



FLORIDA'S SPACE COAST



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February 12, 2025

MEMORANDUM

TO: Virginia Barker, Natural Resources Management Director

RE: Item J.1, Adoption of Save Our Indian River Lagoon (SOIRL) Project Plan 2025 Update, as Recommended by the SOIRL Citizens Oversight Committee (COC)

The Board of County Commissioners, in regular session on February 11, 2025, adopted the SOIRL Project Plan 2025 Update, as recommended by SOIRL COC on January 17, 2025; and authorized maintaining the following administrative authorities provided by past Board actions, with the inclusion of grant agreements as listed in Item 2:

- 1) authorize associated Budget Change Requests;
- 2) approve continued signature authority to the Chairman (or authorized representative, in accordance with the threshold limits provided for in Brevard County Policies and Administrative Orders) to execute contracts, agreements, task orders, change orders, contract renewals, amendments, other contract-related documents, and grant agreements, subject to review and approval by the County Attorney, Risk Management, and Purchasing, as appropriate, for projects and programs approved in the SOIRL Project Plan;
- 3) authorize you to execute no-cost time extensions up to one year total and approve the County Manager to execute no-cost time extensions up to two years total;
- 4) grant permission to advertise and competitively procure goods and services needed to implement projects and programs approved in the SOIRL Project Plan, subject to available funding; and
- 5) authorize staff to submit grant applications for leveraging cost share for projects and programs approved in the SOIRL Project Plan.

Your continued cooperation is always appreciated.

Sincerely,

BOARD OF COUNTY COMMISSIONERS
RACHEL M. SADOFF, CLERK

A handwritten signature in dark ink, appearing to read "Kimberly Powell".

Kimberly Powell, Clerk to the Board

cc: County Manager
County Attorney
Finance
Budget

CONTINUING PROFESSIONAL SERVICES AGREEMENT FOR:

Monitoring Groundwater Quality in 13 Communities to Measure the Performance of
Multiple Projects Included in the Save Our Indian River Lagoon Project Plan

TASK ORDER NO. 25-10819-026-EC SOIRL

THIS TASK ORDER is made this _____ day of _____, 2025, by and between Applied Ecology, Inc., hereinafter referred to as the ENGINEER, and Brevard County, Florida, a political subdivision of the State of Florida, hereinafter referred to as the COUNTY.

WHEREAS, on October 23, 2024, the ENGINEER and the COUNTY entered into a continuing professional services agreement for Environmental Consulting Services, hereinafter referred to as the AGREEMENT, which is incorporated herein by this reference; and

WHEREAS, under SECTION I of the AGREEMENT, the ENGINEER agrees to provide certain professional services which shall be implemented by task orders; and

WHEREAS, the ENGINEER agrees to provide certain ecological and environmental services which shall be implemented in accordance with this Task Order.

NOW, THEREFORE, the parties do mutually agree as follows:

Summary

The purpose of this task order is to provide environmental services to the Brevard County Natural Resources Management Department (County) to provide Performance Measurement and Monitoring Services called for in the Respond component (Section 4.4) of the Save Our Indian River Lagoon (SOIRL) Project Plan. This task provides for one year of monthly groundwater monitoring at 43 wells. The wells are located in thirteen communities and nearby control areas for the purpose of measuring the performance of multiple septic to sewer conversion projects and reclaimed water treatment upgrade projects funded by the SOIRL Trust Fund. Deliverables in this task order are quarterly and annual reporting to provide data trends as projects within the monitored areas are completed. Also included in this task order is the abandonment of two wells that have been replaced.

Section I, Scope of the Work

See Exhibit A – Applied Ecology, Inc. proposal

Section II, Contract Schedule

See Exhibit A – Applied Ecology, Inc. proposal

Section III, Deliverables

See Exhibit A – Applied Ecology, Inc. proposal

Section IV, Basis of Compensation

For the Scope of Work described in Section I of this Task Order, compensation from the COUNTY to the ENGINEER shall be on a percent complete basis as indicated in the attached Exhibit A with task 3 being compensated based on the number of samples collected, for a total cost not to exceed **\$341,337.64** unless authorized by a written Change Order executed by the COUNTY. Upon submittal of deliverables as described in Section III of this Task Order, the COUNTY will be invoiced only for actual work performed. The COUNTY shall pay such invoices in accordance with Florida's Prompt Payment Act. The COUNTY reserves the right to refuse payment for or deduct from any invoice, fees for incomplete or defective work. The following is a summary of the fee breakdown:

A. ECOLOGICAL CONSULTING SERVICES

1. Groundwater Data Collection	\$152,136.54
2. Data Analysis and Reporting	\$55,677.48
3. Well Abandonment	\$2,845.77
Project Expenses	\$55,159.00
Project Lab Fees	\$73,019.65
Sub-Contractor Fees	\$2,499.20
Total Project Cost	\$341,337.64

Section V, Other Terms and Conditions

All of the terms and conditions of the AGREEMENT, and any amendments thereto, shall apply to this Task Order as fully set out herein. In the case of a conflict between the terms of this Task Order and the AGREEMENT, the latter shall control. It is hereby acknowledged that this Task Order is prepared based upon the Master Agreement executed on October 23, 2024, for Environmental Consulting Services between the ENGINEER and the COUNTY. As such, this Task Order is subject to all conditions and stipulations contained in said AGREEMENT, as may be amended.

PURSUANT TO FLORIDA STATUTE SECTION 558.0035, AN INDIVIDUAL EMPLOYEE OR AGENT OF THE ENGINEER MAY NOT BE HELD INDIVIDUALLY LIABLE FOR NEGLIGENCE.

Section VI, Effective Date and Authorized to Proceed


This Task Order shall be effective on the date specified in the Notice to Proceed from the COUNTY'S designated representative. This Task Order will expire sixteen (16) months from the date of issuance of the Notice to Proceed, unless otherwise extended through a subsequent change order.

Section VII. Authority

The Parties warrant that the person signing this Task Order has all the requisite authority necessary to bind the Party it represents.

IN WITNESS WHEREOF, the parties hereto set their hands and seals the date and year above written.

BREVARD COUNTY, FLORIDA

By: 

Print: Rob Feltner

Title: Chairman

Date: MAY 06 2025

As approved by the Board on February 11, 2025

Applied Ecology, Inc

By: _____

Print: Claudia M. Listopad, Ph.D., GISP

Title: Principal Scientist

Date: _____

Attest



Rachel Sadoff, Clerk

Date: MAY 08 2025

EXHIBIT A

SCOPE OF WORK

Annual Monitoring of the Groundwater Quality of 13 communities under the Save Our Indian River Lagoon Project Plan, Brevard County.

See attached scope of work for breakdown of tasks, rates, and manhour estimates.



780 S. Apollo Blvd.
Suite 220
Melbourne, FL 32901

April 9, 2025

Virginia Barker, MS
Director
Brevard County Natural Resources Management Office
2725 Judge Fran Jamieson Way, Bldg. A
Viera, Florida 32940

SUBJECT: Scope of Work and Fees for the Annual Monitoring of the Groundwater Quality of 13 Communities under the Save Our Indian River Lagoon Project Plan (SOIRLPP)

Dear Ms. Barker:

Applied Ecology, Inc. (AEI) is pleased to submit this scope of work to Brevard County on the above-referenced service. Included, and incorporated as part of this scope, is an outline of the project information provided to us, the proposed scope of services, our fee, and the proposed schedule.

INTRODUCTION

This scope of work includes groundwater monitoring, data analysis, and reporting for 13 distinct communities and three controls (natural areas) within Brevard County. The specific communities were selected in a previous study funded by the State Legislature and based on areas with high potential for retrofit under the SOIRLPP. The following study areas, which were selected to measure the benefits of retrofit projects included in the SOIRLPP, are included in this groundwater monitoring effort: Merritt Island (septic and sewer communities), Melbourne Beach/Satellite Beach (septic, reclaimed, and sewer communities), Turkey Creek (septic, reclaimed, and sewer communities), Suntree (septic, sewer, and reclaimed), and Titusville (sewer and reclaimed). In addition, three natural areas located in close proximity to various selected communities are included and will be used as controls: Coconut Point (Melbourne Beach), Turkey Creek Sanctuary (Turkey Creek), and Enchanted Forest (Titusville).

Monthly groundwater sampling was initiated in Turkey Creek in 2017 and in the remaining neighborhoods in 2018. Septic-to-sewer conversion is nearly complete in the Suntree neighborhood, and all three properties where groundwater monitoring wells are located for this ongoing monitoring project have been converted. More frequent sampling was performed at these three properties in late 2024 and early 2025 to evaluate changes in concentration soon after conversion. Wastewater treatment facility upgrades have also occurred in Titusville and Turkey Creek, which affects groundwater concentrations in the reclaimed communities. As such, the data analysis for this



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groundwater monitoring project has transitioned from simply providing baseline data to evaluating changes in groundwater concentrations post-conversion and post-upgrade.

Ongoing groundwater monitoring will be performed in Task 1. Reporting will be performed in Task 2. Monitoring well abandonment will be performed in Task 3. Please refer to **Attachment A** for a detailed description of the level of effort and costs by subtask.

PROPOSED SCOPE OF SERVICES

TASK 1: DATA COLLECTION AND LABORATORY ANALYSIS

This task includes groundwater and reclaimed water sampling and analysis, and homeowner access agreements. The sampling is expected to occur monthly for 12 months, from approximately May 2025 through April 2026. Groundwater samples will be collected once per month. It is anticipated that sampling will occur for the entire 12 months at 43 monitoring wells.

Reclaimed water samples will be collected from irrigation sprinklers at the Turkey Creek, Titusville, Melbourne Beach, and/or Suntree neighborhoods at an estimated rate of two samples per month. Groundwater and reclaimed water sampling will be performed in general compliance with FDEP groundwater and general sampling protocols. Samples will be delivered within hold times to Pace Analytical Services, LLC, which is a certified National Environmental Laboratory Accreditation Conference (NELAC) laboratory. Orthophosphate has a short hold time of 48 hours. In order to meet the short hold times, AEI will drive the samples to the laboratory. Duplicate teams will be deployed to collect samples during each day of sampling, reducing travel time and the number of rush delivery trips to the laboratory.

Field parameters (pH, temperature, conductivity, dissolved oxygen, and turbidity) will be collected during sampling. The following laboratory parameters will be analyzed by the NELAC certified lab: ammonia (NH₃-N), nitrate-nitrite (NO_x-N), total Kjeldahl nitrogen (TKN), calculated total nitrogen (TN), orthophosphate as P (OrthoP, or PO₄³⁻), and total phosphorus (TP). A total of approximately 594 samples [516 groundwater samples, 24 reclaimed water samples, and 54 blank/duplicates (approximately 10% of the collected samples)] will be collected and analyzed for the nutrients listed above. It is assumed that 10% of the samples will need to be filtered to meet the low turbidity requirements for the orthophosphate analysis.

A lump sum amount has been scoped for the isotopic analysis of samples, but the scope and schedule are subject to change. The UC Davis SIF laboratory is guaranteeing unit rates for only three months from the date of the quote. They have also indicated that unit rates are expected to increase at the beginning of 2026. Therefore, though a sampling plan is proposed in the next paragraph, modifications may need to be made to the sampling plan so that actual costs do not exceed proposed costs. This may include a reduction in the number of samples collected and sent for isotopic analysis and/or a change in the schedule for sample collection and submission to the



laboratory. For example, some or all of the samples may be submitted before the end of 2025 in order to avoid an increase in unit rates.

With the understanding that the scope and schedule for the isotopic analysis is subject to change, the following is tentatively proposed. It is tentatively proposed that a total of approximately 145 samples will be collected and shipped to the University of California (UC) Davis Stable Isotope Facility (SIF) Laboratory for isotopic analysis. In an effort to reduce costs, the estimated number of samples has been reduced from 187 samples in the previous scope of work to 145 samples in this scope of work. It is estimated that the 145 samples will include approximately 121 groundwater samples, 24 reclaimed water samples (100% of the collected samples), and 8 duplicates. The number of monitoring wells sampled each month is being reduced from 14 monitoring wells in the previous scope of work to an estimated 11 monitoring wells in this scope of work. As in previous years, samples are anticipated to be sent to UC Davis after collection of 11 months of samples, in order to facilitate completion of the isotopic analysis in time for inclusion in the annual report. Due to the high cost of shipping, including using dry ice to keep the sample frozen, it is assumed that the samples can be sent in no more than two coolers. As discussed above, this scope and schedule is subject to change, in order to optimize usage of the funds available for this task.

Minor maintenance and repairs, such as replacing bolts and well caps, removing small tree roots, and performing minor reconditioning on up to one well, will be performed in conjunction with the monthly sampling. A formal report will not be prepared for the minor maintenance and repairs. Budget for equipment and miscellaneous replacement parts for wells has been included in the scope. AEI will notify the County if more extensive maintenance or repairs are needed and can provide a cost estimate upon request.

Field and laboratory data will be entered and quality assured monthly. AEI will coordinate with homeowners to renew homeowner agreements and schedule monthly efforts, as well as with the local NELAC certified laboratory and the UC Davis SIF laboratory.

Expenses associated with Task 1 include laboratory analysis of nutrients, isotopic analysis, field supplies and equipment rental, and express laboratory delivery.

DELIVERABLE(S):

- None (field datasheets and laboratory results will be included in quarterly and annual reports in Task 2)

TASK 2: DATA ANALYSIS AND REPORTING

Data will be analyzed for trends over time for each of the parameters. Changes to the project area (e.g., connection to central sewer for the septic sites, upgrades to WWTP for the reclaimed water) will be considered in the evaluation. Summary statistics and seasonality will also be examined for the nitrogen and phosphorus species. Reporting under this task includes quarterly summary reporting of



monitoring activities (3 quarters), such as dates of sample collection, laboratory reports, and sampling logs with purge and field data recorded, as well as summary data tables and charts. The quarterly reports will also include documentation of known changes to the project area, including the dates at which the changes occurred, and graphical representation of changes in nutrients in timeseries plots. If appropriate, a comparison of concentrations before and after the changes will be performed. A brief summary highlighting major findings will be included in each quarterly report, but no statistical analyses will be included. Quarterly reports will be submitted as final and will be ADA-compliant in accordance with County requirements.

The data from the fourth quarter of sampling will be presented, along with the entire time series dataset, in the Annual Report. The annual report will include laboratory and field data, summary data, graphical representations of trends, pre- versus post-retrofit comparisons (when and where available), and relevant statistical analysis. The Annual Report will be submitted as draft. The County's comments, if any, will be incorporated into the Annual Report prior to finalizing. The final Annual Report will be ADA-compliant in accordance with County requirements. This task also includes time for coordination, up to one formal presentation (if requested), and one meeting to discuss the monitoring results, as well as time to incorporate one set of comments in the final annual report.

DELIVERABLE(S):

- Final quarterly summary data reports (3) of monitoring activities that include dates sampling was conducted, laboratory reports, sampling logs with purge and field data recorded, as well as summary data tables.
- Power Point or PDF version of the presentation, if requested.
- Draft Annual Report that summarizes the field and lab data, statistical analysis results, and data interpretation.
- Final Annual Report, which incorporates one set of comments received from County staff.

TASK 3: MONITORING WELL ABANDONMENT

There are two monitoring wells that are no longer used for sampling. AEI will coordinate with a licensed driller to have them properly abandoned. This includes the following two wells:

1. Monitoring well MW TC 2: This well is in the Turkey Creek natural area, but the groundwater nutrient concentrations were not indicative of natural conditions. MW TC 3 was installed as a replacement well in July 2023 under the previous scope of work to be more indicative of natural groundwater conditions. The collected data confirmed that MW TC 3 was more representative of natural conditions. Therefore, MW TC 2 was removed from the sampling plan. There is no longer a need to keep MW TC 2, so it will be abandoned.



2. Monitoring well MW REC 2: This well is in the Turkey Creek reclaimed neighborhood. It was sampled from December 2017 to May 2018, but it tended to dry up during sampling. MW REC 3 was installed as a replacement well, with a first sampling event in June 2018. There is no longer a need to keep MW REC 2, so it will be abandoned.

The well casings will be filled with grout, and the well vaults and well pads will be removed. The wells are in unpaved areas, with one well located in Turkey Creek Sanctuary and one well located along the banks of a retention pond, so restoration of the ground surface will not be required. This task includes coordination with the client, property owners, and drillers, and field oversight.

DELIVERABLE(S):

- Monitoring well abandonment report, including well abandonment permits and completion reports

FEE AND METHOD OF COMPENSATION

We propose performing the above scope of services for a lump sum fee of **\$341,337.64**. Monthly invoices will be billed based on the percentage of tasks completed during each calendar month. Details on the level of effort and associated cost by task are provided in **Attachment A**.

If unforeseen conditions should require services beyond the scope of services described herein, Applied Ecology will notify you immediately of additional costs necessary to complete the project prior to proceeding. Services beyond those described herein would be invoiced in accordance with our standard schedule of fees at the applicable rates.

SCHEDULE

We anticipate initiating the project immediately after notice to proceed (NTP). The first monthly groundwater monitoring event in Task 1 (Data Collection) is scheduled for May 2025, and the final monthly event is scheduled for April 2026. Task 2 (Data Analysis and Reporting) is expected to be completed within four (4) months after the last sampling event, i.e. August 2026, assuming the isotopic analytical results are received by July 2026. The well abandonment is expected to be performed within the first few months of the Task Order, and the well abandonment report will be submitted within one month of receipt of the well abandonment permit and well completion report.

AUTHORIZATION

Please provide written authorization to proceed consistent with the terms and conditions of the Environmental Consulting Contract between Brevard County and Applied Ecology dated 10/23/2024.



We appreciate the opportunity to offer our professional services on this project. If you have any questions concerning this proposal, please contact us at 321-499-3336.

Sincerely,



Catherine A. Soistman, P.E. (FL, CA)
Principal Engineer



Claudia Listopad, Ph.D., GLSP
President, Principal Scientist

ATTACHMENTS:

Attachment A: Detailed Costs including expenses and laboratory costs.



Task 1: Data Collection

Subtask	Description	Principal Scientist / Engineer (\$191.01)	Sr. Staff Scientist / Engineer (\$138.23)	Staff Scientist / Engineer (\$106.81)	Assoc. Staff Scientist / Engineer (\$82.94)	Clerical / Administrative Support (\$65.7)	Field Technician (\$81.74)	Total Hours	Total Cost
1	Homeowner Notifications and Sampling Preparation	4	24	72	0	0	0	100	\$ 11,771.88
2	Sampling effort for 12 monthly events for 43 wells	8	20	34	908	0	260	1230	\$ 104,486.14
3	Compilation and Reporting of Lab Results and Field Parameters, QA	12	24	60	120	0	0	216	\$ 21,971.04
4	Project management (coordination with laboratory, homeowners, client)	12	24	36	0	12	0	84	\$ 10,243.20
5	Contact Homeowners to Obtain Renewals/Abandon Wells	8	0	20	0	0	0	28	\$ 3,664.28
ALL	Total Data Collection	44	92	222	1028	12	260	1658	\$ 152,136.54

Task 2: Data Analysis and Reporting

Subtask	Description	Principal Scientist / Engineer (\$191.01)	Sr. Staff Scientist / Engineer (\$138.23)	Staff Scientist / Engineer (\$106.81)	Assoc. Staff Scientist / Engineer (\$82.94)	Clerical / Administrative Support (\$65.7)	Field Technician (\$81.74)	Total Hours	Total Cost
1	Quarterly Reporting of Lab Results and Field Parameters (3 quarters)	12	18	30	54	24	0	138	\$ 14,040.12
2	Data Analysis for Annual Report	16	32	60	40	0	0	148	\$ 17,205.72
3	Draft and Final Annual Report	20	40	60	40	20	0	180	\$ 20,389.60
4	Meetings, Presentations & PM (one meeting)	16	0	8	0	2	0	26	\$ 4,042.04
ALL	Total Data Analysis and Reporting	64	90	158	134	46	0	492	\$ 55,677.48

Task 3: Well Abandonment

Subtask	Description	Principal Scientist / Engineer (\$191.01)	Sr. Staff Scientist / Engineer (\$138.23)	Staff Scientist / Engineer (\$106.81)	Assoc. Staff Scientist / Engineer (\$82.94)	Clerical / Administrative Support (\$65.7)	Field Technician (\$81.74)	Total Hours	Total Cost
1	Well Abandonment	4	0	0	8	0	0	12	\$ 1,427.56
2	Well Abandonment Report	5	0	0	4	2	0	11	\$ 1,418.21
ALL	Total Well Abandonment	9	0	0	12	2	0	23	\$ 2,845.77

Major Task Summary

Task	Description	Principal Scientist / Engineer (\$191.01)	Sr. Staff Scientist / Engineer (\$138.23)	Staff Scientist / Engineer (\$106.81)	Assoc. Staff Scientist / Engineer (\$82.94)	Clerical / Administrative Support (\$65.7)	Field Technician (\$81.74)	Total Hours	Total Cost
1	Data Collection	44	92	222	1028	12	260	1658	\$ 152,136.54
2	Data Analysis and Reporting	64	90	158	134	46	0	492	\$ 55,677.48
3	Well Abandonment	9	0	0	12	2	0	23	\$ 2,845.77
Total Labor		117	182	380	1174	60	260	2173	\$210,659.79
Project Expenses									\$ 55,159.00
Project Lab Fees									\$ 73,019.65
Sub-Contractor Fees									\$ 2,499.20
Total Project									\$341,337.64