PROFESSIONAL SERVICES

18. Approve Work Order #51 under PS-5150-03/AJP – General Environmental Services with E Sciences, Inc., Orlando ($181,180.00).

PS-5150-03/BJC provides services that include Water Quality Monitoring and Analyses, Permitting, Permit Compliance, Mitigation Services, Gopher Tortoise Permitting, Environmental Monitoring, Contamination, Resource Management, and other miscellaneous general environmental services.

Work Order #51 will provide for water quality sampling for the Markham ASR Well. The project will be completed by December 31, 2008. This project is being awarded in accordance with the County's work order procedures under the Consultants Competitive Negotiation Act (F.S. 287.055).

This is a budgeted project and funds are available in account number 040100.169100, CIP# 00200401. Environmental Services / Water and Wastewater Division and Administrative Services / Purchasing and Contracts Division recommend that the Board approve the award.

Board of County Commissioners
SEMINOLE COUNTY, FLORIDA

WORK ORDER

Work Order Number: 51

Master Agreement No.: PS-5150-03/AJP Dated: May 12, 2004
Contract Title: General Environmental Services
Project Title: **Water Quality Sampling for the ASR Well**

Consultant: E Sciences, Inc.
Address: 228 South Hughey Ave.
Orlando, Florida 32801

ATTACHMENTS TO THIS WORK ORDER:
[ ] drawings/plans/specifications
[X] scope of services
[ ] special conditions
[ ] _____

METHOD OF COMPENSATION:
[X] fixed fee basis
[ ] time basis-not-to-exceed
[ ] time basis-limitation of funds

TIME FOR COMPLETION: The services to be provided by the CONTRACTOR shall commence upon execution of this Agreement by the parties and shall be completed by December 31, 2008. Failure to meet the completion date may be grounds for Termination for Default.

Work Order Amount: ONE HUNDRED EIGHTY-ONE THOUSAND ONE HUNDRED EIGHTY AND 00/100 DOLLARS ($181,180.00).

IN WITNESS WHEREOF, the parties hereto have made and executed this Work Order on this _____ day of _____, 20____, for the purposes stated herein. (THIS SECTION TO BE COMPLETED BY THE COUNTY)

E Sciences, Inc.

ATTEST:

_____
, Secretary

By: _____
, President

(CORPORATE SEAL)

Date: _____

BOARD OF COUNTY COMMISSIONERS
SEMINOLE COUNTY, FLORIDA

WITNESSES:

_____
(Contracts Analyst, print name)

By: _____
CARLTON HENLEY, Chairman

Date: _____
As authorized for execution by the board of County Commissioners at their _____, 20____ Regular meeting.

_____
(Contracts Analyst, print name)

OC801752
ON 17283

WORK ORDER
TERMS AND CONDITIONS

a) Execution of this Work Order by the COUNTY shall serve as authorization for the CONSULTANT to provide, for the stated project, professional services as set out in the Scope of Services attached as Exhibit "A" to the Master Agreement cited on the face of this Work Order and as further delineated in the attachments listed on this Work Order.

b) Term: This work order shall take effect on the date of its execution by the County and expires upon final delivery, inspection, acceptance and payment unless terminated earlier in accordance with the Termination provisions herein.

c) The CONSULTANT shall provide said services pursuant to this Work Order, its Attachments, and the cited Master Agreement (as amended, if applicable) which is incorporated herein by reference as if it had been set out in its entirety.

d) Whenever the Work Order conflicts with the cited Master Agreement, the Master Agreement shall prevail.

e) METHOD OF COMPENSATION - If the compensation is based on a:

(i) FIXED FEE BASIS, then the Work Order Amount becomes the Fixed Fee Amount and the CONSULTANT shall perform all work required by this Work Order for the Fixed Fee Amount. The Fixed Fee is an all-inclusive Firm Fixed Price binding the CONSULTANT to complete the work for the Fixed Fee Amount regardless of the costs of performance. In no event shall the CONSULTANT be paid more than the Fixed Fee Amount.

(ii) TIME BASIS WITH A NOT-TO-EXCEED AMOUNT, then the Work Order Amount becomes the Not-to-Exceed Amount and the CONSULTANT shall perform all the work required by this Work Order for a sum not exceeding the Not-to-Exceed Amount. In no event is the CONSULTANT authorized to incur expenses exceeding the not-to-exceed amount without the express written consent of the COUNTY. Such consent will normally be in the form of an amendment to this Work Order. The CONSULTANT's compensation shall be based on the actual work required by this Work Order and the Labor Hour Rates established in the Master Agreement.

(iii) TIME BASIS WITH A LIMITATION OF FUNDS AMOUNT, then the Work Order Amount becomes the Limitation of Funds amount and the CONSULTANT is not authorized to exceed the Limitation of Funds amount without prior written approval of the COUNTY. Such approval, if given by the COUNTY, shall indicate a new Limitation of Funds amount. The CONSULTANT shall advise the COUNTY whenever the CONSULTANT has incurred expenses on this Work Order that equals or exceeds eighty percent (80%) of the Limitation of Funds amount. The CONSULTANT's compensation shall be based on the actual work required by this Work Order and the Labor Hour Rates established in the Master Agreement.

f) Payment to the CONSULTANT shall be made by the COUNTY in strict accordance with the payment terms of the referenced Master Agreement.

g) It is expressly understood by the CONSULTANT that this Work Order, until executed by the COUNTY, does not authorize the performance of any services by the CONSULTANT and that the COUNTY, prior to its execution of the Work Order, reserves the right to authorize a party other than the CONSULTANT to perform the services called for under this Work Order; if it is determined that to do so is in the best interest of the COUNTY.

h) The CONSULTANT shall sign the Work Order first and the COUNTY second. This Work Order becomes effective and binding upon execution by the COUNTY and not until then. A copy of this Work Order will be forwarded to the CONSULTANT upon execution by the COUNTY.

December 7, 2006

Ruth Hazard
Seminole County
520 W. Lake Mary Blvd
Sanford, FL 32773

Subject: **Water Quality Sampling**
Markham ASR Well
P.S. 5150-O3IAJP, Master Agreement for
General Environmental Services
E Sciences Proposal 1-343-10 P

Dear Ms. Hazard:

It was a pleasure meeting you and other project members on October 4, 2006. E Sciences is excited about the opportunity of assisting Seminole County and Camp Dresser McKee (CDM) on this aquifer storage initiative and we understand the importance of this project to the County and the St. Johns River Water Management District (SJRWMD). This proposal includes our understanding of the project, the proposed scope of services, a general project schedule and a section on project authorization.

Project Understanding

Seminole County is cooperating with the SJRWMD for designing, constructing, and evaluating the feasibility of using the lower portion of the Floridan aquifer system for the storing and recovery of reclaimed water at a site off Orange Boulevard in northeast Seminole County, within the confines of Wilson Elementary School. Elements of this proposal, specifically collecting and analyzing groundwater and process water, were discussed during our October 4, 2006 meeting. This meeting was attended by Mr. Hugh Sipes, Seminole County Project Manager, Leslie Turner (CDM), Ruth Hazard, Seminole County, Michael Miller, Compliance Coordinator and David Bass and Stephen Cook (E Sciences, Inc.).

The water quality testing program consists of pre-cycle and baseline testing and a minimum of four separate cycle tests, and possibly a fifth cycle depending on the results of analytical data developed during testing cycles 1, 2, 3 and 4. Various constituents of concern (COC) will be tested for as part of the baseline, pre-cycle and discrete-cycle tests. As discussed with you we have also provided as part of this proposal the cost for purchasing and installing three bladder pumps that will be

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228 South Hughey Ave. • Orlando, FL 32801
ph 407-481-9006 fax 407-481-9627
www.esciencesinc.com

configured with the intake of the drop tubing within the open hole or screen interval of the three ASR monitoring wells. Specifications for these pumps is provided as an attachment to this letter. Considering the duration of the project, depth of pump placement and the need for groundwater testing once the ASR system is placed in operation, purchasing the equipment should be more economical than rental of the equipment.

Scope of Services

E Sciences will assist Seminole County with testing of one ASR well and three groundwater monitoring wells. Three groundwater sampling pumps will be purchased and installed for the purpose of purging and collecting groundwater samples. We understand that a pump has or will be installed in the ASR well which can be utilized for purging and collecting water samples at this location. Our proposal also includes coordinating sampling efforts with a certified laboratory, ordering sampling containers, and arranging for drop off and pick up of sampling kits. E Sciences will also perform a cursory review of key quality assurance and quality control elements, such as, holding times, preservation of samples (temperature and pH) and the precision and accuracy of laboratory blanks. If the data is of acceptable quality it will be will be tabulated in an excel spreadsheet, which will be used to summarize the analytical detections and assist CDM with further evaluation of trends in chemical makeup of water obtained from each of the three sampling zones as well as the storage zone. We also understand that all project personnel accessing the Site will need to be finger printed and obtain a security clearance from the Seminole County School Board. These security clearances will be obtained as part of Task 1 actions. Outlined below are various tasks that we have identified for this project.

Task 1 - Project Setup and Laboratory Coordination

This task involves initial project setup activities including routine project management, project meetings, invoicing and contracting with the chemical laboratory. Time has also been included in this task for communication and coordination of sampling activities with field team members throughout the course of the project. This task includes preparing a health and safety plan identifying the location and directions to the closest medical complex and other site safety issues, such as potential exposure to contaminants and protective measures when sampling. Time and expenses for obtaining security clearances and finger printing by the SCSB for the field team members is also a part of this task. We have also included time for project meetings (three hours per meeting) to discuss key elements of the work on a routine basis (approximately once per month). We feel that for the success of the project it is important to meet and discuss project related items routinely.

Task 2 - Pump Installation, Setup, and Pre-Cycle Testing

This task involves E Sciences effort for evaluating and recommending to Seminole County various sampling pumps that could be utilized for retrieving groundwater samples from the three monitoring wells. After identifying the manufacturer and type of sampling pump, E Sciences personnel will purchase the pumps on behalf of Seminole County. All warranty rights and responsibilities in conjunction with the pumps will remain the County. E Sciences with the assistance of QED will install sampling pumps in each of the three sampling stations and test each pump to ensure proper operation and pump rates. Within 60 days prior to starting cycle testing, E Sciences will proceed with collecting the "Pre-Cycle" groundwater samples and a sample of the "source water". These samples will be analyzed for Primary and Secondary Drinking Water Parameters established in 62-550, Part III, excluding asbestos, acrylamide, epichlorohydrin, and dioxin and including giardia lamblia, cryptosporidium, dissolved oxygen, E.coli, enteroccoci, and fecal and total coliform. It is estimated that it will take two, eight-hour days and require two individuals to complete installation and testing of the sampling equipment. We have also budgeted an additional 12 hours for obtaining price quotes of various sampling pumps and providing a short summary of the evaluation of each pump type. We estimate a time lag of three to four weeks for delivery of pump equipment and ancillary power cords and sample tubing. Considering that Cycle 1 testing is to initiate in January, sampling pumps should be ordered by the first week of December 2006. E Sciences has budgeted eight hours for two field team members for purging and collecting groundwater samples from the ASR and three monitoring wells and also collecting a sample of the source water.

The groundwater monitoring activities consist of collecting samples of groundwater from three groundwater monitoring stations constructed within three hydrostatic zones (an upper confining zone – 700 to 720 feet below ground surface (fbgs), an upper storage zone – 720 to 770 fbgs and a lower storage zone – 940 to 1070 fbgs. The following table summarizes the injection, storage and recovery periods of each of the five cycles. The analytes tested for each cycle including the pre-cycle tests are detailed on various spreadsheets provided as attachments to this letter.

ASR Sampling Program		
Pre-cycle testing and Baseline Testing	Conducted within 60 days of start of cycle 1	
Cycle 1	10 days injection 10 days storage 5 days recovery	3 Monitoring Wells Only 3 Monitoring Wells and ASR Well 3 Monitoring Wells and ASR Well
Cycle 2	20 days injection 14 days storage 10 days recovery	3 Monitoring Wells Only 3 Monitoring Wells and ASR Well 3 Monitoring Wells and ASR Well

ASR Sampling Program		
Cycle 3	30 days injection 20 days storage 20 days recovery	3 Monitoring Wells 3 Monitoring Wells and ASR Well 3 Monitoring Wells and ASR Well
Cycle 4	90 days injection 30 days storage 45 days recovery	3 Monitoring Wells 3 Monitoring Wells and ASR Well 3 Monitoring Wells and ASR Well
Cycle 5 (if necessary)	90 days injection 30 days storage 60 days recovery	3 Monitoring Wells 3 Monitoring Wells and ASR Well 3 Monitoring Wells and ASR Well

Task 3 – Water Quality Sampling

This task includes the effort for coordinating sampling activities with laboratory, purging and collecting groundwater samples, packaging samples, completing chain of custody forms and delivery of samples to the laboratory. As part of the sampling effort, we believe that it is important that data quality objectives of field and laboratory measurements be defined, and as such we have included time as part of this task to meet with CDM to establish data quality objectives (DQO) for this project. This effort includes the communication of these objectives to the field sampling team and the analytical laboratory. E Sciences will also complete groundwater sampling forms required by Florida Department of Environmental Protection (FDEP) as well as ensure that calibration logs for field monitoring equipment are maintained as specified by FDEP SOPs 001/01, February 2004. Field sampling activities will also be documented in a dedicated bound journal with numbered pages. Prior to commencing sampling, E Sciences, with the assistance of CDM, will develop a unique sample identification number for each sampling station.

Task 4 - Compiling, Tabulation, and Reporting of Analytical Results

As part of this task, E Sciences, upon receipt of chemical analytical data, will evaluate various quality control parameters to ensure that the data meets the DQO established for the project and verify that the data is acceptable for reporting purposes. At a minimum, E Sciences will check holding times for each parameter group to ensure that the samples were analyzed within the time specified in each EPA Test Method and review internal surrogate and recovery blanks run by the analytical laboratory for precision and accuracy. E Sciences will also review data to ensure that reported detection limits meet the minimum cleanup target level established in Chapter 62-777 or Chapter 62-550, FAC.

Fee

Our estimated fee for completing the groundwater sampling and analyses described herein is $181,180. A breakdown of these costs is presented in the following table and has been segregated into three main areas: installation of sampling pumps; laboratory analytical costs; and labor required to perform water quality sampling. We also have included time for managing and coordinating project activities, obtaining quotations and evaluating sampling equipment and preparing summary reports for each sampling event. Provided as an attachment are price quotations for the pumps required to obtain water quality testing as well as a spreadsheet summarizing the laboratory cost of the project.

	Cost
Pump Purchase, Installation, and Testing*	
1. Three bladder pumps configured to obtain formation water from the open hole sections of three monitoring wells. (actual price quotation and pump details provided as an attachment)	$19,000.00
2. Pump installation and testing	$3,746.00
Analytical Analysis	
1. Laboratory Analysis (Flowers Laboratory)	$53,428.00
Water Quality Sampling	
1. Project Management and Meetings	$6,215.00
2. Water Quality Sampling (baseline, pre-cycle, and cycle testing)	$79,599.00
3. Submit seven (7) summary reports (baseline [1], pre-cycle [1], and cycle testing [5])	$5,087.00
4. Expenses (see below)	
Vehicle (mileage @ 0.42 per mile)	$3,003.00
Field Sampling Supplies and Equipment	$10,752.00
Reproduction and Copies	$350.00
Total Cost:	**$181,180.00**

* Pumps and other equipment purchases will not be subject to the retainer detailed in Section 7 of our executed contract (PS-5150-03/AJP). Payment of pumps equipment and installation costs to be made to E Sciences within 30 days of purchase and delivery of the invoice to the County.

If unforeseen conditions should require services beyond the scope of services described herein, E Sciences will notify you immediately of additional costs necessary to complete the project, prior to proceeding.

Authorization

Work for this project will be performed consistent with the hourly rates and cost agreed to for other direct project expenses as set out in E Sciences contract with Seminole County P.S. 5150-O3IAJP,

Master Agreement for General Environmental Services; with the exception of the part related to the purchase and installation of pump equipment discussed in the Fee Section above.

Schedule

E Sciences will initiate actions identified in Task 1 upon the Seminole County's authorization to proceed. Within one week of this authorization date E Sciences will provide cut sheets of various sampling pumps to the County and provide a recommendation of sampling equipment. Once the sampling equipment is identified, E Sciences will proceed with ordering this equipment and make arrangements to install equipment at each of the three groundwater monitoring stations. Within 60 days of commencing cycle testing, E Sciences will collect a sample of the source water and baseline samples from the ASR and three groundwater monitoring wells. As discussed at our October 4, 2006 meeting normal laboratory turnaround is approximately 10 days from the time that the contract laboratory receives the samples. We will also need approximately one week to review DQO, compile, tabulate, and report the analytical results.

Closing

We appreciate the opportunity to offer our professional services on this project. If you have any questions concerning this proposal, please contact us at 407/481-9006.

Sincerely,
E SCIENCES, INCORPORATED

Stephen T Cook
Senior Geologist

James S. Bassett, P.E.
Vice-President

Attachments: QED Pump Specifications and Cost
Summary of Water Quality Analysis

P:\Proposals\I-300-399-P\I-343-10 P Markham ASR Well\I-343-10 Markham ASR Well.doc

		Number of samples					
Cycle	Pre-Cycle	Cycle 1	Cycle 2	Cycle 3	Cycle 4	Cycle 5	Total # of Samples
Arsenic		29	46	72	166	175	488
Chloride		15	25	36	83	79	238
Dissolved Oxygen (field)		15	25	36	83	79	238
Iron, total		15	25	36	83	79	238
Sodium		15	25	36	83	79	238
pH		15	25	36	83	79	238
Specific Conductance (field)		15	25	36	83	79	238
Sulfate		15	25	36	83	79	238
Temperature (field)		12	22	30	74	79	217
Total Dissolved Solids		15	25	36	83	79	238
Bicarbonate		6	10	15	26	28	85
Magnesium		6	10	15	26	28	85
Manganese		6	10	15	26	28	85
ORP (field)		6	10	15	26	28	85
Potassium		6	10	15	26	28	85
Total Alkalinity		6	10	15	26	28	85
Total Trihalomethane		6	10	15	26	28	85
Total Coliform		6	10	15	26	23	80
Fecal Coliform		6	10	15	26	23	80
Gross Alpha		4	4	11	17	21	57
Uranium		4	4	11	17	21	57
^{220}Ra / ^{228}Ra		2	2	2	2	2	10
Primary and Secondary DW Parameters	5	2				1	8

Cost per Sample	
Lab	Flowers Cost
	$12.00
	$13.50
	Field
	$12.00
	$12.00
	$5.00
	Field
	$15.00
	Field
	$11.00
	$15.00
	$12.00
	$12.00
	Field
	$12.00
	$15.00
	$45.00
	$15.00
	$20.00
	$40.00
	$12.00
	$235.00
	$1,715.00

Total Analytical Cost by Paramter	
Lab	Flowers Cost
	$5,856.00
	$3,213.00
	$2,856.00
	$2,856.00
	$1,190.00
	$3,570.00
	$2,618.00
	$1,275.00
	$1,020.00
	$1,020.00
	$1,020.00
	$1,275.00
	$3,825.00
	$1,200.00
	$1,600.00
	$2,280.00
	$684.00
	$2,350.00
	$13,720.00

$53,428.00 **Flowers Laboratory, Inc. total costs for all samples for all cycles**

QED e-Quote version c1.00

Generated: **10/27/2006**

e-Quote prepared for :

WW-39275 - 10/26/2006

Stephen Cook (scook@esciencesinc.com)

Esciences
228 S Hughey Avenue
Orlando, FL 32801

USA
Phone: 407-481-9006
Fax:

Sales Person: Don Schurr (don@petro-chem.net)
Petro-Chem Environmental Systems Inc.
Phone: 813-972-1331

Prepared by: Brad Peake
(bpeake@qedenv.com)

Site Reference: Seminole Co ASR

Click - for more information (available for some parts).

Details

Item	Part No.	Quantity	Part Description	Unit Price ($)	Ext. Price ($)
1	**P1101HM**	3.0	MicroPurge bladder pump, high pressure, PVC construction with Dura-Flex Teflon bladder. Flow tested and lab certified for purity, 600' maximum depth. 3/8" discharge. *Find more information at -*	560.00	1,680.00
2	**37757**	3.0	Drop tube kit for 1200 series or portable stainless pump. For 3/8" tube, includes stainless steel pump inlet fitting and stainless steel weight.	135.00	405.00
3	**P5000**	300.0	All polyethylene tubing, twin bonded, tangle-free design. 3/8" OD poly sample tube with 1/4" OD poly air line. *Find more information at -*	1.85	555.00
4	**34115**	2422.5	Polyethylene tubing, 3/8" OD. *Drop tubing.*	0.85	2,059.13
5	**35415**	8.0	Additional stainless steel drop tube weight, 2' long.	60.00	480.00
6	**WW-Custom**	3.0	*Special wellhead assembly to be determined*	345.00	1,035.00
7	**37740**	3.0	3/8" Dura-Flex discharge adapter, 3' length, with reusable tubing lock ring.	26.00	78.00
8	**MP10**	1.0	MicroPurge Basics Controller. Advanced electronic controller for applications to 120 PSI, 250' maximum lift. Microprocessor-based logic simplifies MicroPurge sampling. Eliminate excessive drawdown by linking with optional MP30 Drawdown Meter. Controls allow for easy flow rate adjustment and include manual mode for sample collection. Unit weighs 5.5 lbs. and is housed in a rugged, waterproof case measuring 11" x 10" x 5". Powered by 3 "AA" batteries (provides up to 400 hours use). *Find more information at -*	2,385.00	2,385.00
9	**MP40**	1.0	Compact gas engine powered, oil-less air compressor. Compressor produces 3.5 cfm at 100 PSI, 125 PSI maximum pressure for depths to 250'. Unit is powered by a 4 HP direct coupled Honda engine. Housed in a aluminum	1,895.00	1,895.00

			cage, units measures 14"W x 19"L x 19"H and weighs only 48 pounds. 1 year warranty. *Find more information at -*		
10	**MP30-150**	1.0	MicroPurge Basics Drawdown / Level Meter. 150' model connects to the MP10 / MP15 controls to prevent excessive drawdown during low-flow purging (based on limits you set). If drawdown reaches the limit, system alerts the user visually and audibly and signals the controller to standby until the well recovers. Meter also functions as a standard water level meter with visual and audible signals. *Find more information at -*	870.00	870.00
11	**SITE-LOCAL**	1.0	On-site startup assistance and training, provided by local sales engineer.	750.00	750.00
12	**SALESTAX**	1.0	Estimated sales tax for your state *Based on 7%*	803.05	803.05
13	**SHIPPING**	1.0	Estimate Shipping and Handling Charges. Price does not include any duties, taxes or other costs associated with government regulations. *Based on ground service delivery*	200.00	200.00
				Estimate Total:	$ 13,195.17

Optional Item(s)

14	**PT5000**	300.0	Teflon-lined polyethylene tubing, twin bonded design. 3/8" OD sample tube with 1/4" OD air line. *Find more information at -* *Alternate to item 3 above*	3.70	1,110.00
15	**35374**	2422.5	Polyethylene/Teflon-lined tubing, 3/8". *Alternate to item 4 above.*	2.85	6,904.13
16	**T1200M**	3.0	MicroPurge bladder pump, stainless steel/Teflon construction with Dura-Flex Teflon bladder. Flow tested and lab certified for purity. 3/8" discharge. *Find more information at -* *Alternate to item one above.*	690.00	2,070.00

Terms and Conditions:
Estimated Shipping Time 2 weeks after receipt of Purchase Order, transit time not included. Final delivery date will be determined at time of order. All prices are in U.S. dollars, FOB Ann Arbor, MI, USA. A copy of your purchase order is required at time of order. Payment terms are Net 30 days with approved credit. Shipping costs to be prepaid and added to the invoice, estimate available upon request.

Unless shown as separate line item(s), total price shown DOES NOT include applicable sales tax or shipping charges.

A service charge of 1% per month will be applied to all past due invoices. Pricing valid for 30 days. After seller accepts, NO order may be canceled without Seller's written consent. Cancellation, if approved, is subject to reasonable restocking and/or handling fee. All products will be returned freight prepaid to Seller's facility. THIS IS A BUDGETARY ESTIMATE NOT TO BE DEEMED AS FINAL PRICING.