TETRA TECH

April 10, 2019

Arjuna Weragoda, P.E.
Indian River County Department of Utility Services
1801 27th Street,
Vero Beach 32960-3388
Email: aweragoda@ircgov.com

Subject: Proposal to Indian River County for Due Diligence and Project Review
West Regional WWTF Reclaimed Water Storage
Change Order for Limited Phase II Environmental Site Assessment

Dear Mr. Weragoda:

Tetra Tech, Inc. (Tetra Tech) is pleased to provide Indian River County with this Scope of Work for Limited Phase II Environmental Site Assessment (ESA) services for the Premier Citrus, LLC properties, located at 200 90th Avenue, 8250 1st Street, and 375 82nd Avenue, Vero Beach, Florida, 32968 (Site). Indian River County is evaluating the property purchase and construction of a reclaimed water storage area on a parcel located immediately to the south of the West Regional Waste Water Treatment Facility (WWTF).

BACKGROUND

Indian River County needs additional storage of reuse water from the West Regional WWTF during the rainy season when the necessity for reuse water is limited. The West Regional WWTF is sized for a treatment capacity of 6 million gallons per day (MGD). The plant is currently operating at approximately 2 MGD but can only discharge approximately 0.4 MGD or exceed the load allocations into the relief canal. The remainder of the treated water is sent back to the community for reuse. The goal of the proposed reclaimed water storage will be to provide sufficient capacity to store water during the wet season and supply reuse water in the dry season and achieve a zero discharge to the relief canal.

The county has identified an approximately 250-acre parcel immediately to the south of the West Regional WWTF as a potential site for the reclaimed water storage. It is zoned RS-3 and is a citrus grove. The County contacted Tetra Tech to complete due diligence required to assess this potential project, zoning and permitting issues associated with project, geotechnical conditions, limitations from Federal Aviation Administration (FAA) or other agencies, and other business and environmental risks associated with the purchase of the proposed parcel.

Tetra Tech conducted a Phase I ESA as part of Work Order No.2 under Tetra Tech's Continuing Consulting and engineering Services Agreement with Indian River County. Although the assessment has not been finalized, Recognized Environmental Conditions (RECs) were identified, and a Limited Phase II ESA was recommended on an expedited turnaround to meet the 90-day due diligence period. RECs identified to date include:

- Former citrus grove - Potential releases of metals, pesticides, and herbicides.
- Former citrus grove pesticide/herbicide washout areas - Potential releases of metals, pesticides, and herbicides.
- Farm fuel and "spray oil" above ground storage tanks – Potential releases of metals, pesticides, herbicides, and petroleum products
- Tank laydown area - Potential releases of metals, pesticides, herbicides, and petroleum products

SCOPE OF WORK

TASK 1 – MOBILIZATION- $1,240

This task includes the arrangement of all subcontractors, supplies, and equipment, as well as the preparation of the Site-Specific Health and Safety Plan (HASP) and utility location and clearance.

Health and Safety Plan

Tetra Tech will prepare a separate stand-alone site-specific HASP detailing the safe work practices to ensure field activities comply with the appropriate safety requirements of the Occupational Safety and Health administration (OSHA). The HASP will also note the physical and chemical hazards that may potentially be present at the Site as well as a map and directions to the nearest hospital.

Utility Location and Clearance

Tetra Tech will contact the Sunshine One Call underground utility clearance hotline prior to drilling to mark publicly accessible utilities.

It is the responsibility of the property point of contact to provide site access and approve all boring locations prior to drilling. Tetra Tech will hand clear all borings; however, Tetra Tech will not be responsible for damage to any utility not brought to its attention.

TASK 2 – SOIL AND GROUNDWATER SAMPING AND ANALYSIS IN THE MAINTENANCE AREA - $8,927

Drilling and Sample Collection

All borings will be hand augered in the first five feet to minimize the likelihood of damage to unidentified subgrade utilities. A total of 14 2-inch diameter borings will be hand augered at the site. One temporary monitoring wells will be installed by Ardaman and Associates via hand auger. Borings will be screened with a properly calibrated PID. Samples will be collected in accordance with Florida Department of Environmental Protection (FDEP) Standard Operation Procedures (SOPs) as specified in FDEP-SOP-001/01 FS 2200 for water samples and FDEP-SOP-001/01 FS 3000 for soil samples.

Soil Sampling and Analysis

Former citrus grove

Soil sampling will be conducted at 4 boring locations in the grove area via hand auger. Surface samples will be collected at the 0- to 1-foot interval.

Analysis of each sample in this area of concern (AOC) will include pesticides via USEPA Method 8081, 8082, and 8141; herbicides via USEPA Method 8151; and arsenic via USEPA Method 6010.

This sampling was included in the Work Order 2, and no additional costs are associated with this subtask.

Former citrus grove pesticide/herbicide washout areas

Exact washout locations were not identified; however, washout areas are anticipated to be located near the well areas, where water supplies were present. Tetra Tech will collect soil samples in the vicinity of the wells located in the maintenance area and in the vicinity of the corner of 4th Street and 90th Avenue. At each location a surface sample will be collected at the 0- to 1-foot interval, and a second sample will be collected at the 1- to 2-foot interval.

Analysis of each sample in this AOC will include pesticides via United States Environmental Protection Agency (USEPA) Method 8081, 8082, and 8141; herbicides via USEPA Method 8151; and arsenic via USEPA Method 6010.

Farm fuel and spray oil above ground storage tanks

Two regulated aboveground storage tanks are present on the property. Historical records show the tanks to be incompliance since the earliest available record in 1991; however, the tanks are visible on the aerial photographs in the current configuration as early as 1974. Other structure in this vicinity prior to 1974 may have also housed tanks for similar use. Tetra Tech will collect soil samples on each of the four sides of the diked containment area. At each location a surface sample will be collected at the 0- to 1-foot interval. If PID readings are detected, a sample will be collected at the interval with the highest detected PID reading. If no PID readings are detected, a second sample will be collected at the 2- to 3- foot interval.

Analysis of each sample in this AOC will include Benzene, toluene, ethylbenzene, and xylenes (BTEX) and methyl tert-butyl ether (MTBE) via USEPA Method 8260; polycyclic aromatic hydrocarbons (PAH) via USEPA Method 8270; and Total Recoverable Petroleum Hydrocarbons (TRPH) via FLPRO. A composite of the 0- to 1- foot interval and a second composite sample of the deeper interval will be analyzed for pesticides via USEPA Method 8081, 8082, and 8141; herbicides via USEPA Method 8151; arsenic via USEPA Method 6010.

Tank Laydown area

A total of 12 steel petroleum tanks were present in a row in the maintenance yard at the time of the Phase I ESA site reconnaissance. Tetra Tech will collect soil samples on each of the four sides of the tank laydown area. At each location a surface sample will be collected at the 0- to 1-foot interval. If PID readings are detected, a sample will be collected at the interval with the highest detected PID reading. If no PID readings are detected, a second sample will be collected at the 2- to 3- foot interval.

Analysis of each sample in this AOC will include BTEX and MTBE via USEPA Method 8260; PAH via USEPA Method 8270; and TRPH via FLPRO. A composite of the 0- to 1- foot interval and a second composite sample of the deeper interval will be analyzed for pesticides via USEPA Method 8081, 8082, and 8141; herbicides via USEPA Method 8151; arsenic via USEPA Method 6010.

Groundwater Sampling

One boring in the Farm fuel and "spray oil" above ground storage tanks area will be converted to 1-inch diameter temporary monitoring well to collect a groundwater sample for laboratory analysis. The boring with the highest detected PID reading will be selected for groundwater sampling. If no PID readings were detected, the northern side of the contained area will be selected for well installation. PVC well screen will be installed to a depth three feet below the observed groundwater or to boring refusal. The well screen will be 5-feet long, with 0.010-inch slots installed at the bottom of the boring above which solid PVC riser will be installed to above the ground surface. A small volume of water will be extracted to develop the well.

The temporary monitoring well will be purged and sampled as specified in FDEP-SOP-001/01 FS 2200 no less than 24-hours and no more than 48-hours after development is completed.

Analysis of the groundwater sample will include pesticides via USEPA Method 8081, 8082, and 8141; herbicides via USEPA Method 8151; arsenic via USEPA Method 6010, BTEX and MTBE via USEPA Method 8260; PAH via USEPA Method 8270; TRPH via FLPRO; and ethylene dibromide (EDB) via USEPA Method 8011.

Following sample collection, the temporary well locations will be abandoned by backfilling them with hydrated bentonite flush to the ground surface.

Laboratory Analysis and QA/QC Requirements

The samples will be submitted under chain-of-custody to Pace Analytical Services, a National Environmental Laboratory Accreditation Program (NELAP)-certified laboratory for analysis with a 5-day turnaround time. All soil and groundwater samples will be analyzed by the following methods, as noted above and provided in the table below:

- BTEX by USEPA Method 8260B
- PAHs by USEPA Method 8270C
- TRPH by FLPRO Method
- Arsenic by EPA Method 6010
- Pesticides including organochlorine pesticides by USEPA Method 8081 and organophosphorus pesticides by USEPA Method 8141
- Herbicides by USEPA Method 8151
- Ethylene Dibromide (EDB)

No QA/QC samples will be collected.

A summary of the laboratory samples is provided in Table 1, below.

TABLE 1

AOC Location	Soil (S) or Ground-water (G)	Sample Location ID	Depth	Laboratory ID	*BTEX and MTBE-8260*	*PAH - 8270*	*TRPH - FLPRO*	*EDB - 8011*	*Arsenic - 6010*	*Pesticides - 8081/8082/8141*	*Herbicides - 8151*
			(feet bgs)		Analysis						
Grove	S	01	0.0-1.0	Grove-S-01-01.0					1	1	1
	S	02	0.0-1.0	Grove-S-02-01.1					1	1	1
	S	03	0.0-1.0	Grove-S-03-01.2					1	1	1
	S	04	0.0-1.0	Grove-S-04-01.3					1	1	1
Wash Out 1	S	01	0.0-1.0	WO1-S-01-01.0					1	1	1
	S	01	1.0-2.0	WO1-S-01-02.0					1	1	1
Wash Out 2	S	01	0.0-0.5	WO2-S-01-01.0					1	1	1
	S	01	1.0-2.0	WO2-S-01-02.0	1	1	1		1	1	1
AST	S	01	0.0-1.0	AST-S-01-01.0	1	1	1		C	C	C
	S	01	2.0-3.0	AST-S-01-TBD	1	1	1		C	C	C
	S	02	0.0-1.0	AST-S-02-01.0	1	1	1		C	C	C
	S	02	2.0-3.0	AST-S-01-TBD	1	1	1		C	C	C
	S	03	0.0-1.0	AST-S-03-01.0	1	1	1		C	C	C
	S	03	2.0-3.0	AST-S-01-TBD	1	1	1		C	C	C
	S	04	0.0-1.0	AST-S-04-01.0	1	1	1		C	C	C
	S	04	2.0-3.0	AST-S-01-TBD	1	1	1		C	C	C
	G	TBD	TBD	AST-TMW-TBD-TBD	1	1	1	1	1	1	1
Tank Laydown	S	01	0.0-1.0	TL-S-01-01.0	1	1	1		C	C	C
	S	01	TBD	TL-S-01-TBD	1	1	1		C	C	C
	S	02	0.0-1.0	TL-S-02-01.0	1	1	1		C	C	C
	S	02	TBD	TL-S-01-TBD	1	1	1		C	C	C
	S	03	0.0-1.0	TL-S-03-01.0	1	1	1		C	C	C
	S	03	TBD	TL-S-01-TBD	1	1	1		C	C	C
	S	04	0.0-1.0	TL-S-04-01.0	1	1	1		C	C	C
	S	04	TBD	TL-S-01-TBD	1	1	1		C	C	C
				Grab Samples	18	18	18	1	9	9	9
				Composite Samples					4	4	4
				Total	18	18	18	1	13	13	13

C - One sample composited from each boring at each depth per area (a total of 4 samples).

Investigation Derived Waste (IDW)

Advancement of these borings may result in the generation of investigation-derived waste (IDW) such as drill cuttings, excess soil from sampling, excess groundwater and decontamination water. All soil IDW will be placed back in the location from which it was collected. Groundwater IDW will be discharged to the ground in the vicinity where it was collected.

TASK 3 – BUILDING MATERIAL SURVEY - WILL NOT BE COMPLETED

Based on the age of buildings (constructed in 1964) at the Site, a building material survey was recommended to identify the presence, location, and condition of suspected asbestos containing

materials (ACM) and lead based paint (LBP). Water intrusion was also observed; however, a mold survey will not be completed.

TASK 4 – REPORTING - $2,793

Tetra Tech will prepare a draft letter reports for the Phase II ESA. Summarizing the investigation activities and results of sampling. The draft report will include: a brief description of field activities; the results, conclusions, and recommendations of the investigation; figures showing the sampling locations; a table summarizing the concentrations of detected analytes compared to the applicable regulatory screening criteria; and, attachments with boring logs, and laboratory reports.

After receipt of comments, Tetra Tech will finalize the letter reports within 3 working days. The final letter report will be signed and sealed by a Florida Licensed Professional Geologist.

PROJECT SCHEDULE

The approximate duration noted for each task is based on our current understanding and best estimates of time required to perform the basic services and may be subject to change upon agreement between Indian River County and Tetra Tech.

Task	Timeline
Notice to Proceed (NTP)	April 12, 2019
Draft Summary Report to the County	June 4, 2019
County Comments on Draft Summary Report to Tetra Tech	June 8, 2019
Final Summary Report to the County	June 12, 2019

ASSUMPTIONS

Tetra Tech's scope of services and project costs were developed with the following assumptions:

- Tetra Tech will review available data provided by Indian River County.
- Surveying services are not included.
- Tetra Tech assumes IRC will provide reasonable access to the site for drilling activities and Phase II ESA sampling, including the building interiors, as needed.
- Tetra Tech assumes the Phase II ESA field sampling will occur concurrently with Geotechnical borings.

PROJECT COST

The estimated costs are based on our current understanding of the project requirements and best estimates of level of effort required to perform the basic services and may be subject to change upon agreement between Indian River County and Tetra Tech. The estimated project costs are shown in Table 2, below. This project would be provided as lump sum per task not to exceed $12,960.

TABLE 2

Personnel Classification	Hourly Rate	Task 1. Mobilization		Task 2. Phase II ESA		Task 3. Building Material Survey		Task 4 Summary Report		Subtotal Hours	Total
		s	Cost	s	Cost	Hours	Cost	s	Cost		
Project Manager	$159	2	$318	10	$1,591	0	$0	6	$955	18	$2,864
Engineer IV	$137	6	$822	0	$0	0	$0	5	$685	11	$1,507
Professional Geologist	$173	0	$0	3	$520	0	$0	4	$693	7	$1,214
Scientist V (Biologist)	$120	0	$0	0	$0	0	$0	0	$0	0	$0
GIS Analyst II	$90	0	$0	0	$0	0	$0	4	$360	4	$360
Contract Administrator	$100	1	$100	0.5	$50	0	$0	1	$100	2.5	$249
Labor Total		**9**	**$1,240**	**14**	**$2,161**	**0**	**$0**	**20**	**$2,793**	**43**	**$6,194**
Travel and ODCs	**Unit Cost**	**Units**	**Cost**	**Units**	**Cost**	**Units**	**Cost**	**Units**	**Cost**	**Subtotal Units**	
Travel from Cocoa to IRC	$70		$0	2	$140	0	$0		$0	2	$140
Travel and ODCs Total			**$0**		**$140**		**$0**		**$0**		**$140**
Subcontractor (cost +10%)	**Unit Cost**	**Units**	**Cost**	**Units**	**Cost**	**Units**	**Cost**	**Units**	**Cost**	**Subtotal Units**	
PbO3 Environmental Monitoring (Lead)	$1,740		$0		$0	0	$0		$0	0	$0
PbO3 Environmental Monitoring (Asbestos)	$3,280		$0		$0	0	$0		$0	0	$0
PbO3 Environmental Monitoring (Mold)	$2,900		$0		$0	0	$0		$0	0	$0
Equipment Rental	$451		$0	1	$496		$0		$0	1	$496
Laboratory (Pesticides)	$175		$0	9	$1,733		$0		$0	9	$1,733
Laboratory (Herbicides)	$110		$0	9	$1,089		$0		$0	9	$1,089
Laboratory (BTEX)	$35		$0	18	$693		$0		$0	18	$693
Laboratory (PAH)	$70		$0	18	$1,386		$0		$0	18	$1,386
Laboratory (FLPRO)	$45		$0	18	$891		$0		$0	18	$891
Laboratory (EDB)	$38		$0	1	$42		$0		$0	1	$42
Laboratory (Arsenic)	$30		$0	9	$297		$0		$0	9	$297
Subcontractor Total			**$0**		**$6,626**		**$0**		**$0**		**$6,626**
PROJECT TOTAL			**$1,240**		**$8,927**		**$0**		**$2,793**		**$12,960**

Indian River County will be invoiced each month for services rendered during the previous calendar month based on percent complete. Tetra Tech shall be paid for all invoices within 30 days of an approved submittal.

Tetra Tech looks forward to working with you on this project. We are available to discuss our approach with you in detail at your convenience. Should you have any questions regarding this proposal, please contact me at (321) 636-6470.

Sincerely,

Matthew D. Shelton
Project Manager

Cc: Brian Watson, P.E., Tetra Tech
Dave Giddens, P.G.