AMENDMENT V
ENGINEERING SERVICES AGREEMENT

THIS AMENDMENT ("Amendment V") is made and entered into this _____ day of _____, 20___, by and between the **City of Orlando, Florida**, a municipal corporation existing under the laws of the State of Florida (CITY), **Tetra Tech, Inc.**, and doing business locally at 201 East Pine Street, Suite 1000, Orlando, Florida 32801 (ENGINEER).

WHEREAS, the CITY and the ENGINEER have previously entered into an agreement for the ENGINEER's professional services (Agreement) on December 16, 2016, concerning the Wastewater Force Main System Evaluation Project (Project); and

WHEREAS, the CITY and the ENGINEER previously amended the Agreement effective on May 7, 2018 ("Amendment I") and

WHEREAS, the CITY and the ENGINEER previously amended the Agreement effective on March 21, 2019 ("Amendment II") and

WHEREAS, the CITY and the ENGINEER previously amended the Agreement effective on July 29, 2019 ("Amendment III") and

WHEREAS, the CITY and the ENGINEER previously amended the Agreement effective on November 23, 2020 ("Amendment IV") and

WHEREAS, the CITY and the ENGINEER wish to further amend the Agreement as set forth herein; and

WHEREAS, the CITY and the ENGINEER now wish to memorialize their understanding for the ENGINEER's additional professional services for the Project.

NOW, THEREFORE, in consideration of the mutual promises and covenants contained herein and given one to the other, the sufficiency of which is hereby acknowledged, the parties agree as follows:

I. SCOPE OF SERVICES

The scope of services for the additional services to be provided by ENGINEER has been agreed to by the parties, and is attached hereto and incorporated herein, by reference, as APPENDIX I.

II. FEE

The not-to-exceed fee of $860,888.52 has been agreed to by the parties, as set forth on APPENDIX I.

III. TERM

ENGINEER shall complete all work in accordance with the timeframes set forth in the scope of work, if any, provided, however, that all work and the term of the Services Authorization shall be completed by the end of business (5:00 p.m.) one hundred sixty (160) weeks from issuance of Notice to Proceed. It is also agreed that the CITY shall have an option for extension of this Amendment as necessary to complete the present scope of services (APPENDIX I) or to provide additional services.

IV. ENTIRE AGREEMENT

This Amendment issued pursuant to the Agreement supersedes all previous services authorizations, amendments, agreements, or representations, either verbal or written, heretofore in effect between the CITY and the ENGINEER that may have concerned the matters covered herein, except that this Amendment shall in no way supersede or amend the Agreement or other services authorizations or amendments issued thereunder except as specifically provided herein. No additions, alterations, or variations to the terms of this Amendment shall be valid, nor can the provisions of this Amendment be waived by either party, unless such additions, alterations, or waivers are expressly set forth in writing in a document duly executed by both parties. ENGINEER acknowledges and agrees that any proposals or proposed agreements from subconsultants attached to this AMENDMENT are attached solely to reflect the scopes of work to be performed and the fees to be charged by such subconsultants. By executing this AMENDMENT, the CITY does not become a party thereto or bound by the terms thereof.

IN WITNESS WHEREOF, the parties hereto have executed this Amendment on the day and year first written above.

City of Orlando, Florida

By:_____
David Billingsley, CPSM, C.P.M.
Chief Procurement Officer

_____, 20_____

APPROVE AS TO FORM AND LEGALITY
for the use and reliance of the
City of Orlando, Florida, only.

_____, 20_____.

_____
Michael O'Dowd
Assistant City Attorney
Orlando, Florida

Tetra Tech, Inc.

By:_____

_____
(Print Name)

Title:_____

Date:_____, 20_____

STATE OF FLORIDA }

COUNTY OF _____ }

The foregoing instrument was acknowledged before me by means of ☐ physical presence or ☐ online notarization, this _____ day of _____, 20____, by _____ (name of person) as _____ (type of authority, (e.g., officer, trustee, attorney in fact, etc.) for _____ _____ (name of entity/party on behalf of whom instrument was executed).

_____
Signature of Notary Public – State of Florida
Print, Type, or Stamp Notary Name:_____

(Affix Notary Stamp or Seal Above)

___ Personally Known or ___ Produced Identification

Type of Identification Produced _____

EXHIBIT I – SCOPE OF SERVICES
Engineering Services Proposal
City of Orlando

Amendment #5
Orlando Wastewater Force Main System, Project 2
Force Main to Lift Station 248

DESCRIPTION OF PROJECT

A. BACKGROUND AND PROJECT DESCRIPTION

The City of Orlando's wastewater transmission system serving the downtown and east Orlando service area was initially constructed in 1949 to direct wastewater to the then Wastewater Treatment Plant (WWTP) located at Bennett Road, north of Colonial Drive. The system constructed in 1949 included Lift Stations 1, 2, 3 and 4 and is the backbone transmission system that has served the City for over 66 years. The wastewater was collected at Lift Stations 1, 2 and 3 and pumped through 20-inch cast iron force mains to Lift Station 4 where the flows would be re-pumped through a 30-inch cast iron force main to the Bennett Road WWTP. In 1982, the Bennett Road WWTP was removed from service and the flows discharged to the WWTP outfall that flowed to the Crane Strand Lift Station (which later became LS 249) and to the Iron Bridge Regional Water Reclamation Facility. Lift Station 248 at Bennet Road was later constructed to collect the flows from Lift Stations 1, 2 and 3 and pump initially to LS 249 and later to the Iron Bridge Regional Water Reclamation Facility. The 20-inch cast iron force mains from Lift Stations 2 and 3 currently bypass around Lift Station 4 and discharge directly into the 30-inch cast iron force main to Lift Station 248.

Following the Force Main System Evaluation performed in 2017 (PO 0000009255), Tetra Tech was authorized to design the initial force main segment of 11,100 feet from Lift Station # 2 to Garden Plaza and N. Bumby Avenue (Wastewater Force Main System Project 1 (LS 2 Force Main), Amendment #1 to PO 0000009255). The scope of the LS 2 Force Main was amended further to add OUC water mains along the project corridor with a Joint Participation Agreement (JPA), add electrical transmission duct banks, add additional OUC improvements, revise OUC water main route to Marks Street and Orange Avenue and add gravity sewer and other improvements in the project corridor. See previous Amendments 1 through 4.

Amendment #5
The scope of Amendment #5 will continue the force main system from the end of the LS 2 Force Main at N. Bumby Avenue to Lift Station 248 at Bennett Road. The project includes 7,900 feet of 36-inch force main from the termination point of the Lift Station 2 Force Main project just west of the intersection of Weber Street and N. Bumby Avenue, south on N. Bumby Avenue, east on Laura Place, east adjacent to the Cady Way Trail to the intersection of Warehouse Road, then northeast through a future easement within the paved parking area west of Woodcock Road, then east on McCrory Place to the intersection of Lawton Road, then southeast on Lawton Road to the intersection of Maguire Boulevard, east on Maguire Boulevard to an existing 70 ft. easement, then

south within the easement to Cady Way Trail/Fox Street then east to the Lift Station 248 site. The existing force main from the Linden Audubon Park Apartments private lift station and the force main from City LS 46 will be connected to the new 36-inch force main near Warehouse Road and the Cady Way Trail. The proposed route for the force main are shown in Figure 1 attached as Exhibit V.

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SCOPE OF WORK

The scope of services includes the following tasks for both the City's proposed 36-inch force main.

- Task 1 Surveying and SUE
- Task 2 Geotechnical Services
- Task 3 Final Design
- Task 4 Permitting
- Task 5 Public Relations and Meetings
- Task 6 Bidding Assistance
- Task 7 Construction Administration

TASK 1 – SURVEY AND SUE

Task 1.1 Topographic Survey and Control

Our subconsultant, Barnes Ferland and Associates (BFA), will provide the services identified in this subtask. BFA will provide a topographic survey of the pipeline corridor in accordance with the Standards of Practice set forth under the Florida Administrative Code and City standards including the Engineering Standards Manual. Property boundaries, right-of-way lines, and easement lines within the limits of the survey will be located as part of the survey. The horizontal and vertical spatial relationship of the above ground natural or man-made features lying within the limits of survey will be established and mapped. The survey limits will be full right-of-way plus 10 feet on both sides and include any existing adjacent or intersecting easements and 10 feet beyond intersection radius. Within the proposed easements through the paved parking area west of Woodcock Road and the existing 70 ft. easement area, the survey limits will be full easement width plus 10 feet on both sides. Provide topographic survey over the City's LS 248 parcel and Cady Way Trail property to the limits shown on the attached map. Elevations shall be taken along the route at 50-foot intervals and at apparent high and low points. Spot elevations shall be taken as necessary to identify significant elevation changes occurring within the limits of survey. The survey will indicate 1-foot contour intervals. Trees having a diameter of four (4) inches (measured three feet above the ground level) lying within the limits of survey, shall be located. Surface appurtenances of utilities such as water meters, hydrants, valves, sanitary lateral clean-outs, utility poles, guy and anchors, junction boxes, and transformers, etc. shall be located within the limits of the proposed topographic corridor including height above the surface. Utility poles with direction of overhead lines shall be shown on the Topographic Survey. Sanitary and drainage structures shall be located, with rim and invert elevations, size, direction and material provided as a minimum. The size, material, depth of cover and the direction of the wastewater force main pipes, valves and air/vacuum valves shall be surveyed and identified. BFA will locate the marked utilities designated by utility company representatives and as marked per Task 1.4. The utility details and utilities contact logs will be provided to the City with the final survey deliverables.

BFA will use Global Navigation Satellite Systems and conventional leveling methods to establish a permanent control network of control points at 500+- feet intervals along a survey baseline of construction and will be based on State Plane Coordinates NAD 1983, Florida East Zone, NAVD 88 Vertical Datum and City of Orlando Vertical Control Network. BFA will set a ½" Iron rod or Nail and Disc at each Control Point. The location of benchmarks shall be coordinated with the design such that a minimum of one monumented benchmark is located within the limits of each sheet of the plans. Benchmarks must meet the requirements of 5J-17.

Task 1.2 LS 248 Boundary Survey and Easements

Our subconsultant, BFA, will provide the services identified in this subtask. Provide a Boundary Survey for fee simple property and permanent easements including all improvements at Lift Station 248, the Cady Way Trail property and associated easements. The Survey along with the Survey Map Report and/or legal description shall meet the minimum requirements of Chapter 5J-17 Standards of Practice for a boundary survey.

Task 1.3 Specific Purpose Right of Way Survey

Our subconsultant, BFA, will provide the services identified in this subtask. Existing plats and land records containing the project rights-of-way, easements, and City owned property shall be obtained and reviewed. Sufficient monumentation will be recovered, field located and verified to calculate and determine the right-of-way lines through the project area, as well as any platted easements adjacent to the rights-of-way. Found or set monuments for rights-of-way, easements and lot lines shall be adequately depicted on the Topographic Survey. Sufficient dimensions will be shown to support the location of the right-of-way lines relative to the survey control baselines. Reference point details will be included in the CADD files provided to the City.

Any major discrepancy between field monumentation and the right-of-way established by the surveyor shall be noted on the survey and described within the Surveyor's Report. The Surveyor shall notify the City Surveyor in writing the effect of the discrepancy.

Task 1.4 Collection of Existing Subsurface Utility Data

Our subconsultant, BFA, will provide the services identified in this subtask. Tetra Tech will coordinate with the utility providers to obtain their facility information, provide information obtained to BFA for their use and review their subsurface data provided.

Utility Designations: Sunshine One Call (SSOC) will be notified for a Design Ticket to acquire utility provider information for the specified work areas. Electronic sensing equipment and ground penetrating radar (GPR) will be used to detect and mark those underground utilities that will transmit a signal to meet ASCE Quality B Level of Designation Utility designation will indicate the presence and approximate horizontal location of most underground utilities. Paint marks and/ or wire flags will be placed on the ground surface that will indicate the approximate location of the underground utility. Each utility will be color coded according to the ASCE standard industry color. Sketches will be made depicting the results of the designation to assist with the field location and drawing the lines connecting the utilities. Utilities designated will include electric, water, force main, gas, numerous communication lines or other utilities that may be discovered. Small service lines and irrigation lines will not be designated.

Utility Location: A total of fifty (50) utility excavations are estimated for this proposal with twenty-five (25) excavations taking place in grass or dirt and twenty-five (25) within brick or paved roadways. The utilities excavated and located will meet ASCE Quality A Level of Designation. Utility excavations will be performed to positively locate and identify the underground utility lines. Excavations will provide the horizontal and vertical location of the utility as well as the size, type, material and general condition of the utility. A detailed Test Hole Report will be made for the excavation that will show distances between existing facilities to the test hole location for each utility. The sketch will show the measurement from the mark to the top of the utility with reference ties to nearby features to aid in the recovery of the mark. All other information obtained will also be on the sketch.

MOT for utility designation and location will be provided when necessary on this project. City right of way permits are generally not required for City projects. FDOT Standard Indexes for MOT will be submitted to the City Traffic Control Manager for review prior to setting up MOT within roadways.

TASK 2 - GEOTECHNICAL SERVICES

Task 2.1 Geotechnical:

Perform a geotechnical investigation to facilitate design of the proposed mains and construction of the Project. Our subconsultant for the geotechnical investigation services during design is Antillian Engineering Associates (Antillian). For geotechnical services for construction materials testing refer to Task 7 Construction Administration and CPWC's proposal.

Field Investigation: Before initiating the drilling program, Antillian will conduct a site reconnaissance to verify access for the drilling equipment and stake the boring locations for underground utility location and marking in accordance with Florida statutes. Coordinate with representatives of the utility companies as needed to confirm and mark the locations of underground service facilities. Perform eighteen (18) soil-test borings to ten (10) feet and four (4) to thirty (30) feet. Drill the borings by hand-auger as needed to avoid possibly unmarked utilities, then by continuous split-spoon sampling and mud-rotary drilling methods. Tests would be conducted continuously from the bottom of the hand-auger interval to ten feet, and then at five-foot intervals to the indicated completion depths as needed. Conduct the Standard Penetration Test (SPT) with each split-spoon sample in accordance with ASTM D 1586. Provide nine (9) full-depth pavement cores to determine the functional and structural conditions of the pavement for restoration.

Soils penetrated during the drilling operations would be logged in the field. If unusual odors are noticed during drilling, it will be documented and reported to the City. Representative samples will be collected and sealed for testing. The groundwater level encountered in each borehole will be measured and recorded on the field logs. At the completion of the drilling program, the ten (10) foot deep borings would be backfilled to the ground surface with soil and drill cuttings and the thirty (30) foot borings will be grout filled. The pavement-core holes will be backfilled with tamped, cold-patch asphalt. Boring identification stakes will be left in place near the completed

boreholes for design survey by BFA. The surface elevations of the bore holes will be included in the design survey.

Laboratory Testing: A geotechnical engineer will examine the recovered soil samples to confirm the descriptions on the field logs and classify the soils visually. The engineer will select representative specimens for testing, which will consist of 48 percent-fines tests, two (2) organic content tests, four (4) Atterberg limits test series, eight (8) moisture content tests and 15 soil corrosion potential tests series.

Report: The exploration will be supervised by a qualified Geotechnical Engineer registered in the state of Florida, and the results of the exploration will be presented in a geotechnical engineering report. The report will address and document the following items:

1. Existing site conditions.
2. Exploration, testing and sampling methods.
3. Subsurface soil conditions encountered and soil classifications.
4. Soil densities for proposed construction methods.
5. Pavement cores.
6. Depth to groundwater at the time of the exploration and estimated seasonal high groundwater levels.
7. A discussion of general site preparation techniques, excavation, backfilling and fill compaction for installation of the proposed pipelines and other concerns, as appropriate.

MOT for soil borings will be provided when necessary on this project. City right of way permits are generally not required for City projects. FDOT Standard Indexes for MOT will be submitted to the City Traffic Control Manager for review prior to setting up MOT within roadways.

Task 2.2 Groundwater Sampling/Testing:

During the Preliminary Design, Tetra Tech had identified contaminated sites within or near the project corridor. A total of four (4) locations that represent potential contaminant sources were identified within 500 feet of the proposed route based on data obtained from the FDEP contamination location map (CLM). As a result, soil and groundwater quality should be evaluated prior to excavation and dewatering for compliance with FDEP statutes. Tetra Tech will perform excavations and soil/groundwater quality screening using direct push technology and fixed based lab analysis for targeted chemicals of concern, VOA/VOH and PAH constituents, and national pollutant discharge elimination system (NPDES) criteria. The results of this effort will be presented in a report. Specifications will be included in the construction documents to notify the bidders regarding any special work requirements within the project's corridors.

For the corridor outside the known contamination areas, Tetra Tech will perform four (4) additional borings and groundwater sampling along the project corridor and test for the water quality parameters specified in the FDEP Generic Permit for the Discharge of Produced Ground Water from any Non-Contaminated Site Activity. Tetra Tech will coordinate this effort with the anticipated depths of cuts at each location.

TASK 3 FINAL DESIGN

Task 3.1 Kick-off Meeting

Kick-off Meeting: At the start of the project, attend a project kick-off meeting with City staff to discuss the overall project, establish lines of communication, coordinate field work, and discuss schedule and status update requirements. Prepare meeting summary and submit electronically to the City's Project Manager.

Task 3.2 Project Management

Tetra Tech will perform project management and coordination for oversight of the project including documentation of key project tasks, status reports, action items, coordination with stakeholders and City staff and others, etc. throughout the duration of the project.

Task 3.3 Construction Documents

Tetra Tech will prepare construction documents including engineering drawings and specifications and submit to the City for review at 60%, 90% and 100% completion levels. The 60% plans will contain plan and profile views. The 60% specs will contain the Table of Contents and draft technical specifications, draft bid form and draft measurement and payment section(s). The 90% plans and technical specifications will be updated based on comments provided for the 60% submittal. Similarly, the 100% plans and specifications will include updates and modifications to the 90% submittal. The drawings will be prepared using AutoCAD and the specifications will be prepared using Microsoft Word. The construction documents shall meet requirements for construction contract competitive bidding and subsequent construction of the Project. All documents shall comply with the current requirements of the City's Standards. Design services will include maintenance of traffic (MOT) and Storm Water Pollution Prevention plans and documents. Tetra Tech has estimated four (4) general sheets, twenty (20) survey and control sheets, twenty (20**)** wastewater plan and profile drawings at a scale of 1" = 20' horizontal and 1" = 4' vertical, twenty (20) SWPPP plan sheets, twenty (20) MOT plan sheets, twenty (20) pavement restoration and ADA plan drawings and five (5) detail drawings. Plan sheets shall be prepared as 22"x 34" (full size) sheet format and shall also be reproducible at 1/2 scale on 11" x 17" sheets. The existing utilities shall be shown on the drawings in accordance with the CI/ASCE 38-02, ASCE Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data. The date of the field work shall be depicted with the Subsurface Utility Data reports. Existing utilities shall be identified with a utility quality level by the appropriate abbreviation and legend. Division 1 through 15 Contract Specifications will be prepared in CSI format for inclusion with the City of Orlando's Front-End Bidding Documents (Division 0). Tetra Tech will review and incorporate the City's standard Division 1 Specifications.

Task 3.4 Utility Data and Coordination

Tetra Tech will coordinate with utility companies potentially affected by the proposed pipeline alignment to obtain utility facility data and submit a pdf version of the 60% and 90% construction drawings to the utilities with an email or letter requesting markups or verification of utilities not affected. This coordination will include follow-up calls and emails which will be documented and filed for future use as needed. Tetra Tech will coordinate two (2) meetings or conference calls for coordination with utility companies in the project corridor as applicable.

Task 3.5 Maintenance of Traffic (MOT)

Tetra Tech's subconsultant, Civil/Site Engineering, Inc. (CSEI), will prepare Maintenance of Traffic Control Plans based upon FDOT Standard Plans Index 600 series. MOT plans will include detail sheets for work within major roadways and crossings, including lane closures, taper lengths, lane shifts, sign spacing, and channelizing device spacing as required. Detour plans for work within low traffic residential neighborhood streets will be developed and referenced on the overall MOT aerial map. Additionally, the maintenance of traffic control plans will address pedestrian sidewalk closures, trails and bike route detours, allowable on-street parking within the immediate vicinity of the worksite, and access to buildings immediately adjacent to work site and driveways blocked by construction activities as applicable. Cost estimates for MOT will be provided at 60%, 90% and 100% plans submittals.

Task 3.6 Stormwater Pollution Prevention Plans (SWPPP)

Tetra Tech will prepare Stormwater Pollution Prevention Plans based on the City's Standard Template and coordinate with the City's stormwater section regarding the City's NPDES permit.

Task 3.7 ADA Requirements

The project is anticipated to impact pedestrian trails and sidewalks along the project construction corridor. The City will perform an ADA review of the sidewalks along the project corridors and mark any deficiencies identified in the field. Tetra Tech will preform site visits to collect the field marked data and incorporate the ADA improvemnts into the project. Improvements for ADA requirements at intersections will be included on the project restoration drawings as well as locations where panels of sidewalks are impacted for service lines or stub outs.

Task 3.8 QA/QC and Submittals

Tetra Tech will submit to the City for review at 60%, 90% and 100% completion levels and provide quality assurance and constructability review prior to all submittals to the City. Tetra Tech will provide copies of the City's QA/QC comments and their origin with each design stage submittal. The design team will attend design review meetings with the City at each completion level. Tetra Tech will prepare a Engineer's Opinion of Probable Construction Cost at the 60% design stage and at each subsequent design submittal. The Engineer's Opinion of Probable Construction Cost at the 90% and 100% completion level will include itemization consistent with the proposed bid form. The contingency percentage included in the Cost Opinions will be identified at each design phase. At each submittal stage, Tetra Tech will provide three (3) paper copy sets of drawings and specifications and a copy in electronic format of the drawings (AutoCAD and PDF formats), specifications (Microsoft Word and PDF) formats and cost estimates (Microsof Execl and PDF) formats.

TASK 4 – PERMITTING

Tetra Tech will prepare and submit required Project related permit applications and supporting documentation necessary to obtain required permits for construction and operation of the Project. Tetra Tech will respond to requests for additional information from permitting agencies. Permit application fees will be paid by the City as appropriate unless specified to be paid by the selected contractor. Tetra Tech will provide the City with information related to the fee amounts and copies

of the basis of the fee amounts, for the City's internal 'check request' use. The following permit tasks are anticipated for the project

- Prepare and submit FDEP Permit Application for Constructing a Wastewater Collection/ Transmission System with supporting documentation.
- Prepare and submit a Notice of Intent (NOI) to use the NPDES FDEP Generic Permit for Stormwater Discharge from Large and Small Construction Activities. The notice will be signed by the City and the selected contractor and the permit application fee will be provided by the selected contractor.

TASK 5 – PUBLIC RELATIONS AND MEETINGS

Community Meetings:
Tetra Tech and their MOT subconsultant will assist the City's Public Works Outreach coordinator with the following tasks:

- Prepare a Public Notification Boundary Map for City's review.
- Prepare a draft Community Meeting Notification Letter and a draft Power Point Presentation. The City will print and mail the public notifications.
- Present a brief summary of the project and respond to public comments/questions at two (2) community meetings.

Coordination Meetings:
During the project, attend coordination meetings and provide brief meeting summaries as requested with the City elected officials, Parks and Recreation for potential pedestrian and trail impacts, homeowner associations, businesses, and others to assist the City with overall project and public coordination. Four (4) coordination meetings are included during this project. Coordination meetings do not require public notification and typically involve only a few City representatives meeting with a business, school representative or homeowner's association representative(s).

Task 6 - BIDDING ASSISTANCE

In is anticipated that the proposed improvements will be bid as one (1) project by the City. Upon authorization to proceed with the bidding and award phase of the project, Tetra Tech will perform the following services.

1. Furnish the City with an electronic set bid drawings and technical specifications for distribution by the City.

2. Provide an USB drive to include the following:
    a. Drawings and Specifications in PDF Format
    b. Drawings in AutoCAD Format
    c. Specifications in Word Format
    d. Electronic signed and sealed drawings and specifications.

e. Engineer's Opinion of Probable Construction Cost in Microsoft Excel and PDF Format

3. Attend a pre-bid conference conducted by the City to describe the project and answer any technical questions from prospective bidders.
4. Provide written responses and clarifications to the City's Project Manager based on questions raised by prospective bidders. Prepare draft addenda, as approved by the City, containing technical revisions that become apparent during the bidding phase. The City will issue the addendums as required.
5. Prepare a bid tabulation and assist the City in evaluating bids and bidders and make a recommendation for the award of the project.
6. Incorporate into the construction documents any revisions and clarifications that occurred during the bidding phase and all City (Purchasing) required and Contractor executed documents. Tetra Tech will be responsible for Conforming Contract Drawings, and will assist, as necessary, the City's Project Manager and Purchasing Agent in the development of the Conformed Project Manual. Submit four (4) paper copies and an electronic copy of a conformed set of Contract Documents for the City and one (1) electronic set to the Contractor for reproduction.

TASK 7 - CONSTRUCTION ADMINISTRATION

The City will provide Construction Contract Management and full-time resident inspection of the project during construction. All instructions to the Contractor(s) shall be issued through the City's Construction Manager. The construction time frame for the project is anticipated to be eighteen (18) months. Tetra Tech will be assisted by CPWC, Inc. in providing Construction Administration and construction material testing services for the project. The following tasks are anticipated:

1. Attend the preconstruction conference conducted by the City's Construction Manager with other City personnel, selected Contractor, subcontractors, and regulatory agencies. Tetra Tech will prepare and distribute the meeting minutes.
2. Assist the City's Construction Manager in the review and negotiations of the Schedule of Values for the project.
3. Conduct eighteen (18) monthly site visits to the construction site to observe construction of the project and attend eighteen (18) monthly progress meetings conducted by the City's Construction Manager. The site visits will be to observe the progress and quality of the construction and to document general conformance with the Contract Documents. The site visits will be conducted following each progress meeting. Observations and concerns will be discussed with the City's Construction Manager or Inspector immediately following each site visit. A summary of the observations and any concerns will be e-mailed to the City's Construction Manager within one week of the site visit.
4. Conduct eighteen (18) additional site visits to the construction sites to observe construction of the project, as requested by the City's Construction Manager. Observations and concerns will be discussed with the City's Construction Manager and/or Inspector immediately following each site visit. A summary of the observations and any concerns noted will be e-mailed to the City's Construction Manager within one working day of the site visit.

5. Provide reviews of initial and periodic construction schedule submittals by the Contractor for compliance with Contract requirements and sequencing for prosecution and completion of the Work. Total number of construction schedule reviews estimated at eighteen (18) plus initial review.
6. Provide interpretation or clarification of the design documents when requested and prepare change orders required for clarification or minor modification of the Contract Documents. Up to twenty (20) RFIs are assumed for this project.
7. Review shop drawings and other required Contractor submittals up to two (2) times per submittal for general conformance with the Contract Documents. Construction Contract will require that additional reviews are paid for by the Contractor. Forty-five (45) submittals are anticipated for this task.
8. Review, recommend and assist the City in negotiations of contract modifications with the Contractor. Number of contract modifications is estimated at six (6).
9. Provide construction materials testing services though our subconsultant CPWC. In general, the scope of work will include performing laboratory testing (Proctors, LBR's and classification testing) of existing and/or imported soils, in-place density testing of pipelines, structures and pavement components, concrete compressive strength testing and laboratory testing of asphaltic concrete.
10. Review test reports for soils, concrete and other materials.
11. Assist in the preparation of responses to community concerns during the construction of the project.
12. Conduct a substantial completion site visit and develop a punch list of items to be corrected by the Contractor.
13. Submit Record Drawings and necessary documents for project certifications of completion to FDEP. Submit up to two (2) partial certifications to assist phasing of construction. Prepare and submit final certification of completion documents to obtain final release from FDEP.
14. Conduct a final completion site visit to determine if the punch list items have been completed in accordance with the Contract Documents and if the Contractor's obligations are fulfilled and recommend final payment to the Contractor.
15. Review the As-Built Survey which delineate the dimensions, location, and elevations of all facilities constructed based on signed and sealed as-built information provided by the Contractor's surveyor and reviewed and approved by the City Surveyor and City's Construction Manager. Prepare and submit to the City one (1) hard copy and an electronic file of the record drawings for the City incorporating changes made during construction based on record information furnished by the Contractor.

Assumptions

1. Road Restoration. All restoration will be from edge of pavement to edge of pavement to maintain the current stormwater drainage. The current width of impacted streets will remain per current conditions. Additional right of way is not planned for the project.
2. Evaluation of stormwater system along the route have not been performed, are not included in the scope of services and improvements are not currently planned by the City.
3. Evaluation of vehicular and pedestrian traffic signalization and signage has not been performed and improvements are not currently planned by the City.
4. Should permits be required by the City for utility designations or location excavations it will be considered extra services and a separate proposal will be provided to the City. Preparation of maintenance of traffic (MOT) plans and MOT submittals are included.
5. Ecological Investigations: The project corridor is in developed areas of the City and ecological investigations are not anticipated to be required for permitting.
6. The project construction is anticipated to impact wastewater service laterals along the project corridor. Replacement of these services is included in the proposal. However, replacements or improvements of parallel sanitary sewers are not included in this proposal. The City reserves the right to add sanitary sewer improvements via addendum as needed.
7. Acquisition of easements including coordination or meetings regarding easements are not included in this scope of work nor are sketches, legal descriptions and title work.
8. Title searches for properties and easements are not included in the scope of services.
9. City to perform the force main changes needed at LS 46 as a separate project.

OWNER CONTROLLED CONTINGENCY

During the prosecution of the above described services, additional items may be identified and added to the Scope of Work by the City of Orlando. An Owner controlled contingency of $75,000 has been included in the budget for additional unanticipated work as identified and authorized by the City of Orlando. The Contingency shall not be used without prior written authorization from the City of Orlando.

COMPENSATION

The total hourly not-to-exceed fee with contingency for the Scope of Services described above is **$860,888.52.** This fee reflects a multiplier of 3.00, which is fully acceptable to Tetra Tech. Exhibit II presents a detailed breakdown of the estimated hours and compensation for the Scope of Services. Proposals from the various sub-consultants that will provide services for this project are provided in the attached Exhibit IV.

Compensation Summary

Task	Fee ($)
Task 1 Surveying and SUE	160,136.75
Task 2 Geotechnical Services	77,044.70
Task 3 Final Design	275,528.93
Task 4 Permitting	3,691.63
Task 5 Public Relations and Meetings	21,261.27
Task 6 Bidding Assistance	19,936.02
Task 7 Construction Administration	193,970.23
Subconsultant Administration	34,318.98
Owner Controlled Contingency	75,000.00
Total	860,888.52

M/WBE Participation

Firm Participation	Fee ($)	MWBE Percentage
Tetra Tech	442,698.73	
Antillian Engineering (MBE)	31,037.24	3.9%
BFA (MBE)	149,020.10	19.0%
CSEI (WBE)	63,775.49	8.1%
CPWC (MBE)	47,113.06	6.0%
CPWC (Materials Testing Sub)(Non-MWBE)	26,867.50	
ATI Borings (MWBE)	13,260.00	1.7%
GEAR (Soils and Sampling) (SDV)	8,676.40	
Pace (Sample Analysis) (Non-MWBE)	3,440.00	
Total (W/O Contingency)	785,888.52	
Total MWBE Participation		**38.7%**

EXHIBIT II

FEE ESTIMATE

Exhibit II Price Proposal

Orlando Wastewater Force Main System Amend #5 FM to LS 248

Survey, design, permitting and construction services for 7,900 feet of 36" Force Main to LS 248

Submitted to: Orlando Water Reclamation Division
Attn: Alan Oyler, PE

Contract Type: T&M

		Labor Plan													
		11 Resource													
	Bill Rate >	258.86	212.68	103.48	177.49	161.16	159.14	105.99	111.39	105.99	97.12	65.97			
		Senior Project Manager (D. Allen)	Proj. Eng. IV (J. Alexander)	Proj. Eng. II (Alberto A)	Project Eng IV (Tim Vanderwalker)	CAD Designer (Mike Shumacher)	Prof Geologist III (David Giddens)	Scientist III (Luis Garcia)	Env Scientist II (Rob Siegel)	Env Scientist I (Mark Boward)	Sr Admin Assistant (A Backer)	Const. Admin. (Andreya Ramos)	Labor	Subs	Task Pricing Totals
Project Phases / Tasks	**Total Labor Hrs**	**2,660**	83	619	699	202	708	22	36	40	40	97	114	408,379.75	343,189.79	**860,888.52**
Task 1 Surveying and SUE	**78**	-	**28**	**48**	-	-	-	-	-	-	**2**	-	**11,116.65**	**149,020.10**	**160,136.75**
Topographic and ROW Survey (BFA)	20		8	10							2		2,930.56	83,156.64	86,087.20
Boundary Surveys (BFA)	8		4	4									1,264.68	9,100.02	10,364.70
Utilities Designations (BFA)	14		4	10									1,885.58	25,122.72	27,008.30
Subsurface Utility Excavations (50) (BFA)	36		12	24									5,035.83	31,640.72	36,676.55
Task 2 Geotechnical Investigations	**166**	-	**16**	**8**	-	-	**22**	**36**	**40**	**40**	**4**	-	**20,631.06**	**56,413.64**	**77,044.70**
Geotechnical Investigations	**14**	-	**12**	-	-	-	-	-	-	-	**2**	-	**2,746.45**	**31,037.24**	**33,783.69**
Geotechnical Coordination	14		12								2		2,746.45		2,746.45
Subconsultant (Antillian)	-													31,037.24	31,037.24
Environmental and Contamination Evaluation	**152**	-	**4**	**8**	-	-	**22**	**36**	**40**	**40**	**2**	-	**17,884.61**	**25,376.40**	**43,261.01**
Borings (ATI)	-													13,260.00	13,260.00
Soil and GW Sampling (GEAR)	-													8,676.40	8,676.40
Soil/GW Analysis (Pace)	-													3,440.00	3,440.00
Task 3 Final Design	**1,401**	**57**	**252**	**342**	**148**	**534**	-	-	-	-	**68**	-	**222,675.06**	**52,853.87**	**275,528.93**
Kick off Meeting	10	4	4								2		2,080.41		2,080.41
Project Management and Coordination	60	8	40								12		11,743.69		11,743.69
Drawings	**780**	-	**72**	**152**	**72**	**484**	-	-	-	-	-	-	**121,823.57**	-	**121,823.57**
General (4)	28		4	8	4	12							4,322.49		4,322.49
Survey Control (20)	24		4			20							4,073.94		4,073.94
Storm Water Pollution Prevention Plans (20)	64		4		20	40							10,846.93		10,846.93
WW P&P (20)	440		40	120		280							66,050.28		66,050.28
Details (5)	40		4	12	8	16							6,091.02		6,091.02
Pavement Restoration and ADA (20)	168		16	12	40	100							27,860.35		27,860.35
MOT (CSEI)	16					16							2,578.56		2,578.56
Specifications	**94**	-	**18**	**28**	**16**	-	-	-	-	-	**32**	-	**12,673.51**	-	**12,673.51**
Utility Coordination	**96**	-	**32**	**64**	-	-	-	-	-	-	-	-	**13,428.89**	-	**13,428.89**
Maintenance of Traffice (MOT)	**50**	-	**24**	**24**	-	-	-	-	-	-	**2**	-	**7,782.29**	**52,853.87**	**60,636.16**
Coordination and Meetings (4)	50		24	24							2		7,782.29		7,782.29
Subconsultant (CSEI)	-													52,853.87	52,853.87
Stormwater Pollution Prevention Plans	**24**	-	**8**	-	**12**	-	-	-	-	-	**4**	-	**4,219.83**	-	**4,219.83**
Coordination and Meetings (2)	24		8		12						4		4,219.83		4,219.83
ADA Evaluaiton and Coordination	**40**	-	-	-	**36**	-	-	-	-	-	**4**	-	**6,778.10**	-	**6,778.10**
EOPC	**74**	-	**16**	**26**	-	**32**	-	-	-	-	-	-	**11,250.66**	-	**11,250.66**

60% EOPC	30		6	12		12							4,451.84		4,451.84
90% EOPC	26		6	8		12							4,037.90		4,037.90
100% EOPC	18		4	6		8							2,760.92		2,760.92
QA/QC	**48**	**36**	**12**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**11,871.15**	**-**	**11,871.15**
60% QA/QC	20	16	4										4,992.49		4,992.49
90% QA/QC	16	12	4										3,957.05		3,957.05
100% QA/QC	12	8	4										2,921.61		2,921.61
Submittals and Mtgs.	**125**	**9**	**26**	**48**	**12**	**18**	**-**	**-**	**-**	**-**	**12**	**-**	**19,022.95**	**-**	**19,022.95**
60% Submittal and Mtg.	49	3	12	20	4	6					4		7,463.87		7,463.87
90% Submittal and Mtg.	41	3	8	16	4	6					4		6,199.19		6,199.19
100% Submittal	35	3	6	12	4	6					4		5,359.89		5,359.89
Task 4 Permitting	**26**	**-**	**5**	**12**	**-**	**8**	**-**	**-**	**-**	**-**	**1**	**-**	**3,691.63**	**-**	**3,691.63**
FDEP Wastewater Permitting	26		5	12		8					1		3,691.63		3,691.63
Task 5 Public Relations and Mtgs/City Dept Mtgs	**107**	**3**	**38**	**42**	**-**	**24**	**-**	**-**	**-**	**-**	**-**	**-**	**17,072.77**	**4,188.50**	**21,261.27**
Notification Boundary Map	24		4	12		8							3,381.83		3,381.83
Draft Notices and Powerpoint Presentation	39	3	8	12		16							6,298.42		6,298.42
Community Mtgs (2)	20		10	10									3,161.69		3,161.69
Coordination Mtgs (4)	24		16	8									4,230.83		4,230.83
Subconsultant (CSEI-MOT)	-													4,188.50	4,188.50
Task 6 Bidding	**137**	**5**	**31**	**50**	**-**	**30**	**-**	**-**	**-**	**-**	**21**	**-**	**19,936.02**	**-**	**19,936.02**
Prepare Bid Documents	25	1	3	10		6					5		3,384.31		3,384.31
Attend Pre-bid Conference	4		4										850.74		850.74
Answer Questions/Prepare Addenda	41	1	12	16		8					4		6,144.58		6,144.58
Bid Tabulation/Evaluation	26	2	8	12							4		3,849.48		3,849.48
Conform Documents (TT)	41	1	4	12		16					8		5,706.92		5,706.92
Direct Costs	-														-
Task 7 - Construction Administration (18 mos)	**745**	**18**	**249**	**197**	**54**	**112**	**-**	**-**	**-**	**-**	**1**	**114**	**113,256.55**	**80,713.68**	**193,970.23**
Pre-Construction Conference (TT/CPW)	14	3	5	5							1		2,454.54		2,454.54
Review Schedule of Values (TT/CPW)	8		6									2	1,408.05		1,408.05
Progress Meetings and Site Visits (TT/CPW)	87	6	72									9	17,460.20		17,460.20
Additional Site Visits (TT/CPW)	33	2	16		12							3	6,248.46		6,248.46
Review Construction Schedules (TT/CPWC)	22		18									4	4,092.21		4,092.21
Clarficiations and RFIs (20) (TT/CPW)	93	3	20	40	10							20	12,263.96		12,263.96
Shop Drawing Review (45) (TT)	182		40	70	24							48	23,177.66		23,177.66
Assist with Change Orders (6)(TT/CPW)	18	2	16										3,920.67		3,920.67
Construction Materials Testing (CPW)	-														-
Review test reports (TT/CPW)	26		6	16								4	3,195.74		3,195.74
Assist in responding to Public's Questions	46	2	16	20								8	6,518.13		6,518.13
Substantial Completion Inspections (TT/CPW)	22		8	4	8							2	3,667.27		3,667.27
FDEP Partial Clearances (2)(TT)	52		6	16		24						6	7,195.52		7,195.52
Final FDEP Certifications	22		4	8		8						2	3,099.83		3,099.83
Final Completion Inspection (CPW)	8		6									2	1,408.05		1,408.05
Record Dwgs (TT)	112		10	18		80						4	17,146.25		17,146.25
Subconsultant (CPW-Materials Testing)	-													26,867.50	26,867.50
Subconsultant (CPW)	-													47,113.06	47,113.06
Subconsultant (CSEI)	-													6,733.12	6,733.12
Subconsultant Administration	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**34,318.98**
Owner's Contingency	**-**														**75,000.00**
Totals	**2,660**	**83**	**619**	**699**	**202**	**708**	**22**	**36**	**40**	**40**	**97**	**114**	**408,379.75**	**343,189.79**	**860,888.52**

EXHIBIT III

PROJECT SCHEDULE

The work effort described above will be completed in accordance with the schedule provided below.

Task	Duration (Weeks)	Weeks After Notice to Proceed
Survey and SUE	21	21
60% Submittal	16	37
City Review	3	40
90% Submittal	10	50
City Review	3	53
100% Submittal	5	58
Permitting	6	64
Bidding	22	86
Construction	74	160

EXHIBIT IV

SUBCONSULTANT PROPOSAL(S)

Antillian Engineering (MBE)
BFA (MBE)
CSEI (WBE)
CPWC (MBE)
CPWC (Materials Testing Sub)(Non-MWBE)
ATI Borings (MWBE)
GEAR (Soils and Sampling) (SDV)
Pace (Testing)

ANTILLIAN
ENGINEERING ASSOCIATES, INC.

November 16, 2020

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

Attention: Daniel Allen, P.E.

Reference: Proposal for Geotechnical-Engineering Services
Lift Station 248 Force Main
Orlando, Florida

Dear Mr. Allen:

Antillian Engineering Associates, Inc. is pleased to submit this proposal to conduct a geotechnical-engineering study for the above-referenced project. We prepared it in response to your e-mail request dated November 5, 2020, which advised that OUC decided not to participate in the JPA. It supersedes our proposal dated October 12, 2020

SCOPE OF SERVICES

The City of Orlando Water Reclamation Department plans to install a new sanitary-sewer force-main from Lift Station 248 to a point along Weber Street near Bumby Avenue. Tetra Tech staff provided an exhibit that showed the pipeline extending from the terminal point along Weber Street to a facility along the west side of Bennett Road about 300 feet south of Cady Way Trail. Tetra Tech staff advised that the force-main will be about 7,900 feet long, and that most of it will be installed within ten feet of the existing ground surface, using conventional, excavate-and-backfill ("cut- and-cover") construction methods. Tera-Tech staff further advised that a trenchless method, i.e., jack-and bore or horizontal directional drilling will be used to install crossings beneath Bumby Avenue and Maguire Boulevard. The Tetra Tech exhibit showed anticipated boring locations spaced about 500 feet apart.

We propose to conduct a geotechnical-engineering study to support the design of this force-main segment. The scope of services would be separated into tasks as follows:

Task 1 - Site Reconnaissance/Field Investigation - Before initiating the drilling program, we would prepare a preliminary boring-location plan using available information We would conduct site visits to gather information about the field conditions, confirm access for the drilling equipment, and confirm maintenance-of-traffic ("MOT") needs as appropriate. We would white-line the preliminary boring locations for underground-utility location and marking in accordance with Florida statutes and stake them to facilitate identification by the field crew and the project surveyors as needed. We would coordinate with utility-company representatives as needed to confirm and mark the locations of underground service facilities. Based on the indicated 500-foot spacing between borings, an examination of the Tetra Tech exhibit, and discussions with Tetra Tech staff, we estimated that 18 soil-test borings to ten feet and four soil-test borings to 30 feet (for the trenchless crossings) should be sufficient for this project. Tetra Tech selected nine locations for full-depth cores to assess pavement thickness and component-layer materials.

Before starting the drilling program, our field crew will check the preliminary boring locations and adjust them as needed to avoid conflicts with the recently-marked underground utilities. The crew would drill the uppermost four feet of the borings by hand-auger as needed to reduce the risk of damage to other utilities that may not be marked, then continue drilling by continuous split-spoon sampling and mud-rotary methods. The crew would conduct the Standard Penetration Test ("SPT") with each split-spoon sample in accordance with ASTM D1586. Tests would be conducted continuously from the bottom of the hand-auger interval to ten feet, and then at five-foot intervals to the indicated completion depths. Time will be needed to complete operations at each location, move the drilling equipment to the next boring location don and remove personal protective equipment, and decontaminate drill tools and rods in areas where possibly-contaminated soils are encountered. The currently-unknown cost of MOT resources (arrow boards, barricades, etc.) would be covered by conversion into hours of drill-rig-and-crew time.

The field crew would log the soils recovered in the samplers, select representative samples, seal them in clean, airtight containers, and transport them to our office. They would measure the encountered groundwater depth in each borehole. and record the depth on the field logs. The crew would also recover a bulk sample of soil at every other boring location for soil corrosion potential testing.

At the completion of the drilling program, they would backfill the ten-foot borings with soil, and grout the 30-foot borings for safety and to reduce the potential for HDD drilling-fluid loss during construction. We would leave the stakes in place near the completed boreholes for survey by others. The pavement-core holes would be backfilled with tamped, cold-patch asphalt.

Task 2 - Laboratory Testing - A geotechnical engineer would examine the recovered soil samples to confirm the descriptions on the field logs and classify the soils visually. The engineer would select representative specimens for testing, which could consist of 48 percent-fines tests, two organic content tests, four Atterberg limits test series, and 8 moisture content tests. The force-main pipe is expected to be polymer so corrosion potential tests are not planned.

Task 3 - Engineering Services - We would perform the following services:

- review available information to develop a general understanding of the proposed improvements
- compile field and lab data with available information to characterize the encountered subsurface conditions
- tabulate pavement-layer material types and thicknesses
- evaluate the suitability of the subsurface conditions for the proposed construction
- prepare a site location map, boring-location plan, and report-quality boring logs
- prepare a geotechnical-engineering report for the force-main.

The report would contain a summary of available information pertaining to the planned force- main, appropriate surface and subsurface characterizations, a summary of the laboratory testing results, an assessment of the encountered soils, and our recommendations for force- main design and construction, earthwork, groundwater control, excavation safety, jack-and-bore or HDD installation, and other concerns as appropriate. The report would be sealed by a Professional Engineer registered in Florida.

COMPENSATION FOR SERVICES

We propose to provide the described services for an hourly, not-to-exceed fee of $31,037.24. An itemized breakdown of the fee is attached as Appendix A. It represents our best estimate of the scope of services needed to satisfy the needs of this project based on the information that Tetra Tech provided. Additional geotechnical services would be provided at the unit rates shown in the itemized estimates, if needed. Construction-phase quality-assurance services are not included in this scope and fee estimate. Environmental monitoring and testing services (including, but not limited to, field monitoring, testing with photo-ionization detectors, and analytical laboratory testing for hydrocarbons and other organic compounds) also are not included in these scopes and fee estimate.

SCHEDULE

We can begin work on this project within two weeks of receiving your notification to proceed. The field and laboratory investigations should take about six weeks. We would submit a draft report for review within four weeks after completion of the laboratory investigations. The 100-percent-design report would be submitted after receiving and addressing any review comments from Tetra Tech.

LIMITATIONS

The work on this project will be performed in general accordance with accepted, customary procedures for the practice of geotechnical engineering in central Florida. No guarantee or warranty is expressed or implied. Please call if you have any questions or if you need additional information.

Respectfully submitted,
ANTILLIAN ENGINEERING ASSOCIATES, INC.

Peter G. Suah, P.E.
Principal Engineer/President

Attachments: Appendix A - Fee Estimate

APPENDIX A
FEE ESTIMATE
LIFT STATION 248 FORCE MAIN
ORLANDO, FLORIDA

DESCRIPTION	UNIT	QTY	RATE		TOTAL
Field Investigation				$	-
Equipment Mobilization, Truck Rig	each	1	$350.00	$	350.00
SPT Borings (cut-and-cover, 18 to 10 ft)	LF	180	$12.00	$	2,160.00
SPT Borings (possible trenchless crossings, 4 to 30 ft)	LF	120	$12.00	$	1,440.00
Grout boreholes (trenchless crossings)	LF	120	$4.00	$	480.00
Drill Rig and Crew (movement between locations, decontamination	hours	14	$180.00	$	2,520.00
Drill Rig and Crew (estimated cost for MOT on City/FDOT ROW)	hours	8	$180.00	$	1,440.00
Signs/Barricades (normal, non-ROW operations)	days	3	$200.00	$	600.00
Pavement Cores, Asphalt	each	10	$150.00	$	1,500.00
Project Engineer(init. coord., recon., utility loc., stake borings)	hours	16	$122.19	$	1,955.04
Project Engineer(coord. with City/FDOT, ROW use/MOT permits)	hours	4	$122.19	$	488.76
Project Engineer(field/drilling supervision)	hours	24	$122.19	$	2,932.56
Laboratory Testing					
Visual classification/sample preparation	each	54	$10.00	$	540.00
Percent Fines (Grain Size Analysis, Single Sieve)	each	48	$30.00	$	1,440.00
Atterberg Limits	each	4	$90.00	$	360.00
Organic Content	each	2	$30.00	$	60.00
Moisture Content	each	8	$10.00	$	80.00
Engineering Services					
Project Manager	hours	20	$129.38	$	2,587.60
Project Engineer	hours	64	$122.19	$	7,820.16
Draftsperson	hours	36	$63.42	$	2,283.12
				$	31,037.24

BFA Environmental Consultants
Barnes, Ferland and Associates, Inc.

November 12, 2020

Mr. Daniel Allen, P.E.
Tetra Tech
Water, Environment, and Infrastructure Group
201 East Pine Street, Suite 1000
Orlando, Florida 3280

Re: City of Orlando – Lift Station 248 Force Main

Dear Mr. Allen,

Pursuant to your request, Barnes, Ferland & Associates, Inc. (BFA) is pleased to submit our proposal for subsurface utility exploration (SUE) services and surveying mapping services. As we understand your request, BFA will Designate (mark) and Locate (excavate) utilities along the above noted project. Horizontal Survey Location of existing utilities marked and provide a Topographic Survey and a Boundary Survey of the project to assist in the design of the force main.

Project Location: The project area is located in Orlando just west of the intersection of Weber Street at Bumby Avenue, south on Bumby Avenue, east along Laura Place, east adjacent to the Cady Way Trail to the intersection of Warehouse Road then northeast though a future easement within the paved parking area west of Woodcock Road, then east on McCrory Place to the intersection of Lawton Road, then southeast along Lawton Road to the intersection of Maguire Boulevard, then eastward approximately 1100 feet to an existing 70 ft. easement, then within the easement to Cady Way Trail/Fox Street, then east to the Lift Station 248 site.

TASK 1 – SURVEY & S.U.E.

Task 1.1 Topographic Survey and Control:
Prepare a Topographic Survey of the designated utilities and the topographic features along said route. The survey limits will be full right of way plus an additional 10 feet on both sides and include any adjacent or intersection easements and 10 feet beyond intersection radius. Elevations will be taken at a maximum of 50' intervals. Additional shots will be taken at abrupt changes in elevation such as curbing and ditches. The survey will indicate 1-foot contour intervals. All permanent improvements including fences, roads, curbs, utility pole and stays, culverts, sanitary or storm sewers, trees or woods lines, signs, utility markers or other features will be located with elevations taken where appropriate. Utility Designation marks will be surveyed and shown as Quality Level B according to the type of utility. BFA will use Global Navigation Satellite Systems and conventional leveling methods to establish a permanent control network of control points at 500+- feet intervals along a survey baseline of construction and will be based on State Plane Coordinates NAD 1983, Florida East Zone, NAVD 88 Vertical Datum and City of Orlando Vertical Control Network. BFA will set a half inch iron rod or nail and disc at each Control Point. The location of benchmarks shall be coordinated with the design such that a minimum of one monumented benchmark is located within the limits of each sheet of the plans. Benchmarks must meet the requirements of 51-17.

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Office (407) 896-8608 • Fax (407) 896-1822

Task 1.2 Boundary Survey at LS 248 and Easements:
Provide a Boundary Survey for fee simple property and permanent easements including all improvements at Lift Station 248 and the easements to the ROW. The Survey along with the Survey Map Report and/or legal description shall meet the minimum requirements of Chapter 51-17 Standards of Practice for a boundary survey.

Task 1.3 Right of Way Survey:
Existing plat's and land records containing the projects right of way shall be obtained and reviewed. Sufficient monumentation will be recovered, field located and verified to calculate the right of way lines through the project area as well as any plat easements adjacent to the right of way. Found or set monuments for right of way, easements and lot lines shall be adequately depicted on the topographic survey. Sufficient dimensions will be shown to support the location of the right of way lines relative to the survey control baselines. Reference point details will be included in the cadd files provided to the City. Any major discrepancy between field monumentation and right of way established by the surveyor shall be noted on the survey and described within the Surveyors Report. The surveyor shall notify the City Surveyor in writing the effect of the discrepancy.

All survey work shall meet the requirements of Chapter 472, Florida Statutes, and Chapter 5J-17, Florida Administrative Code, and shall provide sufficiently detailed information to meet the design requirements of the project. Survey data shall include all areas as necessary to address project design considerations.

Task 1.4 Utility Designation, Location:
Throughout the above described limits underground utilities within the corridor will be Designated and marked. Electronic sensing equipment and ground penetrating radar (GPR) will be used to detect and mark those underground utilities that will transmit a signal. Paint marks and/ or wire flags will be placed on the ground surface that will indicate the approximate location of the underground utility. Each utility will be color coded according to the ASCE standard industry color. Sketches will be made depicting the results of the designation to assist with the field location and drawing the lines connecting the utilities. Utilities designated will include electric, water, force main, gas, numerous communication lines or other utilities that may be discovered. Small service lines and irrigation lines will not be designated.

Sunshine 811 will be contacted for a location ticket prior to excavation as required by Florida Statute 556.106. This should result in utilities being designated (marked) by the appropriate utility company. BFA will perform additional designation to verify utility markings by others and identify any that are not marked.

Utility designation will indicate the presence and approximate horizontal location of most underground utilities through the use and application of electronic sensing equipment and ground penetrating radar. BFA will notify Sunshine One Call (SSOC) for a Design Ticket to acquire utility provider information for the specified work areas. Those utilities that can be marked using the described techniques will be designated and marked with paint and/ or flags. The utility details and utility logs will be provided with the final survey deliverables.

Please see attached Exhibit "A" Limitations regarding underground utilities.

Utility Location: Up to 50 excavations are included in this proposal. Excavations will provide the horizontal and vertical location of the utility as well as the size, type, material and general condition of the utility. A detailed Test Hole Report will be made for the excavation that will show a semi-permanent mark set directly above the utility for survey location. The sketch will show the measurement from the mark to the top of the utility with reference ties to nearby features to aid in the recovery of the mark. All other information obtained will also be on the sketch.

Within the project limits a total of 50 utility excavations are estimated for this proposal with 25 excavations taking place in grass or dirt and 25 within brick or paved roadways. Utility excavations will be performed to positively locate and identify the underground utility lines.

Location (excavation) will result in a Test Hole Report for each utility excavated. The Test Hole Report will note the utility and show the semi- permanent marker with distance to the top of the utility. Reference ties to nearby physical features will assist your survey crews to recover the marker. Other information such as the type, material, size and general condition of the utility will be noted.

Deliverables:

The field survey will result in an AutoCAD Civil 3D v2017/v2018 drawing. All located features will be shown and labelled with elevations as appropriate. The drawing will contain Surveyor's Notes describing our methods, sources of information, control points utilized and other information to support and clarify our work.

Maintenance of Traffic (MOT): MOT for designation or location will be provided by CSEI when needed on this project.

Except for FDOT right of ways, Right of Way permits are generally not required for city projects.

Fee Estimate: See the attached spread sheet for a breakdown of the man hours and our **Not to Exceed Fee** to provide you with the requested services.

Schedule: We are prepared to commence work within 10 working days of written notice to proceed for the project. As Designation Sketches are completed in the field we will provide them for your use.

If you should have any questions or need more information, please give me a call.

Sincerely,

Genel J. Sturgeon, P.S.M.
Survey Division Manager

Encl: Manhour and Fee estimate spread sheet / SUE Services
Exhibit "A" Limitations

Project: City of Orlando - LS 248 FM

Date: November 12, 2020

Firm: Barnes, Ferland and Assoc.

City of Orlando-LS 248 Forcemain

Project - Location on Weber Street west of Bumby Avenue Eastward to LS 248 / Survey - SUE Services

Task	Survey Crew 2 Person		Senior Surveyor and Mapper		Surveyor and Mapper		Survey Tech.		Utility Coordinator		SUE Crew 2 Person		SUE Crew 3 Person		Total Salary Costs	Total Hours
	$1,760.00	(Daily Rate)	$131.56	(Rate)	$97.17	(Rate)	$67.27	(Rate)	$78.48	(Rate)	$ 139.78	(Rate)	$175.21	(Rate)		
	Days	Cost	Hrs	Cost	Hrs	Cost	Hrs	Cost	Hrs	Cost	Hrs	Cost	Hrs	Cost		
Excavation																
Utility Designation	0.0	$0.00	12.0	$1,578.72	0.0	$0.00	0.0	$0.00	300.0	$23,544.00	0.0	$0.00	0.0	$0.00	$25,122.72	312
Utility Location/Borings	2.0	$3,520.00	0.0	$0.00	0.0	$0.00	8.0	$538.16	0.0	$0.00	0.0	$0.00	0.0	$0.00	$4,058.16	10
Survey Topographic	30.0	$52,800.00	20.0	$2,631.20	10.0	$971.70	160.0	$10,763.20	0.0	$0.00	0.0	$0.00	0.0	$0.00	$67,166.10	220
Survey Control Horiz-Vert	6.0	$10,560.00	6.0	$789.36	6.0	$583.02	0.0	$0.00	0.0	$0.00	0.0	$0.00	0.0	$0.00	$11,932.38	18
S.U.E. Excavations	0.0	$0.00	0.0	$0.00	0.0	$0.00	0.0	$0.00	0.0	$0.00	96.0	$13,418.88	104.0	$18,221.84	$31,640.72	200
Boundary Survey LS 248	4.0	$7,040.00	6.0	$789.36	2.0	$194.34	16.0	$1,076.32							$9,100.02	28
SubTotal	**42**	**$73,920.00**	**44**	**$5,788.64**	**18**	**$1,749.06**	**184**	**$12,377.68**	**300**	**$23,544.00**	**96**	**$13,418.88**	**104**	**$18,221.84**	**$149,020.10**	**788**
S.U.E. Excavations 50 Total																
25 Soft 25 Hard Surface																
Sub Total																
TOTAL	**42**	**$73,920.00**	**44**	**$5,788.64**	**18**	**$1,749.06**	**184**	**$12,377.68**	**300**	**$23,544.00**	**96**	**$13,418.88**	**104**	**$18,221.84**	**$149,020.10**	**788**

Exhibit "A" Limitations

Subsurface Utility Engineering (SUE) services are utilized to identify and document the underground utility installations as stipulated in the scope of services and by contractual agreement. As in all disciplines, there are limitations of equipment, technology and personnel. The following describes, but is not limited to, the limitations usually encountered.

- Impervious subsurface material: Rock, below a depth of 3 feet. BFA will use pneumatic techniques to remove rock and pavement up to a depth of 3 feet. Below that depth we will rely solely on remote sensing and disclaim definitive results.
- Ground-water: BFA will make every reasonable attempt to definitively identify depth, size and type of underground utilities where ground-water is present. There are situations where groundwater will make visual inspection impracticable. We will use manual sensing to make the most reasonable measurements under these conditions, but it is understood that without direct visual confirmation the measurements and characteristic are limited to 'closely approximate'.
- Depth: Direct visual observation is limited to 7 feet under ideal conditions and diminishes as conditions deteriorate. Below 7 feet manual sensing is used to determine physical characteristics. Size by manual sensing is generally reliable, but the physical characteristics (type) of utility is dependent on too many variables to be considered definitive.
- There may be utilities that do not transmit electronic signals, that have not been made known to BFA, or that have no evidence at or above ground level. These utilities may not be detected or located.
- Ownership of underground utilities is not evident by observation of the buried utility. Every reasonable attempt will be made to determine ownership. Subsurface Utility Engineering (SUE) services do not include sanitary sewer installations/structures (gravity), or storm water lines/structures (gravity). However, the location of these utilities may be negotiated as a specific additional service.
- Consultant or Client Instructions: The Consultant or the Client may, from time to time, issue instructions or modify the scope of work. Any such instructions or modifications will be written and accepted by both parties prior to implementation.

If the Consultant or Client has plans, surveys, or other documentation that might assist in determining what utilities are present, they will be provided. As part of the Quality Assurance process, completed plans showing data derived from BFA's services will be submitted for review and confirmation if requested.

BFA's services are intended as an aid to the designers of this project and it may affect actual construction operations. The information provided by BFA is based, in part, upon data furnished by utility owners and their representatives, or by the Consultant or Client.

November 16, 2020

Daniel Allen, PE
Janine M. Alexander, PE
Tetra Tech
201 East Pine Street, Suite 1000
Orlando, FL 32801

Via Email: daniel.allen@tetratech.com
janine.alexander@tetratech.com

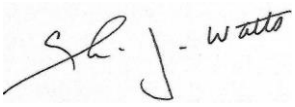
Re: Construction Administration Services
City of Orlando – Force Main to LS 248

Dear Daniel:

Please find our proposal dated November 16, 2020 for construction administration services to assist the City of Orlando during construction of the **36" Force Main to LS 248** project. Services will be provided for an 18-month construction period for the not-to-exceed amount of $73,980.56. This proposal includes materials testing services, as requested, which will be provided by Ardaman and Associates, Inc., whose fees are attached and included in the total amount of this proposal.

I look forward to working with you and providing services to the City of Orlando. Please call me at 321-436-0822 or e-mail me at cwatts@cpwconstruction.com at your convenience should you require additional information.

Very truly yours,



Charlyn P. Watts
President

Enclosures

SCOPE OF SERVICES and PROJECT BUDGET
LABOR ESTIMATE

City of Orlando
36" Force Main to Lift Station 248

	Task Description	Project Manager $142.51 /Hr.		Assist Project Manager $95.55 /Hr.		Total
		Hrs.	$	Hrs.	$	
Task	**Construction Administration (CA) Services (Estimated 18 Months contract time)**					
Task 2	**Pre-construction conference.** *CPW Construction will attend the pre-construction conference, conducted by others, with the selected contractor, subcontractors, and regulatory agencies.*	4	$570.04	0	$0.00	**$570.04**
Task 2A.	**Schedule of Values.** *CPW Construction will assist the Owner's Construction Manager in reviewing and negotiating the Schedule of Values for the project.*	6	$855.06	0	$0.00	**$855.06**
Task 3	**Attend monthly progress meetings, conducted by others. Concurrently on the day of the construction progress meeting, observe the construction of the project and discuss any concerns with the City.** *CPW Construction will attend (18) monthly progress meetings and conduct (18) monthly site visits to the construction site following each progress meeting to observe the progress and quality of the construction. Observations and concerns will be discussed with the Owner's Construction Manager or Inspector immediately following each site visit. A summary of the observations and any concerns will be e-mailed to the Owner's Construction Manager within one working day of the site visit.*	72	$10,260.72	72	$6,879.60	**$17,140.32**
Task 4	**Conduct one additional site visit per month to observe construction.** *CPW Construction will complete one additional site visit per month, (18 visits), and provide Tetra Tech with a written project observation report and photographs within 5 business days of observation. Observation of work at the project site shall not make CPWC responsible for the work performed by another party; the means, methods, techniques, sequences, or procedures selected by another party; nor the safety precautions or programs of another party. Identified construction concerns will be discussed with the Owner representatives.*	0	$0.00	72	$6,879.60	**$6,879.60**
Task 5	**Construction Schedule Review.** *CPW Construction will provide reviews of initial and periodic construction schedule submittals by the Contractor for compliance with Contract requirements and sequencing for prosecution and completion of the Work. These reviews will be included in the discussions during applicable Construction Progress Meetings. Total number of construction schedule reviews is estimated at (18) plus initial review.*	36	$5,130.36	0	$0.00	**$5,130.36**
Task 6	**Receive, review, evaluate, distribute and/or issue RFIs, Supplemental Instructions, RFPs, CDDs, and sketches and drawings to resolve actual field conflicts encountered and provide consultation and advice during the construction process.** *CPW Construction will assist Tetra Tech in responding to (10) RFI's.*	30	$4,275.30	0	$0.00	**$4,275.30**
Task 8	**Review, recommend and assist the Owner in negotiations of contract modifications with the Contractor.** *CPW Construction will assist Tetra Tech in responding to change directives by reviewing (8) project changes.*	24	$3,420.24	0	$0.00	**$3,420.24**
Task 9	**Review test reports for soils, concrete and other materials provided by the testing lab.** *CPW Construction will review materials testing results estimated at 3 hours per month for (18) months.*	54	$7,695.54	0	$0.00	**$7,695.54**
	Materials Testing - See attached proposal from Ardaman & Associates testing lab. *When requested by the Owner's Inspector, Ardaman and Associates will provide materials testing services during construction of the project. A written field report will be provided to the Inspector at the site upon completion of test. Task will not-to-exceed Ardaman and Associates' proposal for $24,425.00 as attached, plus 10% as a sub to CPW Construction.*					**$26,867.50**
Task 10	**Conduct substantial completion inspections of the project and prepare the appropriate punch lists.** *CPW Construction will provide the punch lists to the Owner's Inspector and Tetra Tech within 5 business days of inspection.*	0	$0.00	8	$764.40	**$764.40**
Task 12	**Complete final completion inspection of the project.** *CPW Construction will perform a final completion inspection and verify all items listed on the Substantial Completion Punch List have been addressed to the Owner's satisfaction.*	0	$0.00	4	$382.20	**$382.20**
TASK TOTAL - Construction Admin. (CA) Services		**226**		**156**		**$73,980.56**

Schedule - For the purposes of assessing compensation, it has been assumed construction for this project will be completed within 18 months. If additional services are required from CPWC, Inc. beyond those described herein, additional funding will be requested and authorized via contract amendment.

Compensation - CPWC, Inc. will be compensated for the services described above at the billing rate shown. Work performed will be paid on an Hourly Not-to-Exceed basis. Payment for services rendered shall be in accordance with approved monthly invoices. CPWC shall receive payment from Tetra Tech in accordance to the City of Orlando's "pay when paid" provisions.

Scope of Services

Client Information: Tetra Tech, Inc. (US Based Operations)
201 East Pine Street, Suite 1000, Orlando, FL 32801

Date: November 9, 2020

CSEI Proj #: 16011.6

Project Name: City of Orlando Wastewater FM System Replacement
Amendment No. 6 - FM POC to LS 248
MOT Design Services Proposal

Engineering Consultant: Civil/Site Engineering, Inc.
1645 N. Maitland Avenue
Maitland, FL 32751

I. DESCRIPTION OF PROJECT:

Civil/Site Engineering, Inc. (CSEI) understands the scope of Amendment #6 will continue the force main system from the end of the LS 2 Force Main at N. Bumby Avenue to Lift Station 248 at Bennett Road. The project includes 7,900 feet of 36-inch force main from the termination point of the Lift station 12 Force Main project just west of the intersection of Weber Street and N. Bumby Avenue, south on N. Bumby Avenue, east on Laura Place, east adjacent to the Cady Way Trail to the intersection of Warehouse Road, then northeast through a future easement within the paved parking area west of Woodcock Road, then east on McCrory Place to the intersection of Lawton Road, then southeast on Lawton Road to the intersection of Maguire Boulevard, east on Maguire Boulevard to an existing 70 ft. easement, then south within the easement to Cady Way Trail/Fox Street then east to the Lift Station 248 site. The proposed route for this force main is shown in the scoping exhibit provided by the CLIENT on 11/05/2020.

This proposal is for the preparation of maintenance of traffic (MOT) plans, associated cost estimate for the Final Engineering Plans, and community outreach meeting assistance for above project scope.

II. DESCRIPTION OF SCOPE: FINAL ENGINEERING AND CONSTRUCTION ADMINISTRATION SUPPORT SERVICES

Civil/Site Engineering, Inc. shall provide the **CLIENT** with the following final engineering services:

Prepare 60%, 90%, and 100% Maintenance of Traffic Control Plans based upon FDOT Standard Plans Index 600 series. MOT plans will include detail sheets for work within major roadways and crossings, including lane closures, taper lengths, lane shifts, sign spacing, and channelizing device spacing as required. Detour plans for work within low traffic residential neighborhood streets will be developed and referenced

on the overall MOT aerial map. Additionally, the maintenance of traffic control plans will address pedestrian sidewalk closures, trails and bike route detours, allowable on-street parking within the immediate vicinity of the worksite, and access to buildings immediately adjacent to work site and driveways blocked by construction activities as applicable. Cost estimates for MOT will be provided at 60%, 90% and 100% plans submittals.

Participate in coordination meetings led by Tetra Tech with City's Parks and Recreation Department to evaluate the project's impact to the trails and park access within the project corridor and incorporate the Department's requirements into the Maintenance of Traffic plans.

Provide community outreach meeting assistance to Tetra Tech:

- Prepare PowerPoint slides for insertion into Tetra Tech's presentation for the proposed project showing the various detour routes for the different segments of construction.
- Participate in Community Meetings, led by Tetra Tech and the City of Orlando, serving as a resource for answering questions related to Maintenance of Traffic design.
- Prepare up to two (2) Exhibits for Tetra Tech to discuss with affected businesses

Review and provide responses to Requests for Information (RFI's) related to MOT plans during the construction process.

Information to be provided by Tetra Tech:

- Base files in AutoCad and PDF format.
- Master slide for PowerPoint presentation.

III. FEE SCHEDULE:

Final Engineering and Construction Administration Support Services:
Not-To-Exceed Fee **$63,775.49**

IV. ADDITIONAL SERVICES

In the event additional services beyond the Scope of Services specified herein are requested and authorized by the Client, the work will be conducted as Additional Services and the fees will be based on hourly charges plus direct costs.

APPROVED AND ACCEPTED THIS _____ DAY OF _____, 2020

CIVIL / SITE ENGINEERING, INC. **TETRA TECH, INC.**

By_____ **By** _____

Andrea Marlea Jernigan-Gwinn, President Mr. Daniel Allen, P.E., Sr, Project Manager

EXHIBIT I

City of Orlando
Orlando East Wastewater Force Main Systems
Amendment No. 6 (FM POC To LS 248)

CSEI Labor Costs

11/9/2020

TASK	Senior Engineer (QC) Labor Rate $62.50 Billing Rate $164.38		Project Engineer Labor Rate $52.50 Billing Rate $138.08		Senior Designer Labor Rate $39.38 Billing Rate $103.57		CSEI Labor Totals with 2.63 Multiplier	
	Hours	Costs	Hours	Costs	Hours	Costs	Hours	Costs
60% Submittal								
Prepare 60% MOT Plans	4.0	$657.52	98.0	$13,531.84	116.0	$12,014.12	218.0	$26,203.48
Prepare 60% MOT Estimate	1.0	$164.38	8.0	$1,104.64	4.0	$414.28	13.0	$1,683.30
60% Submittal Review Meeting			3.5	$483.28			3.5	$483.28
Subtotal	**5.00**	**$821.90**	**109.50**	**$15,119.76**	**120.00**	**$12,428.40**	**234.50**	**$28,370.06**
90% Submittal								
Prepare 90% MOT Plans	2.0	$328.76	44.0	$6,075.52	48.0	$4,971.36	94.0	$11,375.64
Prepare 90% MOT Estimate	1.0	$164.38	8.0	$1,104.64	4.0	$414.28	13.0	$1,683.30
90% Submittal Review Meeting			3.5	$483.28			3.5	$483.28
Subtotal	**3.0**	**$493.14**	**55.5**	**$7,663.44**	**52.0**	**$5,385.64**	**110.5**	**$13,542.22**
100% Submittal								
Prepare 100% MOT Plans	2.0	$328.76	18.0	$2,485.44	28.0	$2,899.96	48.0	$5,714.16
Prepare 100% MOT Estimate	1.0	$164.38	8.0	$1,104.64	4.0	$414.28	13.0	$1,683.30
100% Submittal Review Meeting			3.5	$483.28			3.5	$483.28
Subtotal	**3.0**	**$493.14**	**29.5**	**$4,073.36**	**32.0**	**$3,314.24**	**64.5**	**$7,880.74**
City Department Coordination								
Parks and Recreation Coordination (Trails and Bike Lanes)	3.5	$575.33	12.0	$1,656.96	8.0	$828.56	23.5	$3,060.85
Subtotal	**3.5**	**$575.33**	**12.0**	**$1,656.96**	**8.0**	**$828.56**	**23.5**	**$3,060.85**
Community Outreach Meeting Assistance								
Presentation Preparation	3.0	$493.14	8.0	$1,104.64	4.0	$414.28	15.0	$2,012.06
Community Outreach Meetings	2.0	$328.76	4.0	$552.32			6.0	$881.08
Exhibit Preparation for Business (e.g. AutoTurns)	2.0	$328.76	4.0	$552.32	4.0	$414.28	10.0	$1,295.36
Subtotal	**7.0**	**$1,150.66**	**16.0**	**$2,209.28**	**8.0**	**$828.56**	**31.0**	**$4,188.50**
Response to RFI's During Construction								
Responses to RFI's	4.0	$657.52	38.0	$5,247.04	8.0	$828.56	50.0	$6,733.12
Subtotal	**4.00**	**$657.52**	**38.00**	**$5,247.04**	**8.00**	**$828.56**	**50.00**	**$6,733.12**
Subtotal	**25.5**	**$4,191.69**	**260.5**	**$35,969.84**	**228.0**	**$23,613.96**	**514.0**	**$63,775.49**

AMBIENT TECHNOLOGIES, INC.

And SUBSIDIARIES

ATI COMPANIES
An Earth of Experience

Contractor: Tetra Tech
Contact Name: Daivid Giddens
Contact Phone: 407 480-5151
Contact Email: dave.giddens@tetratech.com
Site Address: Orlando, FL - SEE MAP

Proposal No.: 22009041rev3
Date: 9/28/2020
FDEP ID#:
Estimator: MR

PROPOSED SCOPE OF WORK:

- DPT Install eight (8) borings for Soil and GW samples up to 20ft. Plug and patch once complete.
- Perform airknife/vacumm prior to drilling.

Client is responsible for any ROW or access permits and MOT for the work to be performed, if needed.

DRILLING ACTIVITIES				
Direct Push Rig Daily Rate - (maximum 10 hours)	whole day	$1,450.00	4	$5,800.00
Direct Push Rig Half-Day Rate [1] - (maximum 5 hours)	half day	$1,250.00		$0.00
Open, Plug/resurface borehole	each	$35.00	8	$280.00
ABANDONMENT				
DRILLING DOUBLE CASED WELL				
SAFETY				
Borehole clearance using geophysics (GPR and Electronics)	LS			$0.00
Airknife/vacumm for borehole clearence- Locations in asphalt/concrete/grass	whole day	$1,650.00	4	$6,600.00
Airknife/vacumm for borehole clearence- Locations in asphalt/concrete/grass	half day	$1,250.00		$0.00
MISCELLANEOUS				
Mobilization (one rig) **Miles round trip:**	round trip	$580.00	1	$580.00
Daily travel- *Automatic when travel distances are 100 to 150 miles round trip*	day	$50.00		$0.00
Per Diem - *Automatic when field work is longer than 9hr/day or round trip over 150 miles*	per crew/night	$280.00		$0.00
DOT Approved 55-gal Drum	each	$50.00		$0.00
Special Order Closed Top Drums	each	$70.00		$0.00
Permits [2] (Drilling and abandonment only; cost according to WMD & Local Municipalities)	each	$44.00		$0.00
Predrilling conference call	LS			included
Extra hour rate [5]	hour	$175.00		$0.00
Use of a concrete saw or concrete core bit -To open asphalt or concrete for SB/MW	each	$40.00		Included
			TOTAL QUOTE PRICE	**$13,260.00**

NOTES: This proposal is only valid for this specific scope of work. Any changes, prices shall be revised. Actual field days, materials and hours will be invoiced

1. Includes expendables, tubing, points, liners, caps, plugs, sawcuts, steam cleaning decon, well development, and grouting.

2. Well Permits -Requires 5 days Notice to Water Management District - Actual cost only.

3. Utility Clearance - Requires 72 Hour Notice Prior to Drilling. ATI will complete notification to Sunshine State One Call (Sunshine) prior to initiating drilling. Sunshine will not perform locates on private property (only right of ways and easements). It is the client and/or owners responsibility to provide information from private property. Damage repairs (time and materials) caused to any underground utilities on private property is client responsibility. ATI will review information provided regarding underground utilities to confirm clearance at boring locations. As another safety precaution, ATI will perform hand clear to approximately 5 feet below ground surface to check for utilities prior to drilling. If the client anticipates the potential for multiple utilities underground but has no information on location, we can provide private utility locating services at an additional cost. Please advise us of your needs prior to date of drilling.

4. Price assumes no rock will be encountered in the depth of penetration. Add $15/foot for rock drilling if required.

5. DPT Daily and Half-Day Rate: Hours over Half-day and Full Day Rate - $175 / hour

6. A perdiem will automatically be charged when field work is longer than 9hr/day or round trip over 150 miles

Days to Complete Scope of Work: approx. 4 days (depends on access, client sampling time or other restrictions)

Subcontractor Company Name: ATI Companies, LLC

Subcontractor Mailing Address: 4610 Central Av. St. Petersburg FL 33711

Signature:_____ **Reviewer:**_____ **Date:** **9/28/2020**

NOTE: to schedule work, contact 727-328-0268
Bid Valid for 90 Days

Payment terms: Net 60 days

This proposal acceptance includes ATI's standard Terms and Conditions

Name of Firm:_____ Date: _____

Signature of Representative: _____

Print name of signing Representative:_____

NOTE: This proposal needs to be signed once job is awarded to ATI Companies, LLC

Gator Engineering & Aquifer Restoration, Inc.
1928 Boothe Circle, Longwood, FL 32750
Ph: 407-853-4555 Ext. 24 Fx:407-853-4556

November 10, 2020

Mr. Dave Giddens, P.G.
Tetra Tech, Inc.
201 E. Pine Street, Suite 1000
Orlando, Florida 32801

Reference: Updated Direct-Push Soil & Groundwater Sampling Proposal
FM 248 Project, Fashion Square Mall Area, Orlando, Fl.

Mr. Giddens:

Gator Engineering & Aquifer Restoration, Inc. (GEAR) is pleased to provide our updated proposal to conduct Direct-Push (DPT) Soil and Groundwater sampling. This proposal is based on the information you provided in your October 7, 2020 email.

GEAR will provide one Geologist for five days (up to 50 hours of on-site and travel time) to perform DPT soil screening and sampling, as well as DPT groundwater sampling, per Florida Department of Environmental Protection SOPs. It is GEAR's understanding Tetra Tech, Inc. will perform most of the project management functions including scheduling of the driller and ordering of the laboratory sample kits.

The work will commence based on Tetra Tech's notification to proceed. GEAR proposes to perform the work for a lump sum of $8676.40. If delays are encountered necessitating additional time, GEAR will notify Tetra Tech immediately prior to continuing work.

Sincerely,

Gator Engineering & Aquifer Restoration, Inc.

Nelson N. Wilson, P.G.
President

Cc: File 20-0739-P

Pace Analytical Services, Inc.
8 East Tower Circle
Ormond Beach, FL 32174
386.672.5668
fax 386.673.4001

Pace Analytical Services, LLC

Organization: Tetra Tech Orlando
Address: 201 E. Pine St. Suite 1000
City, State, Zip: Orlando, Fl. 32801
Attn: Dave Giddens
Email: Dave.giddens@tetratech.com
Phone: 407-839-3955

Shipping: ***Container shipment to client provided by Pace via FEDEX ground shipment. Return shipment of samples provided by client.***

Project Name: LS 248
Reqd. Certification: Florida NELAP
Surcharge: NA
Turnaround: 5 business days
TAT Surcharge: NA

EDD: Client downloadable from PacePort
Primary Lab: Ormond Beach
Pace Contact: Scott Martin
386.248.5195
Scott.Martin@pacelabs.com

Qty	Test Description	Method	Unit Price	Total
8	Volatiles	8260	$60.00	$480.00
8	SemiVolatiles	8270	$135.00	$1080.00
8	Metals: As,Sb,B,Be,Cd,Cr,Co,Cu,Pb,Li,Mn,Mo,Ni,Zn,Se,Na,Ag,Hg	6010/6020/7470	$130.00	$1040.00
8	Chloride, Cyanide, TSS	various	$65.00	$520.00
8	FLPRO	FLPRO	$40.00	$320.00
			Estimated Project Total	**$3440.00**

EXHIBIT V

ROUTE FIGURE

Source: 2/6/2019 ESRI World Imagery; City of Orlando; Orange County GIS

N

0 500

Feet

LEGEND

Segment 2, Force Main to Lift Station 248

CITY OF ORLANDO UTILITIES
WASTEWATER FORCE MAIN EVALUATION

FORCE MAIN TO
LIFT STATION 248

TETRA TECH

FIGURE 1

\\tt.local\IER\Projects\Orlando\IER\08510\200-08510-18004\GIS\Maps\LS 248\MAP\MAP.aprx [alex.montalvo 9/18/2020]