager	\$ 177.00	\$ 265.00
Senior Technician	\$ 133.00	\$ 200.00
Clerical	\$ 79.00	\$ 118.00
One Person Crew	\$ 178.00	\$ 267.00
Two Person Crew	\$ 216.00	\$ 324.00
Three Person Crew	\$ 301.00	\$ 451.00
Vacuum Excavation (Per Test Hole)		
1-3 Test Holes/Dirt	\$ 2,664.00	\$ 3,864.00
1-3 Test Holes/Asphalt/Concrete	\$ 2,664.00	\$ 3,864.00
4 or more Test Holes/Dirt (Per Location)	\$ 616.00 / each	\$ 924.00 / each
4 or more Test Holes/Asphalt/Concrete (Per)	\$ 765.00 / each	\$ 1,148.00 / each
One Person Concrete Radar Mapping/Imaging	\$ 217.00	\$ 336.00
Temporary Traffic Control (TTC)		
Per Lane Closure	\$ 1,013.00 / each	\$ 1,231.00 / each
Per Sidewalk Closure	\$ 500.00 / each	\$ 600.00 / each
Flagman Control (Hourly – Per Flagger)	\$ 100.00	\$ 150.00
Mast Arms (Per Location)		
Subsurface Utility Locating (QL-B & QL-A)	\$ 1,656.00	
Concrete/Asphalt Removal & Repair	\$ 436.00	
Survey Staking of Pole Location	\$ 431.00	

Miscellaneous Services

Per Diem/Lodging Expenses		
Category	Day Rate	Night / Weekend Rates
Per Day Two Person Crew	\$ 395.00	
Per Day Three Person Crew	\$ 595.00	

GENERAL TERMS AND CONDITIONS

These standard terms and conditions ("STCS") are incorporated by reference into the foregoing proposal, along with any future modifications or amendments (the "Agreement") between Southeastern Surveying and Mapping Corporation ("SSMC") and its Client ("You" or "Your") for the performance of surveying services ("Services"). These STCS are fully binding upon you just as if they were fully outlined in the body of the proposal letter and shall supersede any term or provision elsewhere in the agreement in conflict with these STCS.

SCOPE OF SERVICES.

For the fee outlined in this Proposal, you agree that SSMC shall only be obligated to render the Services expressly described in this Proposal. Unless otherwise expressly required, in no event do we have any obligation or responsibility for:

- The correctness and completeness of any document prepared by another entity.
- The correctness and completeness of any drawing we prepared unless it was properly signed and sealed by a registered professional on our behalf.
- Favorable or timely comment or action by any governmental entity on submitting any construction documents, land use or feasibility studies, appeals, petitions for exceptions or waivers, or other requests or documents whatsoever.
- Off-site circumstances other than those clearly visible and actually known to us from on-site work.
- The actual location (or characteristics) of any portion of a utility that is not entirely visible from the surface.
- The safety conditions for the entire site, construction quality, means, methods, or sequences.
- The correctness of any geotechnical services performed by others, whether or not as our subcontractor.

Should the shop drawing review be incorporated into the Services, we shall promptly pass on the shop drawings. Checking and approving shop drawings will be general for conformance with the Project's design concept to which this Proposal relates ("Project") and compliance with the information in the construction documents. They will not include quantities, detailed dimensions, or dimensions adjustments to actual field conditions. Approval shall not be construed as permitting any departure from contract requirements nor as relieving the Client of the sole and final responsibility for any error in details, dimensions, or otherwise that may exist. **SSMC does not provide legal, accounting, or insurance services.**

YOUR ORAL DECISIONS

You, or any of your directors, officers, partners, members, managers, employees or agents having apparent authority from you, may orally: (a) make decisions relating to Services or the Agreement; (b) request a change in the scope of Services under the Agreement; or (c) request SSMC to render additional services under the Agreement, subject to our right to require you to submit the request in writing before your decision or request shall be considered to have been effectively made. You may, at any time, limit the authority of any or all persons to act orally on your behalf under this Paragraph, by giving SSMC seven (7) days advance written notice.

STANDARD OF CARE

The standard of care for all professional services performed by SSMC under this Agreement shall be the skill and care used by members of SSMC's profession practicing under similar circumstances at the same time and in the same locality.

PAYMENT

SSMC may submit invoices at any time to you for Services and reimbursable expenses incurred. Invoices are payable within 30 days of the invoice date. Invoices may be based either upon our estimate of the proportion of the total services completed at the time of billing for lump sum or fixed fee services, or in the case of hourly services, upon rendering of the Services. If any invoice is not paid within 30 days of the invoice date, SSMC shall have the right either to suspend the performance of our Services until all invoices more than 30 days past due are fully paid or to terminate the agreement and to initiate proceedings to recover amounts owed by you. Additionally, SSMC shall have the right to withhold from you the possession or use of any drawings or documents prepared by SSMC for you under this or any other agreement with you until all delinquent invoices are paid in full. You shall not offset payments of our invoices by any amounts due or claimed to be due for any reason.

If you do not give SSMC written notice disputing an invoice within 20 days of the invoice date, the invoice shall conclusively be deemed correct. All payments made by you should specify the invoice numbers being paid. If SSMC receives payments that do not specify the invoices being paid, you agree that SSMC may apply payments in our sole discretion. Time is of the essence of your payment obligations, and your failure make full and timely payment shall be deemed a material breach.

PROPRIETARY RIGHTS

The drawings, specifications and other documents prepared by SSMC under this Agreement are instruments of SSMC's service for use solely for the Project and, unless otherwise provided, SSMC shall be deemed the author of these documents and shall retain all common law, statutory, and other reserved rights, including the copyright and rights to any SSMC trademarks. You shall be permitted to retain copies, including reproducible copies of SSMC's instruments of service for information and reference for the Project. SSMC's drawings, specifications, or other documents shall not be used by you or others on other projects for any reason or for completion of this Project by other professionals unless you enter into a written agreement with SSMC allowing for such use. Submission or distribution of documents to meet official regulatory requirements or for similar purposes in connection with the Project is not to be construed as publication inconsistent with our reserved rights.

TERMINATION

Either party may terminate the Agreement if the other party materially breaches the Agreement. You shall immediately pay SSMC for our services rendered and expenses incurred through the termination date, including fees and expenses that SSMC incur as a result of the termination.

ASSIGNMENT

Neither party shall assign or transfer any rights, interests or claims arising under this Agreement without the written consent of the other. This Agreement shall not confer any benefit or right upon any person or entity other than you, SSMC, and its officers, employees, agents, and subcontractors. SSMC's officers, employees, agents, and subcontractors shall have and shall be entitled to the protections afforded SSMC under this Agreement.

GOVERNING LAW

This Agreement shall be interpreted under and governed by the laws of the State of Florida. The parties agree that the courts of Orange County, Florida, and the US District Court of the Middle District of Florida (Orlando Division) shall have exclusive jurisdiction over any controversy. The parties consent to the jurisdiction of the Courts and waive any objection either party might otherwise be entitled to assert regarding jurisdiction. The parties irrevocably waive all right to trial by jury in any action, proceeding, or counterclaim arising out of or related to this Agreement.

SEVERABILITY

If any part, term, or provision of this agreement is held to be illegal or unenforceable, the validity and enforceability of the remaining parts, terms, and provisions of this agreement shall not be affected, and each party's rights shall be construed and enforced as if the agreement did not contain the illegal or unenforceable part, term, or provision.

LIMITATIONS ON LIABILITY

SSMC's liability for any loss, property damage or bodily injury of or to you caused in whole or in part by SSMC in the performance of this Agreement, or in the performance of any supplementary services in any way related to this Agreement, shall be limited in the aggregate to the amount of fees that you have paid to SSMC for the Services. The parties intend that the preceding limitation on liability shall apply to all claims, whether sounding in tort, in contract, in warranty or otherwise. You release, waive, and shall not seek contribution from, or indemnification by, SSMC for any claims of any nature made against you by any other person who may suffer any loss, property damage or bodily injury in any manner associated with SSMC's services, or SSMC's officers, employees, agents and subcontractors under this Agreement, or any supplementary services in any way related to this Agreement. SSMC shall not be liable to you, in any event or for any amount, for delays, or consequential, special or incidental damages; or punitive or exemplary damages.

PAYMENT OF ATTORNEY'S FEES

The losing party shall pay the winning party's reasonable attorney's fees and expenses for the prosecution or defense of any cause of action, claim or demand arising under this Agreement in any court or in arbitration.

INDEMNIFICATION

You agree to indemnify and hold SSMC harmless from and against any and all liability, loss, damages, claims, and demands for loss, damages, property damages or bodily injury, arising out of work undertaken on the Project by you, or your contractor, subcontractor or other independent company or consultant employed by you to work on the Project, or their respective partners, members, managers, directors, officers, employees, agents or assigns; or arising out of any other operation, no matter by whom performed, for and on behalf of you, or such contractor, subcontractor or other independent company or consultant, whether or not due in part to errors or omissions by us in the performance of this Agreement, or in the performance of any supplementary service in any way related to this Agreement, provided that you are not required to indemnify and hold SSMC harmless under this Paragraph in the event of SSMC's sole negligence.

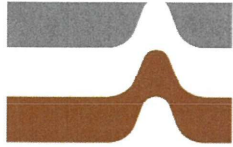
INSURANCE

SSMC represents that it carries and will continue carry General Liability in the amount of \$1M per each occurrence and \$2M per general aggregate, Worker's Compensation in the amount of \$1M, Automobile Liability in the amount of \$1M, Professional Liability also known as Errors and Omissions in the amount of \$5M per occurrence and general aggregate, and Umbrella Coverage in the amount of \$5M. General Liability, Automobile Liability and Worker's Compensation are primary and non-contributory with Umbrella following form. Certificates of Insurance shall be provided upon request, listing your Company as the certificate holder for a period of one (1) year. SSMC and Client shall waive subrogation against one another.

COMPLETE AGREEMENT

This Agreement contains the entire agreement between the parties concerning the matters covered herein. No prior representations, statements, or inducements made by either SSMC, you, or the respective agents of either, that is not contained in the Agreement shall enlarge, modify, alter, or otherwise vary the written terms of the Agreement unless they are made in writing and made a part of the Agreement by attachment, incorporated by reference in the Agreement or signed or initialed on behalf of both parties.





Ardaman & Associates, Inc.

Geotechnical, Environmental and
Materials Consultants

June 20, 2024
Proposal File No. 24-60-212

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

Attention: Mr. Jon C. Bundy, P.E.

Subject: Proposal for Subsurface Soil Exploration and
Geotechnical Engineering Evaluation
Proposed Improvements to Wastewater Treatment Plant at NRWTP
Palm Bay, Florida

Dear Mr. Bundy:

As requested, we are pleased to present this proposal for conducting a subsurface soil exploration and geotechnical engineering evaluation for the subject project. Based on supplied information and our discussion, the proposed development includes a process building, an electrical and blower building, a post treatment structure, chemical storage and feed facilities, a deep injection well pad, a supply well pad, yard piping and a stormwater pond.

Grading plans are not complete at this time, therefore, we have assumed that approximately 0 to 4 feet of fill is required to raise the structures areas to final elevation(s). We also understand that the pipe invert is anticipated to be about 5 feet below ground.

The scope of our work will include determining if the bearing capacity and other soil characteristics are suitable to construct the proposed structures and piping. In addition, we will explore the soil stratigraphy in the retention area and provide results of soil permeability tests. We will also estimate the normal seasonal high groundwater table at the retention pond the boring locations.

The following summarizes our proposed scope of work and associated fees for conducting the subject exploration.

FIELD EXPLORATION

As requested, the field exploration program will include the following:

Description	Number of Borings	Depth Below Ground Surface (feet)
Process Building	3 SPT	25
Electrical and Blower Building	3 SPT	25
Post Treatment Structures	1 SPT	50
	2 SPT	25
Chemical Storage and Feed Facilities	3 SPT	25
Deep Injection Well Pad	1 SPT	25
Supply Well Pad	1 SPT	25
Yard Piping	5 Auger	10
Stormwater Pond	2 SPT	25

The SPT borings will be drilled using a procedure similar to the Standard Penetration Test outlined in ASTM D-1586. The borings will be sampled at 18-inch intervals to 10 feet deep and at 5-foot intervals below 10 feet. The auger borings will be drilled using a 4-inch diameter truck-mounted continuous flight auger. Each sample will be removed from the sampler or auger in the field and then examined and visually classified by our crew chief. Representative portions will be sealed and packaged for transportation to our laboratory for further analysis as required.

In addition, a field permeability test will be performed adjacent to each of the two borings performed relative to the proposed retention pond. The field permeability test will include installing a solid-walled PVC casing, snugly fit, into a 4-inch diameter auger boring. The bottom of the pipe will be open and raised 1 foot above the bottom of the boring. The bottom 1 foot of the boring will be gravel-packed. The rate water is taken in by the formation is measured and used to calculate permeability. The test will be run as a “constant head” test by maintaining the water level in the casing at ground surface level, or as a “falling head” test in which the rate of water drop will be measured.

We recommend that the project surveyor locate our borings horizontally and vertically (i.e.; determine the elevation of the ground surface at the boring locations). This information will increase the accuracy of the data obtained and will be especially useful in estimating the normal seasonal high groundwater table. We assume that the surveyor will be retained by the client to provide these services.

LABORATORY PROGRAM

Routine laboratory visual classification will be performed along with specific classification tests deemed necessary (i.e., sieve analysis, Atterberg limits and organic content).

ENGINEERING ANALYSIS AND REPORT

For the structures, engineering analysis of data obtained will be made to evaluate general subsurface conditions and to develop engineering recommendations to guide site preparation and foundation support. For our analysis, we will require specific loading conditions for the structures. For the yard piping, engineering analysis of data obtained will be made to evaluate general subsurface conditions and to develop engineering recommendations for pipe bedding, use of excavated soils, dewatering, thrust considerations, and backfill and compaction requirements.

In addition, for the stormwater pond we will provide an estimate of the normal seasonal high groundwater table at the boring locations and the results of the soil permeability tests.

Our recommendations for the structures and yard piping, together with data developed during the exploration, will be submitted in a written report upon conclusion of the study. Three hard copies and one PDF format copy of the report will be provided.

COST ESTIMATE

The costs associated with the aforementioned tasks are estimated as follows.

Observe Site, Stake Borings and Coordinate Utility Locations with Sunshine State One-Call by Project Engineer; 5 hours @ \$165.00/hour	\$825.00
Mobilize Drilling Crew and Equipment; 1 mobilization @ \$500.00/mob.	\$500.00
SPT Borings; 1 boring x 50 l.f., 15 borings x 25 l.f. (0 - 50 l.f.) 425 l.f. @ \$19.00/l.f.	\$8,075.00
Auger Borings; 5 borings x 10 l.f. @ \$14.50/l.f.	\$725.00
Field Permeability; 2 tests @ \$400.00/each	\$800.00
Laboratory Classification Testing Allowance; estimate	\$465.00
Senior Engineer; 6 hours @ \$200.00/hour	\$1,200.00
Project Engineer; 20 hours @ \$165.00/hour	\$3,300.00

CADD Draftsperson; 6 hours @ \$90.00/hour	\$540.00
Technical Secretary; 2.5 hours @ \$68.00/hour	<u>\$170.00</u>
TOTAL	\$16,600.00

If temporary casing is needed to prevent borehole collapse during drilling, a cost of \$13.00 per linear foot of casing installed between 0 and 50 feet deep (\$16.00 per linear foot between 51 and 100 feet deep) will be added to the above total.


TERMS AND CONDITIONS

The total cost is based on the unit prices as shown on the attached fee schedule (see Attachment 1). This proposal is subject to the following terms and conditions: (1) access to boring locations is to be readily available to truck-mounted drilling equipment, (2) the boring locations are not within a horizontal distance of 25 feet from aboveground electrical lines, (3) the proposed number of borings and the boring depths will be adequate, (4) undisturbed samples and consolidation tests on fine grained soils are not budgeted into the total cost, (5) the structures can be supported on conventional shallow spread footings; if deep foundations (e.g., piles) are necessary, additional exploration and engineering evaluation may be required, (6) Ardaman & Associates will not take responsibility for damages to underground structures and/or services that are not located by Sunshine State One-Call, (7) exploration or evaluation of the environmental (ecological or hazardous/toxic material related) condition of the site and subsurface is not included, and (8) this proposed exploration is a relatively shallow exploration and is not intended to be an evaluation for sinkhole potential.

CLOSURE

We appreciate the opportunity to submit this proposal and look forward to working with you on this project. If this proposal meets with your approval, please indicate your acceptance by signing and returning the attached Proposal/Project Acceptance sheet. Please call if you have any questions or require additional information.

Very truly yours,
ARDAMAN & ASSOCIATES, INC.


Charles H. Cunningham, P.E.
Vice President

CHC/lms

24-60-212 Tetra Tech - Proposed Improvements to Wastewater Treatment Plant NRWTP Palm Bay.docx (2024PP)

Attachment 1

1.	Mobilization of Crew and Equipment	Varies
2.	Standard Penetration Test Borings:	
	(a) \$19.00/l.f. (0 - 50 ft. depth)	
	(b) \$22.50/l.f. (51 - 100 ft. depth)	
	(c) \$30.75/l.f. (100 - 150 ft. depth)	
3.	Auger Borings/Wash Borings	\$14.50/l.f.
4.	Install Temporary Casing	
	0 to 50 feet	\$13.00/l.f.
	50 to 100 feet	\$16.00/l.f.
5.	Undisturbed Samples (Shelby Tube)	\$240.00/each
6.	Grouting boreholes	\$6.25/l.f.
7.	Add 10% to Unit Rates for Drilling with Mudbug Equipment	
8.	Cone Penetration Tests	\$18.00/l.f.
9.	Muck Probes	Manhour Rates
10.	Groundwater Level Piezometer	\$33.50/l.f.
11.	Double Ring Infiltrometer Test	\$765.00/each
12.	Field Permeability	\$400.00/each
13.	Laboratory Testing:	
	(a) Incremental Consolidation Test	\$825.00/test
	(b) Atterberg Limits	\$146.00/set
	(c) Sieve Analysis	\$78.00/each
	(d) Percent Fines	\$46.00/each
	(e) Natural Moisture Content	\$18.50/each
	(f) Organic Content	\$44.00/each
	(g) Unit Weight/Classification of Undisturbed Sample	\$87.00/each
	(h) Permeability Test	\$400.00/each
14.	Engineering Analysis and Report Preparation:	
	Principal Engineer (P.E.)	\$240.00/hour
	Senior Engineer (P.E.)	\$200.00/hour
	Senior Project Engineer (P.E.)	\$185.00/hour
	Project Engineer (P.E.)	\$165.00/hour
	Assistant Project Engineer	\$145.00/hour
	Staff Scientist	\$127.00/hour
	Engineering Assistant	\$115.00/hour
	Sr. Engineering Technician	\$93.00/hour
	Engineering Technician	\$78.00/hour
	CADD Draftsperson	\$90.00/hour
	Technical Secretary	\$68.00/hour
15.	Standby of drill crew and equipment for reasons beyond our control or difficult access	\$275.00/crew-hour

*Unit prices effective until December 31, 2024

PROPOSAL/PROJECT ACCEPTANCE AND AGREEMENT

PROJECT INFORMATION:

Project Name Proposed Improvements to NRWTP
Project Location Palm Bay, Florida
Proposal Number and Date 24-60-212 / June 20, 2024
Description of Services Subsurface Soil Exploration and Geotechnical Engineering Evaluation
Estimated Fee \$16,600.00

PROPERTY OWNER IDENTIFICATION:

Name _____
Property Identification Number _____
Address _____
City/State _____ Zip Code _____ Phone _____
Attention _____ Title _____

SPECIAL INSTRUCTIONS:

PAYMENT TERMS:

Payment shall be due within 30 days after date of each periodic invoice. Interest at the rate of 18% per annum (or the highest rate allowable by law) shall accrue on all amounts not paid within 30 days after date of invoice. All attorney fees and expenses associated with collection of past due invoices will be paid by Client. Timely payment of Ardaman & Associates, Inc.'s ("A&A") invoices is a condition precedent to any claim against A&A and the failure to timely pay any invoice shall constitute a waiver of any and all claims arising from or related to A&A services, including but not limited to the services described in this Proposal.

PROPOSAL ACCEPTANCE:

The Terms and Conditions of this Proposal, including the General Conditions appearing on the following pages of this Proposal, are incorporated herein by reference. No terms or conditions other than those contained herein, and no agreement or understanding, oral or written, purporting to modify these Terms and Conditions, whether contained in Client's purchase forms or construction documents or elsewhere, are binding on A&A unless signed by an authorized representative of A&A. In the event Client directs A&A to proceed with its Work prior to executing this Proposal Acceptance, such direction shall constitute deemed acceptance of this Proposal.

Accepted this _____ day of _____, 20_____

(Print or type individual, firm or corporate body name)

(Signature of authorized representative)

(Print or type name of authorized representative and title)

GENERAL CONDITIONS

Parties And Scope Of Work – A&A shall include said company and any subsidiary or affiliate performing the Work. “Work” means the specific services to be performed by A&A as set forth in A&A’s proposal as well as any additional services requested or accepted by Client. “Client” refers to the person or business entity ordering the Work to be done by A&A. If the Client is ordering the Work on behalf of a third party or intends to provide A&A’s Work to induce a third party’s reliance, Client shall disclose the identity of such third party to A&A in writing before the commencement of A&A’s Work hereunder. In the event Client fails to disclose the identity of such third party prior to commencement of A&A’s Work, A&A will owe no legal duty to such third party unless the third party negotiates and obtains a written reliance letter from A&A. Client agrees that A&A’s professional duties are specifically limited to the Work as set forth in A&A’s proposal. The Client assumes sole responsibility for determining whether the quantity and the nature of the Work ordered by the Client is adequate and sufficient for the Client’s intended purpose. A&A’s Work is for the exclusive use of Client. In no event shall A&A owe any legal duty to any third party (including, but not limited to, assignees, successors in interest and subsequent purchasers) unless those third parties are disclosed by Client in accordance with this paragraph and those third parties accept these General Conditions.

On-Call Services – In the event A&A is retained to perform construction materials testing (“CMT”), including but not limited to proctor and soil density tests, concrete tests, etc., on an On-Call basis such that A&A is not retained to perform continuous observations of construction, Client assumes sole responsibility for determining the type, location and frequency of sampling and testing. In such On-Call testing, A&A’s test results are only representative of conditions at the test location and elevation, and different conditions may exist at other locations and other elevations. Furthermore, in the event Client fails to properly determine the location or frequency of sampling and testing, under no circumstances will A&A assume that duty by performing its CMT services.

Right-of-Entry – Unless otherwise agreed, Client will furnish right-of-entry on the property for A&A to make the planned borings, surveys, and/or explorations. A&A will take reasonable precautions to minimize damage to the property caused by its equipment and sampling procedures, but the cost of restoration or damage which may result from the planned operations is not included in the contracted amount.

Damage to Existing Man-made Objects – It shall be the responsibility of the Client to disclose the presence and accurate location of all hidden or obscure man-made objects relative to field tests, sampling, or boring locations. Client waives any claim against A&A and A&A’s subcontractors arising from any damage to existing man-made objects. In addition, Client shall defend, indemnify, and hold A&A and A&A’s subcontractors harmless from any third party claim arising from damage to existing man-made objects. Client’s obligation to indemnify for such third-party claims is limited to \$1,000,000.00 per occurrence which the parties agree bears a reasonable relationship to this Agreement.

Limitation of Liability – A&A shall perform services for Client in a professional manner, using that degree of care and skill ordinarily exercised by and consistent with the standards of competent consultants practicing in the same or a similar locality as the project. In the event any portion of the services fails to comply with this obligation and A&A is promptly notified in writing prior to one year after completion of such portion of the services, A&A will re-perform such portion of the services, or if re-performance is impracticable, A&A will refund the amount of compensation paid to A&A for such portion of the services. In no event shall A&A be liable for any special, indirect, incidental, or consequential damages. The remedies set forth herein are exclusive and the total liability of A&A whether in contract, tort (including negligence whether sole or concurrent), or otherwise arising out of, connected with or resulting from any and all services provided by A&A, including but not limited to the Work, shall not exceed the total fees paid by Client or \$50,000.00, whichever is less.

PURSUANT TO §558.0035, FLORIDA STATUTES, A&A’S INDIVIDUAL EMPLOYEES AND/OR AGENTS MAY NOT BE HELD INDIVIDUALLY LIABLE FOR NEGLIGENCE ARISING OUT OF, CONNECTED WITH, OR RESULTING FROM THEIR SERVICES PROVIDED PURSUANT TO THIS AGREEMENT.

Sampling or Testing Location – Unless specifically stated to the contrary, the unit fees included in this proposal do not include costs associated with professional land surveying of the site or the accurate horizontal and vertical locations of tests. Field tests or boring locations described in our report or shown on our sketches are based on specific information furnished to us by others or estimates made in the field by our technicians. Such dimensions, depths or elevations should be considered as approximations unless otherwise stated in the report.

Sample Handling and Retention – Generally test samples or specimens are consumed and/or substantially altered during the conduct of tests and A&A, at its sole discretion, will dispose (subject to the following) of any remaining residue immediately upon completion of test unless required in writing by the Client to store or otherwise handle the samples. (a) NON HAZARDOUS SAMPLES: At Client’s written request, A&A will maintain preservable test samples and specimens or the residue therefrom for thirty (30) days after submission of A&A’s report to Client free of storage charges. After the initial 30 days and upon written request, A&A will retain test specimens or samples for a mutually acceptable storage charge and period of time. (b) HAZARDOUS OR POTENTIALLY HAZARDOUS SAMPLES: In the event that samples contain substances or constituents hazardous or detrimental to human health, safety or the environment as defined by federal, state or local statutes, regulations, or ordinances (“Hazardous Substances” and “Hazardous Constituents”, respectively), A&A will, after completion of testing and at Client’s expense: (i) return such samples to Client; (ii) using a manifest signed by Client as generator, will have such samples transported to a location selected by Client for final disposal. Client agrees to pay all costs associated with the storage, transport, and disposal of such samples. Client recognizes and agrees that A&A is acting as a bailee and at no time does A&A assume title of said waste.

Discovery of Differing Site Conditions or Unanticipated Hazardous Materials – Differing site conditions or certain types of hazardous materials (unanticipated materials) may exist at a site where there is no reason to believe they could or should be present. A&A and Client agree that the discovery of unanticipated materials constitutes a changed condition mandating a renegotiation of the scope of work or termination of services. A&A and Client also agree that the discovery of unanticipated materials may make it necessary for A&A to take immediate measures to protect health and safety. A&A agrees to notify Client as soon as practicable should unanticipated materials be encountered. Client encourages A&A to take any and all measures that, in A&A’s professional opinion, are justified to preserve and protect the health and safety of A&A’s personnel and the public. Client agrees to compensate A&A for the additional cost of working to protect employees’ and the public’s health and safety. In addition, Client waives any claim against A&A arising from A&A’s discovery of unanticipated materials.

Indemnification – Client agrees to defend, indemnify, and save harmless A&A from all claims, including negligence claims, suits, losses, personal injuries, death and property liability resulting from the actions or inactions of Client, Client’s contractors, representatives, agents and employees.

Assignment – Client hereby agrees that this Agreement shall not be assignable by Client without A&A’s written consent.

Legal Jurisdiction – The parties agree that any litigation shall be governed by the laws of the State of Florida and only be brought in a court of competent jurisdiction located in Orlando, Orange County, Florida. All causes of action, including but not limited to actions for indemnification and contribution, arising out of A&A’s Work shall be deemed to have accrued and the applicable statutes of limitation, which are unaltered by this provision, shall commence to run not later than the date of issuance of A&A’s final invoice for the Work. Each of the parties hereto irrevocably waives any and all right to trial by jury in any legal proceeding arising out of or relating to this agreement.

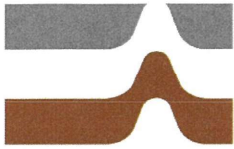
Compliance With Laws - A&A shall perform its services consistent with the applicable standard of care and endeavor to incorporate laws, regulations, codes, applicable at the time the work is performed. In the event that standards of practice change during the Project, A&A shall be entitled to additional compensation where additional services are needed to conform to the standard of practice. Both A&A and the Client shall abide by all local, state, and federal regulations and laws, the U.S. Foreign Corrupt Practices Act, UK Bribery Act and other laws as may apply.

Termination - A&A may terminate this Agreement with cause for non-payment of invoices upon fourteen (14) days written notice.

Force Majeure - A&A shall not be held responsible for any delay or failure in performance caused by fire, flood, explosion, war, strike, embargo, government requirement, civil or military authority, acts of God, pandemic, epidemic, government shutdowns, act or omission of subcontractors, carrier, clients, or other similar causes beyond its control.

Drafting and Severability – This Agreement has been drafted by all Parties hereto and shall not be construed against one Party or in favor of any other Party. In the event that any provision of this Agreement is held invalid, the remainder of this Agreement shall be fully enforceable.

6/22/23



Ardaman & Associates, Inc.

Geotechnical, Environmental and
Materials Consultants

June 20, 2024
Proposal File No. 24-60-213

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

Attention: Mr. Jon C. Bundy, P.E.

Subject: Proposal for Subsurface Soil Exploration and
Geotechnical Engineering Evaluation
Proposed Raw Water Main as part of
Improvements to NRWTP
Palm Bay, Florida

Dear Mr. Bundy:

As requested, we are pleased to present this proposal for conducting a subsurface soil exploration and geotechnical engineering evaluation for the subject project. Based on supplied information, planned improvements to NRWTP will include a new raw water main.

The scope of our work will include determining if the soil characteristics are suitable to construct the proposed raw water main pipeline to be installed by the cut and cover method of construction.

The following summarizes our proposed scope of work and associated fees for conducting the subject exploration.

FIELD EXPLORATION

As requested, the field exploration program will include the following:

Number of Borings	Depth Below Ground Surface (feet)
4 SPT	40
12 SPT	12

The SPT borings will be drilled using a procedure similar to the Standard Penetration Test outlined in ASTM D-1586. The borings will be sampled at 18-inch intervals to 10 feet deep and at 5-foot intervals below 10 feet. Each sample will be removed from the sampler in the field and then examined and visually classified by our crew chief. Representative portions will be sealed and packaged for transportation to our laboratory for further analysis as required.

We recommend that the project surveyor locate our borings horizontally and vertically (i.e., determine the elevation of the ground surface at the boring locations). This information will

increase the accuracy of the data obtained. We assume that the surveyor will be retained by the client to provide these services.

LABORATORY PROGRAM

Routine laboratory visual classification will be performed along with specific classification tests deemed necessary (i.e., sieve analysis and organic content).

ENGINEERING ANALYSIS AND REPORT

For the cut and cover portion of the pipeline, engineering analysis of data obtained will be made to evaluate general subsurface conditions and to develop engineering recommendations for pipe bedding, use of excavated soils, dewatering, thrust considerations, and backfill and compaction requirements.

Our recommendations for the cut and cover portion of the pipelines, together with data developed during the exploration, will be submitted in a written report upon conclusion of the study. Three hard copies and one PDF format copy of the report will be provided.

Our scope of services does not include evaluation or recommendations relative to any pipe that may be installed by directional drill or by jack and bore methods.

COST ESTIMATE

The costs associated with the aforementioned tasks are estimated as follows.

Stake Borings and Coordinate Utility Locations with Sunshine State One-Call by Project Engineer; 5 hours @ \$165.00/hour	\$825.00
Mobilize Drilling Crew and Equipment; 1 mobilization @ \$500.00/mob.	\$500.00
SPT Borings; 4 borings x 40 l.f., 12 borings x 12 l.f. (0 - 50 l.f.) 304 l.f. @ \$19.00/l.f.	\$5,776.00
Grout 40-foot deep Boreholes; 160 l.f. @ \$6.25/l.f.	\$1,000.00
Moving and Set-Up Between Borings; 3 hours @ \$275.00/hour	\$825.00
Laboratory Classification Testing Allowance; estimate	\$374.00
Senior Engineer; 5 hours @ \$200.00/hour	\$1,000.00

Project Engineer; 18 hours @ \$165.00/hour	\$2,970.00
CADD Draftsperson; 4 hours @ \$90.00/hour	\$360.00
Technical Secretary; 2.5 hours @ \$68.00/hour	<u>\$170.00</u>
TOTAL	\$13,800.00

If temporary casing is needed to prevent borehole collapse during drilling, a cost of \$13.00 per linear foot of casing installed between 0 and 50 feet deep (\$16.00 per linear foot between 51 and 100 feet deep) will be added to the above total.

TERMS AND CONDITIONS

The total cost is based on the unit prices as shown on the attached fee schedule (see Attachment 1). This proposal is subject to the following: (1) access to boring locations is to be readily available to our truck-mounted drilling equipment, (2) the boring locations are not within a horizontal distance of 25 feet from aboveground electrical lines, (3) the proposed number of borings and the boring depths will be adequate, (4) undisturbed samples and consolidation tests on fine grained soils are not budgeted into the total cost, (5) Ardaman & Associates will not take responsibility for damages to underground structures and/or services that are not located by Sunshine State One-Call, (6) exploration or evaluation of the environmental (ecological or hazardous/toxic material related) condition of the site and subsurface is not included, (7) this proposed exploration is a relatively shallow exploration and is not intended to be an evaluation for sinkhole potential, (8) maintenance of traffic is not required to perform the field work, and (9) permits are not required to work on the subject site.

CLOSURE

We appreciate the opportunity to submit this proposal and look forward to working with you on this project. If this proposal meets with your approval, please indicate your acceptance by signing and returning the attached Proposal/Project Acceptance sheet. Please call if you have any questions or require additional information.

Very truly yours,
ARDAMAN & ASSOCIATES, INC.

Charles H. Cunningham, P.E.
Vice President

CHC/lms

24-60-213 Tetra Tech - Proposed Raw Water Main as part of Improvements to NRWTP, Palm Bay.docx (2024PP)



Attachment 1

1.	Mobilization of Crew and Equipment	Varies
2.	Standard Penetration Test Borings:	
	(a) \$19.00/l.f. (0 - 50 ft. depth)	
	(b) \$22.50/l.f. (51 - 100 ft. depth)	
	(c) \$30.75/l.f. (100 - 150 ft. depth)	
3.	Auger Borings/Wash Borings	\$14.50/l.f.
4.	Install Temporary Casing	
	0 to 50 feet	\$13.00/l.f.
	50 to 100 feet	\$16.00/l.f.
5.	Undisturbed Samples (Shelby Tube)	\$240.00/each
6.	Grouting boreholes	\$6.25/l.f.
7.	Add 10% to Unit Rates for Drilling with Mudbug Equipment	
8.	Cone Penetration Tests	\$18.00/l.f.
9.	Muck Probes	Manhour Rates
10.	Groundwater Level Piezometer	\$33.50/l.f.
11.	Double Ring Infiltrometer Test	\$765.00/each
12.	Field Permeability	\$400.00/each
13.	Laboratory Testing:	
	(a) Incremental Consolidation Test	\$825.00/test
	(b) Atterberg Limits	\$146.00/set
	(c) Sieve Analysis	\$78.00/each
	(d) Percent Fines	\$46.00/each
	(e) Natural Moisture Content	\$18.50/each
	(f) Organic Content	\$44.00/each
	(g) Unit Weight/Classification of Undisturbed Sample	\$87.00/each
	(h) Permeability Test	\$400.00/each
14.	Engineering Analysis and Report Preparation:	
	Principal Engineer (P.E.)	\$240.00/hour
	Senior Engineer (P.E.)	\$200.00/hour
	Senior Project Engineer (P.E.)	\$185.00/hour
	Project Engineer (P.E.)	\$165.00/hour
	Assistant Project Engineer	\$145.00/hour
	Staff Scientist	\$127.00/hour
	Engineering Assistant	\$115.00/hour
	Sr. Engineering Technician	\$93.00/hour
	Engineering Technician	\$78.00/hour
	CADD Draftsperson	\$90.00/hour
	Technical Secretary	\$68.00/hour
15.	Standby of drill crew and equipment for reasons beyond our control or difficult access	\$275.00/crew-hour

*Unit prices effective until December 31, 2024

PROPOSAL/PROJECT ACCEPTANCE AND AGREEMENT**PROJECT INFORMATION:**

Project Name Proposed Raw Water Main as part of Improvements to NRWTP
Project Location Palm Bay, Florida
Proposal Number and Date 24-60-213 / June 20, 2024
Description of Services Subsurface Soil Exploration and Geotechnical Engineering Evaluation
Estimated Fee \$13,800.00

PROPERTY OWNER IDENTIFICATION:

Name _____
Property Identification Number _____
Address _____
City/State _____ Zip Code _____ Phone _____
Attention _____ Title _____

SPECIAL INSTRUCTIONS:**PAYMENT TERMS:**

Payment shall be due within 30 days after date of each periodic invoice. Interest at the rate of 18% per annum (or the highest rate allowable by law) shall accrue on all amounts not paid within 30 days after date of invoice. All attorney fees and expenses associated with collection of past due invoices will be paid by Client. Timely payment of Ardaman & Associates, Inc.'s ("A&A") invoices is a condition precedent to any claim against A&A and the failure to timely pay any invoice shall constitute a waiver of any and all claims arising from or related to A&A services, including but not limited to the services described in this Proposal.

PROPOSAL ACCEPTANCE:

The Terms and Conditions of this Proposal, including the General Conditions appearing on the following pages of this Proposal, are incorporated herein by reference. No terms or conditions other than those contained herein, and no agreement or understanding, oral or written, purporting to modify these Terms and Conditions, whether contained in Client's purchase forms or construction documents or elsewhere, are binding on A&A unless signed by an authorized representative of A&A. In the event Client directs A&A to proceed with its Work prior to executing this Proposal Acceptance, such direction shall constitute deemed acceptance of this Proposal.

Accepted this _____ day of _____, 20_____

(Print or type individual, firm or corporate body name)

(Signature of authorized representative)

(Print or type name of authorized representative and title)

GENERAL CONDITIONS

Parties And Scope Of Work – A&A shall include said company and any subsidiary or affiliate performing the Work. “Work” means the specific services to be performed by A&A as set forth in A&A’s proposal as well as any additional services requested or accepted by Client. “Client” refers to the person or business entity ordering the Work to be done by A&A. If the Client is ordering the Work on behalf of a third party or intends to provide A&A’s Work to induce a third party’s reliance, Client shall disclose the identity of such third party to A&A in writing before the commencement of A&A’s Work hereunder. In the event Client fails to disclose the identity of such third party prior to commencement of A&A’s Work, A&A will owe no legal duty to such third party unless the third party negotiates and obtains a written reliance letter from A&A. Client agrees that A&A’s professional duties are specifically limited to the Work as set forth in A&A’s proposal. The Client assumes sole responsibility for determining whether the quantity and the nature of the Work ordered by the Client is adequate and sufficient for the Client’s intended purpose. A&A’s Work is for the exclusive use of Client. In no event shall A&A owe any legal duty to any third party (including, but not limited to, assignees, successors in interest and subsequent purchasers) unless those third parties are disclosed by Client in accordance with this paragraph and those third parties accept these General Conditions.

On-Call Services – In the event A&A is retained to perform construction materials testing (“CMT”), including but not limited to proctor and soil density tests, concrete tests, etc., on an On-Call basis such that A&A is not retained to perform continuous observations of construction, Client assumes sole responsibility for determining the type, location and frequency of sampling and testing. In such On-Call testing, A&A’s test results are only representative of conditions at the test location and elevation, and different conditions may exist at other locations and other elevations. Furthermore, in the event Client fails to properly determine the location or frequency of sampling and testing, under no circumstances will A&A assume that duty by performing its CMT services.

Right-of-Entry – Unless otherwise agreed, Client will furnish right-of-entry on the property for A&A to make the planned borings, surveys, and/or explorations. A&A will take reasonable precautions to minimize damage to the property caused by its equipment and sampling procedures, but the cost of restoration or damage which may result from the planned operations is not included in the contracted amount.

Damage to Existing Man-made Objects – It shall be the responsibility of the Client to disclose the presence and accurate location of all hidden or obscure man-made objects relative to field tests, sampling, or boring locations. Client waives any claim against A&A and A&A’s subcontractors arising from any damage to existing man-made objects. In addition, Client shall defend, indemnify, and hold A&A and A&A’s subcontractors harmless from any third party claim arising from damage to existing man-made objects. Client’s obligation to indemnify for such third-party claims is limited to \$1,000,000.00 per occurrence which the parties agree bears a reasonable relationship to this Agreement.

Limitation of Liability – A&A shall perform services for Client in a professional manner, using that degree of care and skill ordinarily exercised by and consistent with the standards of competent consultants practicing in the same or a similar locality as the project. In the event any portion of the services fails to comply with this obligation and A&A is promptly notified in writing prior to one year after completion of such portion of the services, A&A will re-perform such portion of the services, or if re-performance is impracticable, A&A will refund the amount of compensation paid to A&A for such portion of the services. In no event shall A&A be liable for any special, indirect, incidental, or consequential damages. The remedies set forth herein are exclusive and the total liability of A&A whether in contract, tort (including negligence whether sole or concurrent), or otherwise arising out of, connected with or resulting from any and all services provided by A&A, including but not limited to the Work, shall not exceed the total fees paid by Client or \$50,000.00, whichever is less.

PURSUANT TO §558.0035, FLORIDA STATUTES, A&A’S INDIVIDUAL EMPLOYEES AND/OR AGENTS MAY NOT BE HELD INDIVIDUALLY LIABLE FOR NEGLIGENCE ARISING OUT OF, CONNECTED WITH, OR RESULTING FROM THEIR SERVICES PROVIDED PURSUANT TO THIS AGREEMENT.

Sampling or Testing Location – Unless specifically stated to the contrary, the unit fees included in this proposal do not include costs associated with professional land surveying of the site or the accurate horizontal and vertical locations of tests. Field tests or boring locations described in our report or shown on our sketches are based on specific information furnished to us by others or estimates made in the field by our technicians. Such dimensions, depths or elevations should be considered as approximations unless otherwise stated in the report.

Sample Handling and Retention – Generally test samples or specimens are consumed and/or substantially altered during the conduct of tests and A&A, at its sole discretion, will dispose (subject to the following) of any remaining residue immediately upon completion of test unless required in writing by the Client to store or otherwise handle the samples. (a) NON HAZARDOUS SAMPLES: At Client’s written request, A&A will maintain preservable test samples and specimens or the residue therefrom for thirty (30) days after submission of A&A’s report to Client free of storage charges. After the initial 30 days and upon written request, A&A will retain test specimens or samples for a mutually acceptable storage charge and period of time. (b) HAZARDOUS OR POTENTIALLY HAZARDOUS SAMPLES: In the event that samples contain substances or constituents hazardous or detrimental to human health, safety or the environment as defined by federal, state or local statutes, regulations, or ordinances (“Hazardous Substances” and “Hazardous Constituents”, respectively), A&A will, after completion of testing and at Client’s expense: (i) return such samples to Client; (ii) using a manifest signed by Client as generator, will have such samples transported to a location selected by Client for final disposal. Client agrees to pay all costs associated with the storage, transport, and disposal of such samples. Client recognizes and agrees that A&A is acting as a bailee and at no time does A&A assume title of said waste.

Discovery of Differing Site Conditions or Unanticipated Hazardous Materials – Differing site conditions or certain types of hazardous materials (unanticipated materials) may exist at a site where there is no reason to believe they could or should be present. A&A and Client agree that the discovery of unanticipated materials constitutes a changed condition mandating a renegotiation of the scope of work or termination of services. A&A and Client also agree that the discovery of unanticipated materials may make it necessary for A&A to take immediate measures to protect health and safety. A&A agrees to notify Client as soon as practicable should unanticipated materials be encountered. Client encourages A&A to take any and all measures that, in A&A’s professional opinion, are justified to preserve and protect the health and safety of A&A’s personnel and the public. Client agrees to compensate A&A for the additional cost of working to protect employees’ and the public’s health and safety. In addition, Client waives any claim against A&A arising from A&A’s discovery of unanticipated materials.

Indemnification – Client agrees to defend, indemnify, and save harmless A&A from all claims, including negligence claims, suits, losses, personal injuries, death and property liability resulting from the actions or inactions of Client, Client’s contractors, representatives, agents and employees.

Assignment – Client hereby agrees that this Agreement shall not be assignable by Client without A&A’s written consent.

Legal Jurisdiction – The parties agree that any litigation shall be governed by the laws of the State of Florida and only be brought in a court of competent jurisdiction located in Orlando, Orange County, Florida. All causes of action, including but not limited to actions for indemnification and contribution, arising out of A&A’s Work shall be deemed to have accrued and the applicable statutes of limitation, which are unaltered by this provision, shall commence to run not later than the date of issuance of A&A’s final invoice for the Work. Each of the parties hereto irrevocably waives any and all right to trial by jury in any legal proceeding arising out of or relating to this agreement.

Compliance With Laws - A&A shall perform its services consistent with the applicable standard of care and endeavor to incorporate laws, regulations, codes, applicable at the time the work is performed. In the event that standards of practice change during the Project, A&A shall be entitled to additional compensation where additional services are needed to conform to the standard of practice. Both A&A and the Client shall abide by all local, state, and federal regulations and laws, the U.S. Foreign Corrupt Practices Act, UK Bribery Act and other laws as may apply.

Termination - A&A may terminate this Agreement with cause for non-payment of invoices upon fourteen (14) days written notice.

Force Majeure - A&A shall not be held responsible for any delay or failure in performance caused by fire, flood, explosion, war, strike, embargo, government requirement, civil or military authority, acts of God, pandemic, epidemic, government shutdowns, act or omission of subcontractors, carrier, clients, or other similar causes beyond its control.

Drafting and Severability – This Agreement has been drafted by all Parties hereto and shall not be construed against one Party or in favor of any other Party. In the event that any provision of this Agreement is held invalid, the remainder of this Agreement shall be fully enforceable.

6/22/23



Ardaman & Associates, Inc.

Geotechnical, Environmental and
Materials Consultants

May 3, 2024
File Number 24-10-0406

Tetra Tech
201 East Pine Street, Suite 1000
Orlando, Florida 32801

Attention: Jon Bundy, PE

Subject: Proposal for Design and Permitting for NRWTP Production Wells and DIW
City of Palm Bay, Florida

Dear Mr. Bundy:

As requested, Ardaman & Associates, Inc. (Ardaman) is pleased to present the following proposal to provide hydrogeologic services for design and permitting for four (4) Floridan aquifer production wells and a concentrate disposal Class I deep injection well (DIW) for the City of Palm Bay (City) North Regional WTP. Since we have worked on a similar scope in the past, we have reduced the total number of hours by 111 hours to cover work that could be reused in this project. We understand Tetra Tech (Tt) is providing the engineering services to the City for the proposed wells.

The subject facilities include the new Floridan aquifer production wells for the NRWTP identified as the Primary Wells (Initial Phase) consisting of the four wells NRO3 to NRO6 in the City's recently completed RO Master Plan Report dated March 28, 2024 and a concentrate disposal Class I DIW for the reverse osmosis water treatment plant.

SCOPE OF SERVICES

Evaluation of Buildout Well Needs

Ardaman will provide Tt and the City with an evaluation of buildout well needs based on the City's RO Master Plan Report to account for larger buildout capacity than previously thought. The evaluation will include the number and sizing of production wells as well as the Class I deep injection well requirements for the projected buildout.

Production Well Design

Ardaman will provide Tt and the City with a Floridan aquifer well design for the NRWTP wellfield wells NRO3 to NRO6 located at well sites RO-3, 20, 22, and 28. The Floridan aquifer wells will be 17.4-inch diameter wells with a proposed capacity of 1,000 gpm. Well construction specifications will be prepared in order for the well construction work to be put out for bid. The front-end documents for the water well construction contract will be provided by Tt or the City for modification by Ardaman to meet the needs of the project. We recommend that the well be bid out separate from the other engineering design work. The well design will be coordinated with

Tt in order to meet the needs of the 90% design reviews and final design for the project. Ardaman will prepare an opinion of construction cost based on previous bid tabulations, vendor quotes and estimates provided by contractors.

Class I Deep Injection Well Design

Ardaman will provide Tt and the City with a Class I deep injection well design to be used for concentrate disposal for the NRWTP. The Class I DIW will be designed to accommodate the required concentrate flows of 2.5 MGD from the reverse osmosis facility. Ardaman will work with Tetra Tech to assist them in the preparation of engineering design drawings for the subject DIW. Well construction specifications will be prepared in order for the DIW construction work to be put out for bid. The front-end documents for the DIW construction contract will be provided by Tt or the City for modification by Ardaman to meet the needs of the project. We recommend that the well be bid out separate from the other engineering design work. The DIW design will be coordinated with Tt in order to meet the needs of 60% and 90% design reviews and final design for the project. Ardaman will prepare an opinion of construction cost based on previous bid tabulations, vendor quotes and estimates provided by contractors.

Production Well Permitting

The permitted locations for future wells within the City's CUP are different locations than where the wells will need to be constructed due to setback requirements for the proposed DIW and additional expansion requirements for the RO WTP. Ardaman will prepare and submit a letter modification to the St. Johns River Water Management District (SJRWMD) to relocate the proposed wells to new well locations. Ardaman will also provide responses to one request for additional information from the SJRWMD. Well Construction Permits must be obtained for well construction by the licensed well driller. Ardaman will assist by providing the well driller information needed to complete the application. A Generic Permit for discharge of groundwater may be required during construction and testing of the water supply well. Ardaman will assist the Contractor by preparing a letter request and supporting documentation for the GDP from the FDEP (if needed).

Class I Deep Injection Well Permitting

Ardaman will prepare the UIC permit application for the concentrate disposal deep injection well and prepare the supporting engineering report. An engineer from Tetra Tech will need to be the engineer of record for the application and will need to provide the engineering drawings required for the application. The supporting documentation for the permit will include but not be limited to the following required supporting information:

1. An updated map showing the location of the injection wells or well field area for which a permit is sought and the applicable area of review.
2. A tabulation of data on all wells within the area of review which penetrate into the injection zone, confining zone, or monitoring zone.
3. Maps and cross sections indicating the general vertical and lateral limits within the area of review of all underground sources of drinking water.
4. Maps and cross sections detailing the hydrology and geologic structures of the local area.
5. Generalized maps and cross sections illustrating the regional geologic setting.

6. Proposed operating data.
 - a. Average and maximum daily rate and volume of fluid
 - b. Average and maximum injection pressure
 - c. Source and analysis of the chemical, physical, radiological and biological characteristics of injection fluids
7. Proposed formation testing program to obtain an analysis of the chemical, physical and radiological characteristics of the injection zone.
8. Proposed stimulation program.
9. Proposed injection procedure.
10. Engineering drawings of the surface (Tt) and subsurface construction details of the system.
11. Contingency plans to cope with all shut-ins or well failures, so as to protect the quality of the waters of the State as defined in Rule 62-3 and 62-520, F.A.C., including alternate or emergency discharge provisions.
12. Plans (including maps) and proposed monitoring data to be reported for meeting the monitoring requirements in Rule 62-528.425, F.A.C.
13. For wells within the area of review which penetrate the injection zone but are not properly completed or plugged, the corrective action proposed to be taken under Rule 62-528.300(5), F.A.C.
14. Construction procedures including a cementing and casing program, logging procedures, deviation checks, proposed methods for isolating drilling fluids from surficial aquifers, proposed blowout protection (if necessary), and a drilling, testing and coring program.
15. A certification that the applicant has ensured, through a performance bond or other appropriate means, the resources necessary to close, plug or abandon the well as required by Rule 62-528.435(9), F.A.C.

Ardaman will prepare a draft of the permit application and supporting documentation and submit it to Tt and the City for review and comment. Once issues have been resolved, Ardaman will finalize the permit application and supporting documentation and submit it to the FDEP for processing with a check provided by the City. Ardaman will work with Tt and the City to respond to one round of requests for additional information from the FDEP, and will submit the responses to the FDEP.

Ardaman will participate in up to three (3) meetings with the Tt team and the City representatives to coordinate and discuss project design and permitting issues via Microsoft Teams.

COMPENSATION

The estimated cost for this proposal is a lump sum compensation of \$93,088.00. Table 1 shows a work breakdown schedule and fee summary. Monthly invoices will be based on time expended, materials/equipment used, and units performed in accordance with the enclosed fee schedule.

PROJECT SCHEDULE

The project will be initiated within two weeks of receipt of the notice to proceed and the executed ISA.

City of Palm Bay
NRWTP Production Wells and DIW
Design and Permitting
File Number 24-10-0406

-4-

We appreciate the opportunity to submit this proposal and look forward to working with you on this important project. If you have questions or need additional information, please do not hesitate to contact us.

Very truly yours,
ARDAMAN & ASSOCIATES, INC.

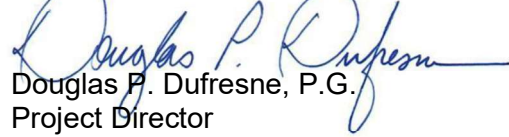

Douglas P. Dufresne, P.G.
Project Director
Florida License No. 1527

TABLE 1
CITY OF PALM BAY
REDESIGN AND PERMITTING FOR NRWTP PRODUCTION WELLS AND DIW
MAN-HOUR & FEE BREAKDOWN

Project Phase / Description		Project Director		Senior Hydrogeologist/PM		Totals	
		\$232	per hour	\$180	per hour		Estimated
		Hours	Cost	Hours	Cost	Hours	Cost
1	Evaluation of Buildout Well Needs	8	\$1,856	8	\$1,440	16	\$3,296
2	Production Well Design	16	\$3,712	20	\$3,600	36	\$ 7,312.00
3	Class I Deep Injection Well Design	40	\$9,280	40	\$7,200	80	\$ 16,480.00
4	Production Well Permitting	40	\$9,280	72	\$12,960	112	\$ 22,240.00
5	Class I Deep Injection Well Permitting	80	\$18,560	140	\$25,200	220	\$ 43,760.00
GRAND TOTAL ALL TASKS AND SUBS		184	\$42,688	280	\$50,400	464	\$ 93,088.00