

**AGREEMENT  
BETWEEN  
THE CITY OF JACKSONVILLE  
AND  
JACKSONVILLE UNIVERSITY  
FOR  
SIXTEENTH STATE OF THE RIVER REPORT FOR THE LOWER ST JOHNS RIVER  
BASIN**

**THIS AGREEMENT**, made and entered into this \_\_\_ day of \_\_\_\_\_, 2023, by and between the CITY OF JACKSONVILLE, a consolidated municipal corporation and county political subdivision existing under the Constitution and the laws of the State of Florida, (hereinafter referred to as the “CITY”) and JACKSONVILLE UNIVERSITY, with a business address at 2800 University Boulevard N., Jacksonville, Florida 32211, (hereinafter referred to as the “CONSULTANT”), for the 16<sup>th</sup> State of the River Reports, (hereinafter referred to as the “Project”).

**WITNESSETH:**

**WHEREAS**, subject to an appropriation by the Council of the City of Jacksonville, the CITY desires to retain CONSULTANT for the Project; and

**WHEREAS**, pursuant to Section 360.604(c), Jacksonville Ordinance Code, The CITY’s Environmental Protection Board has approved and the EPB Chairperson has authorized disbursements from the Environmental Protection Fund as set forth herein.

**WHEREAS**, Ordinance \_\_\_\_\_ authorized the Mayor and the Corporation Secretary to execute an agreement with the CONSULTANT for the Project and waives conflicting provisions of the CITY’s Purchasing Code in the selection and retention of the CONSULTANT; and

**WHEREAS**, the CITY and the CONSULTANT have negotiated mutually satisfactory terms for the execution of this Agreement; now therefore:

**IN CONSIDERATION** of the premises and of the mutual covenants and agreements hereinafter contained, the CITY hereby engages the CONSULTANT for the Project in accordance with the following:

**ARTICLE 1: Engagement of CONSULTANT:**

1.1 CITY hereby engages CONSULTANT and CONSULTANT hereby accepts said engagement for the purpose of providing to CITY professional services for the Project as described in and according to the provisions of: “Scope of Services”, attached hereto as **Exhibit “A”** ( the “Services”) and, by this reference, made a part hereof.

1.2 If any services, functions or responsibilities not specifically described in this Agreement are necessary for the proper performance and provision of the Services, they shall be deemed to be implied by and included within the scope of Services to the same extent and in the same manner as if specifically described in this Agreement and/or the Scope of Services. The CONSULTANT shall be responsible for providing personnel and other resources as necessary to provide the Services.

**ARTICLE 2: Coordination and Services Provided by CITY:**

CITY shall designate, for the Services received, a Project Coordinator who will, on behalf of the CITY, coordinate with CONSULTANT and administer this Agreement according to the terms and conditions contained herein and in the Exhibit(s) attached hereto and made a part hereof. It shall be the responsibility of CONSULTANT to coordinate all Project related activities with the designated Project Coordinator. The CITY’s Project Coordinator shall be: James A. Richardson, II, EPB Program Administrator, Environmental Protection Board.

**ARTICLE 3: Duration of Agreement, Termination, Renewal and Default:**

3.1. The term of this Agreement shall become effective as of the day and year first above written and shall continue and remain in full force and effect as to all its terms, conditions and

provisions as set forth herein, through December 31, 2023 or when the maximum indebtedness under Section 7.1 has been met, unless sooner terminated by either party, with or without cause, by giving of not less than thirty (30) days prior written notice to the other party to this Agreement.

3.2. Should either party default in its obligations under this Agreement, the nondefaulting party shall provide written notice, to the defaulting party of the default. The defaulting party shall be given ten (10) business days, from receipt of the notice of default (or any such other amount of time agreed to by the parties, in writing) to remedy the default. If the default is not remedied within such time frame, the nondefaulting party may terminate this Agreement, as provided in Section 3.1 hereof.

3.3. Notwithstanding the foregoing, or any other provision of this Agreement to the contrary, the CITY may terminate this Agreement at any time in the event of loss of funding for any reason by giving CONSULTANT twenty-four (24) hours verbal notice with written confirmation following. In the event this Agreement is terminated, the CONSULTANT shall be paid for any unpaid billings for all Services performed up to the date of receiving notice of termination, reasonable costs and fees associated with an orderly close-out of the work to the extent authorized in writing by the CITY.

3.4. Notwithstanding the foregoing, or any other provision of this Agreement to the contrary, in the event of a default, the nondefaulting party shall be entitled to all available remedies at law or equity.

#### **ARTICLE 4. Meetings and Public Hearings:**

The CONSULTANT will attend all meetings and public hearings relative to the Services being performed by it where its presence is determined to be necessary and requested by CITY and CONSULTANT can reasonably schedule its appearance.

**ARTICLE 5: Delays:**

Neither party shall be considered in default in the performance of its obligations hereunder to the extent that the performance of such obligation is prevented or delayed by any cause beyond the reasonable control of the affected party, and the time for performance of either party hereunder shall in such event be extended for a period equal to any time lost due to such prevention or delay.

**ARTICLE 6: Suspension of Services:**

The CITY may suspend the performance of the Services rendered by providing five (5) days written notice of such suspension. Schedules for performance of the Services shall be amended by mutual agreement to reflect such suspension. In the event of suspension of Services, the CONSULTANT shall resume the full performance of the Services when directed in writing to do so by the Project Coordinator. Suspension of Services for reasons other than the CONSULTANT's negligence or failure to perform, shall not affect the CONSULTANT'S compensation as outlined in this Agreement.

**ARTICLE 7: Maximum Indebtedness, Delivery of Services, Payments, Clawback and Expense Reports:**

7.1 Maximum Indebtedness. The CITY shall pay CONSULTANT for the Services on a fixed-cost basis in an amount not to exceed One Hundred Seven Thousand Six Hundred Ninety-Three Dollars (\$107,693.00), which shall be the total maximum indebtedness of the CITY, as required by Section 106.431, City of Jacksonville Ordinance Code ("Ordinance Code"), for all expenses or other cost for the Services for the term of this Agreement. The maximum indebtedness amount shall be allocated in the following amounts for the following Services as provided in the Scope of Services attached hereto in "Exhibit A":

**Services/Reports**

**Allocated Amount**

Sixteenth State of the River Report

\$107,693

7.2 CONSULTANT agrees to expend funds primarily in accordance with the budget detailed in the Scope of Services attached hereto and incorporated herein as Exhibit “A”.

7.3 Delivery and Payment. CONSULTANT shall deliver the following Services to the CITY and provide invoices of the same in accordance with the delivery and invoice dates provided below:

Date	Annual Total Request	Tasks
April 30, 2023	\$107,693	Sixteenth State of the River Report
<b>Total Request</b>	<b>\$107,693</b>	

7.4 Clawback. If the Services performed by CONSULTANT under this Agreement are not performed in accordance with this Agreement, CONSULTANT shall refund the City Funds to the CITY within fifteen (15) business days of demand by the CITY, and the CITY may terminate this Agreement.

7.5 Reporting of Expenses. CONSULTANT shall deliver to the CITY a detailed reporting of all expenses incurred as a result of the PROJECT no later than June 30, 2023, August 31, 2023, October 31, 2023, and December 31, 2023.

7.6. The CITY’s obligations under this Agreement are contingent upon availability of lawfully appropriated funds for the Project and this Agreement.

**ARTICLE 8: Indemnity: See Exhibit B**

**ARTICLE 9: Insurance: See Exhibit C**

**ARTICLE 10: Accuracy of Work:**

10.1 The CONSULTANT shall be responsible for the accuracy of its work, including work by any subcontractors, and shall promptly make necessary revisions or corrections resulting from errors and omissions on the part of the CONSULTANT or subcontractors without additional compensation. Acceptance of the work by the CITY shall not relieve the CONSULTANT of the responsibility for subsequent corrections of any such errors and the clarification of any ambiguities.

10.2. At any time during the duration of the Project provided for by the Contract Documents or during any phase of work performed by others based on data furnished by the CONSULTANT under this Agreement, the CONSULTANT shall confer with the CITY for the purposes of interpreting the information furnished and/or correcting any errors and/or omissions made by the CONSULTANT. The CONSULTANT shall prepare all drawings or data to correct its errors and/or omissions without added compensation, even though final payment may have already been received therefor.

10.3 The CONSULTANT shall be and shall remain liable, in accordance with applicable law for all damages to the CITY caused by the CONSULTANT's breach of contract or its negligent performance of any of the services furnished under this Agreement. The CONSULTANT shall not be responsible for any time delays in the Project caused by circumstances beyond the CONSULTANT's control.

**Article 11: Nonwaiver:**

Failure by either party to insist upon strict performance of any of the provisions hereof, either party's failure or delay in exercising any rights or remedies provided herein, the CITY's payment for the services or any part or combination thereof, or any purported verbal modification or rescission of this Agreement by an employee or agent of either party, shall not release either party of its obligations under this Agreement, shall not be deemed a waiver of any

rights of either party to insist upon strict performance hereof, or of either party's rights or remedies under this Agreement or by law, and shall not operate as a waiver of any of the provisions hereof.

**ARTICLE 12: Ownership of Documents and Equipment:**

The CONSULTANT agrees that upon completion of the Services, all drawings, designs, specifications, renderings, notebooks, tracings, photographs, negatives, reports, findings, recommendations, software, source codes, data and memoranda of every description, arising out of or relating to the Services rendered by the CONSULTANT under this Agreement, are to become the property of the CITY as well as all reference books, equipment, expendable equipment and materials purchased with project funds. The use of these materials in any manner by the CITY shall not support any claim by the CONSULTANT for additional compensation. The CONSULTANT shall have no liability to the CITY for damages, claims and losses, including defense costs, arising out of any use of the aforementioned documents for any purpose other than as set forth in this Agreement without the written authorization of the CONSULTANT.

**ARTICLE 13: Compliance with State and Other Laws/Licenses and Certifications:**

In the provision of the Services, the CONSULTANT must comply with any and all applicable Federal, State and local laws, rules, regulations and ordinances, as the same exist and may be amended from time to time. Such laws, rules, regulations and ordinances shall include, but are not limited to, Chapter 119, Florida Statutes, (the Florida Public Records Law) and Section 286.011, Florida Statutes, (the Florida Sunshine Law). Such laws, rules, regulations and ordinances must also include, but are not limited to obtaining and maintaining all licenses and certifications that are required to perform the Services contemplated in this Agreement, in the City of Jacksonville, State of Florida. If any of the obligations of this Agreement are to be

performed by a Subcontractor, the provisions of this Section shall be incorporated into and become a part of the subcontract.

**ARTICLE 14: Non-Discrimination Provisions:**

In conformity with the requirements of Section 126.404, *Ordinance Code*:

The CONSULTANT represents that it has adopted and will maintain a policy of non-discrimination against employees or applicants for employment on account of race, religion, sex, color, national origin, age or handicap, in all areas of employment relations, throughout the term of this Agreement. The CONSULTANT agrees that, on written request, it will permit reasonable access to its records of employment, employment advertisement, application forms and other pertinent data and records, by the Executive Director of the Human Rights Commission, or successor agency or commission, for the purpose of investigation to ascertain compliance with the nondiscrimination provisions of this Agreement; *provided however*, that the CONSULTANT shall not be required to produce, for inspection, records covering periods of time more than one (1) year prior to the day and year first above written. The CONSULTANT agrees that, if any of the Services to be provided pursuant to this Agreement are to be performed by a subcontractor, the provisions of this Article 14 shall be incorporated into and become a part of the subcontract.

**ARTICLE 15: Equal Employment Opportunity.**

The Equal Opportunity clause in Title 41, Part 60-1.4 of the Code of Federal Regulations (Paragraphs 1 through 7 of President's Executive Order 11246), the provisions of the Equal Opportunity for Individuals with Disabilities Act in 42 U.S.C. Sections 12112, the Listing of Employment Openings for Veterans Clause in Title 41, Part 50-260.2 of the Code of Federal Regulations and the Disabled Veterans and Veterans of the Vietnam era Clause in Title 41, Part 60-250.5 of the Code of Federal Regulations are incorporated herein by reference if applicable



and to the extent applicable. If the CONSULTANT is exempt from any of the above cited terms, written evidence of such exempt status must be provided to the CITY.

**ARTICLE 16: Contingent Fees Prohibited:**

In conformity with Section 126.306, *Ordinance Code*:

The CONSULTANT warrants that it has not employed or retained any company or person, other than a bona fide employee working solely for the CONSULTANT, to solicit or secure this Agreement, and that it has not paid or agreed to pay any person, company, corporation, individual for firm, other than a bona fide employee working solely for the CONSULTANT, any fee, commission, percentage, gift, or any other consideration contingent upon or resulting from the award or making of this Agreement. For the breach or violation of these provisions, the CITY shall have the right to terminate this Agreement without liability and, at its discretion, to deduct from the contract price, or otherwise recover, the full amount of such fee, commission, percentage, gift or consideration.

**ARTICLE 17: Truth in Negotiation:**

In conformity with Section 126.305, *Ordinance Code*:

The CONSULTANT understands and agrees that execution of this Agreement by the CONSULTANT shall be deemed to be simultaneous execution of truth-in-negotiation certificate under this provision to the same extent as if such certificate had been executed apart from this Agreement, such certificate being required by Section 126.305, *Ordinance Code*, for professional services contracts over sixty-five thousand dollars. Pursuant to such certificate, the CONSULTANT hereby states that the wage rates and other factual unit costs supporting the compensation hereunder are accurate, complete and current at the time of contracting. Further, the CONSULTANT agrees that the compensation hereunder shall be adjusted to exclude any significant sums where the CITY determines the contract price was increased due to inaccurate,

incomplete or noncurrent wage rates and other factual unit costs, provided that any and all such adjustments shall be made within one (1) year following the completion date of this Agreement.

**ARTICLE 18: Independent Contractor:**

In the performance of this Agreement, the CONSULTANT shall be acting in the capacity of an independent contractor and not as an agent, employee, partner, joint venturer or associate of the CITY. The CONSULTANT shall be solely responsible for the means, methods, techniques, sequences and procedures utilized in the full performance of this Agreement.

**ARTICLE 19: Retention of Records/Audit:**

19.1 The CONSULTANT must establish and maintain books, records, contracts, subcontracts, papers, financial records, supporting documents, statistical records, goods, services and all other documents, in whatsoever form or format including, but not limited to electronic storage media, (for purposes of this Article 19, hereinafter referred to as the “Records”) sufficient to reflect all receipt and expenditures of funds provided by the CITY under this Agreement.

19.2 The CONSULTANT must retain all Project Records pertinent to this Agreement for a period of three (3) years after completion of the Project. If an audit has been initiated and audit findings have not been resolved at the end of six years, the Records shall be retained until resolution of the audit findings or any litigation which may be based on the terms of this Agreement, at no additional cost to the CITY. Records shall be retained for longer periods when the retention period exceeds the time frames required by law or ordinance.

19.3 Upon demand, at no additional cost to the CITY, the CONSULTANT must facilitate the duplication and transfer of any Records during the required retention period in Section 19.2 hereof.

19.4 The CONSULTANT must provide these Records at all reasonable times for inspection, review, copying or audit by the CITY, including but not limited to the Council Auditor's Office.

19.5 At all reasonable times for as long as the Records are maintained, the CONSULTANT must allow persons duly authorized by the CITY, including but not limited to the Council Auditor's Office, to have full access to and the right to examine any of the provider's Records, relative to the Project, regardless of the form in which kept.

19.6 The CONSULTANT, at its sole and exclusive cost and expense, must provide audits or reports as requested by the CITY, and must insure that all related party transactions are disclosed to the auditor.

19.7 The CONSULTANT must comply and cooperate immediately with any inspections, reviews, investigations, deemed necessary by the CITY.

19.8 The CONSULTANT must permit the CITY, including but not limited to the Council Auditor's Office, to interview any employees, subcontractors and subcontractor employees of the CONSULTANT to assure the CITY of the satisfactory performance of the terms and conditions of this Agreement. Following such review, if performance of the CONSULTANT is, in the opinion of the CITY, deficient, the CITY will deliver to the CONSULTANT a written report of the deficiencies and request for development by the CONSULTANT of a corrective action plan. The CONSULTANT hereby agrees to prepare and submit, to the CITY, said corrective plan within ten (10) days of receiving the CITY's written report. Thereafter, the CONSULTANT must correct all deficiencies in the corrective action plan, within ten (10) days from the CITY's receipt of the corrective action plan.

19.9 All reports, audits, and other information provided by the CONSULTANT pursuant to this Section shall contain the following statement: "The information provided to the

City of Jacksonville in this submittal is submitted under penalties of perjury, under Section 837.06, Florida Statutes.”

19.10 To the extent that the CONSULTANT uses subcontractors in the performance of the Services under this Agreement, or assigns this Agreement with prior CITY consent, the CONSULTANT must include the aforementioned audit, inspections, investigations and record keeping requirements in all subcontracts and assignments.

**ARTICLE 20: Governing State Law/Venue/Severability:**

The rights, obligations and remedies of the parties as specified under this Agreement shall be interpreted and governed in all aspects by the laws of the State of Florida. Should any provision of this Agreement be determined by the courts to be illegal or in conflict with any law of the State of Florida, the validity of the remaining provisions shall not be impaired. Venue for litigation of this Agreement shall be in courts, of competent jurisdiction located in Jacksonville, Duval County, Florida.

**ARTICLE 21: Article Headings:**

Article headings appearing herein are inserted for convenience or reference only and shall in no way be construed to be interpretations of text.

**ARTICLE 22: Construction:**

Both parties acknowledge that they have had meaningful input into the terms and conditions contained in this Agreement. Therefore any doubtful or ambiguous provisions contained herein shall not be construed against the party who physically prepared this Agreement. The rule sometimes referred to as “*Fortius Contra Proferentem*” shall not be applied to the interpretation of this Agreement.

**ARTICLE 23: Successors and Assigns/Personal Liability:**

The CITY and the CONSULTANT each bind the other and their respective successors and assigns in all respects to all of the terms, conditions, covenants and provisions of this Agreement, and any assignment or transfer by the CONSULTANT of its interests in this Agreement without the prior written consent of the CITY shall be void, in the sole discretion of the CITY. Nothing herein shall be construed as creating any personal liability on the part of any officer, employee or agent of the CITY.

**ARTICLE 24: Notice:**

All notices under this Agreement shall be delivered by certified mail, return receipt requested, or by other delivery with receipt to the following:

As to the CITY:

James A Richardson, II, EPB Program Administrator  
Environmental Protection Board  
Ed Ball Building – 5<sup>th</sup> Floor  
214 N. Hogan Street  
Jacksonville, Florida 32202

With a copy to:  
Office of General Counsel  
Attn: Government Operations Department  
117 West Duval Street, Suite 480  
Jacksonville, FL 32202

As to the CONSULTANT:

Ms. Renee Rossi  
Director, Research and Sponsored Programs  
Jacksonville University  
2800 University Blvd., North  
Jacksonville, FL 32211  
(904) 256-7458  
[rossi@ju.edu](mailto:rossi@ju.edu)

**ARTICLE 25: CONSULTANT Defined:**

As used herein, the term “CONSULTANT” shall include, but not be limited to JACKSONVILLE UNIVERSITY its officers, employees, agents, subconsultants and other persons, firms, partnerships, corporations or other entities working for it or on its behalf.

**ARTICLE 26: Ethics in Professional Service Agreements:**

The CONSULTANT represents that it has reviewed the provisions of the Jacksonville Ethics Code, as codified in Chapter 602, *Ordinance Code*, and the provisions of the Jacksonville Purchasing Code, as codified in Chapter 126, *Ordinance Code*.

**ARTICLE 27: Conflict of Interest:**

The parties will follow the provisions of Section 126.112, *Ordinance Code* with respect to required disclosures by public officials who have or acquire a financial interest in a bid or contract with the CITY, to the extent the parties are aware of the same.

**ARTICLE 28: Public Entity Crimes Notice:**

The parties are aware and understand that a person or affiliate who has been placed on the State of Florida Convicted Vendor List, following a conviction for a public entity crime, may not submit a bid on a contract to provide any goods or services to a public entity; may not submit a bid on a contract with a public entity for the construction or repair of a public building or public work; may not submit bids on leases of real property to a public entity; may not be awarded or perform work as a contractor, supplier, subcontractor, or CONSULTANT under a contract with any public entity; and may not transact business with any public entity, in excess of \$35,000.00 for a period of thirty-six (36) months from the date of being placed on the Convicted Vendor List.

**ARTICLE 29: Entire Agreement/Amendments:**

This Agreement constitutes the entire agreement between the parties hereto for the Services to be performed and furnished by the CONSULTANT hereunder. No statement, representation, writing, understanding, agreement, course of action or course of conduct, made by either party, or any representative of either party, which is not expressed herein shall be binding. All changes to, additions to, modifications of, or amendment to this Agreement, or any of the terms, provisions and conditions hereof, shall be binding only when in writing and signed by the authorized officer, agent or representative of each of the parties hereto.

**ARTICLE 30: Prompt Payment:**

30.1 Generally. When CONSULTANT receives payment from the CITY for labor, services or materials furnished by subconsultants or subcontractors and suppliers hired by the CONSULTANT, the CONSULTANT shall remit payment due (less proper retainage) to those subconsultants, subcontractors and suppliers within fifteen (15) calendar days after the CONSULTANT's receipt of payment from the CITY. Nothing herein shall prohibit the CONSULTANT from disputing, pursuant to the terms hereof, all or any portion of a payment alleged to be due to its subconsultants, subcontractors and suppliers. In the event of such dispute, CONSULTANT may dispute the disputed portion of any such payment only after the CONSULTANT has provided notice to the CITY and to the subconsultant, subcontractor and supplier whose payment is in dispute, which notice shall: (i) be in writing; (ii) state the amount in dispute; (iii) specifically describe the actions required to cure the dispute; and (iv) be delivered to the CITY and said subconsultant, subcontractor or supplier within ten (10) calendar days after CONSULTANT's receipt of payment from the CITY. The CONSULTANT shall pay all undisputed amounts due within the time limits imposed by this Section.

30.2. Jacksonville Small and Emerging Business Enterprise. Notwithstanding Chapter 126, Part 6 of the Jacksonville Ordinance Code (referred hereinafter as the "Code"),

CONSULTANT shall pay all contracts awarded with certified Jacksonville Small and Emerging Business Enterprises (“JSEB”), as defined therein, their pro rata share of their earned portion of the progress payments made by the CITY, under this Agreement, within seven (7) business days after CONSULTANT’s receipt of payment from the CITY (less proper retainage). The pro-rata share shall be based on all work completed, materials and equipment furnished, or services performed by the certified JSEB at the time of payment. As a condition precedent to progress and final payments to the CONSULTANT, the CONSULTANT shall provide to the CITY, with its requisition for payment, documentation that sufficiently demonstrates that CONSULTANT has made proper payments to its certified JSEB’s from all prior payments the CONSULTANT has received from the CITY. CONSULTANT shall not unreasonably withhold payments to certified JSEB’s if such payments have been made to the CONSULTANT. If CONSULTANT withholds payment to its certified JSEB’s which payment has been made by the CITY to the CONSULTANT, the CONSULTANT shall return said payment to the CITY. CONSULTANT shall provide notice to the CITY and to the certified JSEB’s whose payment is in dispute, which notice shall: (i) shall be in writing; (ii) state the amount in dispute; (iii) specifically describe the actions required to cure the dispute; and (iv) be delivered to the CITY and said JSEB’s within five (5) calendar days after the CONSULTANT’s receipt of payment from the CITY. CONSULTANT shall pay all undisputed amounts due within the time limits imposed in this Section. The failure to pay undisputed amounts to the JSEB’s within seven (7) business days shall be a breach of this Agreement, compensable by one per-cent (1%) of the outstanding invoice being withheld, by the CITY, not as a penalty, but as liquidated damages to compensate for the additional contract administration by the CITY.

30.3. Third Party Liability. The Prompt Payment requirements hereunder shall, in no way, create any contractual relationship or obligation between the CITY and any subconsultant,



subcontractor, supplier, JSEB or any third party or create any CITY liability for CONSULTANT's failure to make timely payments hereunder. However, CONSULTANT's failure to comply with the Prompt Payment requirements shall constitute a material breach of CONSULTANT's contractual obligations to the CITY. As a result of said breach, the CITY, without waiving any other available remedy it may have against the CONSULTANT, may: (i) issue joint checks; and (ii) charge the CONSULTANT a 0.2% daily late payment interest charge or charges specified in said Chapter 126 of the Code for JSEB's and in Chapter 218, Florida Statutes, for non-JSEB's whichever is greater.

**ARTICLE 31: Incorporation by Reference:**

The "Whereas" recitals, at the beginning of this Agreement are true and correct and, by this reference, are made a part hereof and are incorporated herein. Similarly, all exhibits and other attachments to this Agreement that are referenced in this Agreement are, by this reference made a part hereof and are incorporated herein.

**ARTICLE 32: Order of Precedence:**

In the event of any conflict between or among the provisions of this Agreement and those of any exhibit attached hereto or of any amendment, the priority, in decreasing order of precedence, shall be: 1) fully executed amendment; 2) provisions in this Agreement; and 3) exhibits to this Agreement.

**ARTICLE 33: Counterparts**

This Agreement, and all amendments thereto, may be executed in several counterparts, each of which shall be deemed an original, and all of such counterparts together shall constitute one and the same instrument.

**ARTICLE 34: Activities in Sudan and/or Iran.**

To the extent that this Agreement meets or exceeds the statutory price threshold, CONSULTANT has certified that it is not listed on either the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, created pursuant to section 215.473, Florida Statutes. Pursuant to section 287.135, F.S., CONSULTANT agrees the CITY may terminate this Agreement immediately without penalty if CONSULTANT is found to have submitted a false certification or if CONSULTANT is placed on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List.

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

**ATTEST:**

**CITY OF JACKSONVILLE**

By \_\_\_\_\_  
 . James R. McCain, Jr.  
 Corporation Secretary

By \_\_\_\_\_  
 Lenny Curry, Mayor

**ATTEST:**

**JACKSONVILLE UNIVERSITY**

By \_\_\_\_\_  
 Signature  
 \_\_\_\_\_  
 Type/Print Name  
 \_\_\_\_\_  
 Title

By \_\_\_\_\_  
 Signature  
 \_\_\_\_\_  
 Type / Print Name  
 \_\_\_\_\_  
 Title

In accordance with the *Ordinance Code*, of the City of Jacksonville, I do hereby certify that there is an unexpended, unencumbered, and unimpounded balance in the appropriation sufficient to cover the foregoing agreement; and that provision has been made for the payment provided therein to be paid.

\_\_\_\_\_  
 Director of Finance and Administration  
 CITY Contract Number: \_\_\_\_\_

Form Approved:

**EXHIBIT A – SCOPE OF WORK**

**Proposed Statement of Work**

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**Project Name:** “Sixteenth State of the River Report for the Lower St. Johns River Basin”

**Sponsor:** City of Jacksonville

**Lead Institution:** Jacksonville University

**Collaborating Institutions:** Florida Southern College  
University of North Florida  
West Chester University

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**SCOPE OF WORK SUMMARY**

The objectives of this Scope of Work are to write and publish the *Sixteenth State of the Lower St. Johns River Basin Report (LSJRB)* and a single-page Brochure that explains the current health of the LSJRB. The Report is a scientific review of the basin’s health that is understandable and interesting to the general public. The Report will be written by a team of academic researchers from Jacksonville University (JU), the University of North Florida (UNF), Florida Southern College, and West Chester University (WCU). It will undergo an extensive review process including local stakeholders and an expert panel with the expertise and experience in various disciplines to address the multi-faceted nature of the data, and will be published in the summers of 2023.

**Key Features of the New Proposal:**

This proposal includes several ongoing and new items:

- The tributaries section will be updated with the most recent annual data and advisories so that the public can better assess current conditions and data gaps.
- New information from studies on microbial source tracking will be included.

- An education and outreach section to include K-12 aspects of the project addressing the use of hands-on water quality testing kits for K-12 students, lesson plans, and documentation of outreach, educational, and media activities. Teachers and teachers-in-training will be trained on the use and usefulness of these kits in meeting required curriculum standards, facilitating K-12 students sampling water from LSJRB tributaries in their neighborhoods or in the region.
- This proposal requests support for the 2023 Report, including the Report, single-page color Brochure, Appendix of supplementary data, public website, and K-12 components.
- The tributaries section of the public website is searchable by Council District and Planning District.
- The web site was redesigned in 2020, optimized for navigation and user experience.

### **Past Reports:**

The Report has been published annually since 2008. It has been funded through the City of Jacksonville’s Environmental Protection Board (EPB) as one component of the River Accord. It was supported in 2010 by the River Branch Foundation as well.

The topical coverage of the report includes an introduction, and then sections on water quality, including salinity; fisheries; aquatic life; and contaminants, including aquatic toxicology. In 2011, a special section on unusual events in 2010 was published. The Report itself is 346 pages; the complete suite of deliverables has always included the Report, a color Brochure, an Appendix, and a public website hosting PDF versions of all three.

Each Report will describe the health of the Lower St. Johns River based on a number of river health indicators that fall into four major categories:

- 1) water quality, including seven sub-categories— a) dissolved oxygen, b) nutrients (nitrogen and phosphorus), c) turbidity, d) algal blooms, and e) bacteria (fecal indicator bacteria), f) salinity, and g) tributaries
- 2) fisheries, including two sub-categories— a) finfish fisheries and b) invertebrate fisheries,
- 3) aquatic life, including five sub-categories— a) submerged aquatic vegetation, b) wetlands, c) macrobenthic invertebrates, d) threatened and endangered species, and e) nonindigenous aquatic species,
- 4) contaminants, including four sub-categories— a) sediments, b) water, c) organisms, and d) contaminant releases.

Each indicator is assigned a status rating, so that the public can see the health of the river in its historical context.

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## INTRODUCTION

The Lower St. Johns River Basin (LSJRB) in Northeast Florida has long been recognized as a treasured watershed - providing enormous ecological, recreational, socioeconomic, and aesthetic benefits. However, during recent years, it has also been recognized as a threatened watershed critically in need of resource conservation, water quality improvement, and careful management. Problems in the LSJRB include excessive nutrients, harmful algal blooms, fecal coliform bacteria in tributaries, low diversity of small, aquatic bottom-dwelling animals, introduced exotic species increasing, threatened and endangered species, and sediment contamination.

The St. Johns River Water Management District defines the LSJRB as “the drainage area for the portion of the St. Johns River extending from the confluence of the St. Johns and Ocklawaha rivers near Welaka to the mouth of the St. Johns River at Mayport.” The St. Johns River is one of only a few rivers that flow northward in the United States. The LSJRB portion is a tidal estuary and brings water north about 100 miles, mixing with the Atlantic Ocean at its mouth, which is actually the northernmost section of the watershed. Stretching 310 miles and draining approximately 9,430 square miles, this extensive river basin drains about 16% of the total surface area of Florida. The headwaters of the St. Johns River are less than 30 feet above sea level. The river flows downward on an extremely low gradient, about one inch per mile, causing the water of the St. Johns River to flow very slowly. This holds back drainage, slows flushing of pollutants, and intensifies flooding and pooling of water along the river creating numerous lakes and extensive wetlands throughout the drainage basin. The retention time of the water (and its dissolved and suspended components) in river is on the order of 3 to 4 months. High retention times have severe impacts on water quality.

Historically, pollutants have entered and concentrated in sections of the St. Johns River from a number of different sources. Major pollution sources in the LSJRB include stormwater runoff from urban and agricultural areas, and wastewater discharges, with concentrations usually being greatest near urban and industrial areas. Although a major factor, pollution in the river functions in concert with a number of other factors (such as habitat loss) to affect the overall ecological health of the Lower Basin. Prior to the production of the *First State of the River Report*, a comprehensive, scientific approach by an academic team had not been taken to explain and summarize for the public the status and trends in the health of the LSJRB.

Users of the St. Johns River and residents of the watershed have called for a clear concise document explaining the ecological status of the Lower Basin. In the summer of 2008, the *First State of the River Report* was produced that was intended to serve as a “baseline” recording the recent status of the river and allow the public to compare the future health of the river, and thereby provide a means to gauge the success of current and future management practices. This project coincided with a range of far-reaching efforts initiated by Mayor John Peyton and the River Accord partners to better understand and manage the Lower Basin of the St. Johns River. By design, the *State of the River Report* will boil down a long history of varied scientific datasets related to the Lower Basin of the St. Johns River into a full-length scientific report and a Brochure (a brief summary format – easily understood by and conveyed to the general public). The Report will describe the health of the Lower St. Johns River based on a number of broad indicators of waterway health, listed in Appendix 1. Each indicator will be assigned a “conditions improving,” “conditions worsening,” “conditions stable,” or “uncertain” status, so that the public can see the health

of the river in its historical context.

### **Impact of the State of the River Report:**

The Report has been disseminated by several methods and its impact can be evaluated by many measures. Every year the Report's release is publicized through JU, UNF and other efforts with print and broadcast media. Each year, the Report has been featured in various media platforms including the Florida Times-Union, Jacksonville Business Journal, Florida Specifier, Mandarin NewsLine, WJCT (online events and ADAPT series), including First Coast Connect, WOKV, and First Coast News. Hits on its website are continually monitored. Its highest hit count in a single year was 686 hits in 2008, its first year; the second-highest hit count was 551 hits in 2012. With the help of a volunteer public relations committee, outreach efforts were intensified in 2012 resulting in extensive press coverage. Findings are released each year at the City of Jacksonville Environmental Protection Board's Environmental Symposium. In addition, presentations are available on request, and venues include area CPACs, Jacksonville Waterways Commission, MOSH, Jacksonville Science Festival, Earth Day, Beaches Watch, etc..

The Report was also adapted and expanded into a book chapter on the St. Johns River Basin in the 2012 release of the United Nations World Water Development Report 4 (WWDR4), the UN's main publication on global water resources. The St. Johns River case study was the first United States river in the series and appears here: <http://www.unesco.org/new/en/natural-sciences/environment/water/wwap/case-studies/>.

The Report team has begun using the database of information in the Report at their respective universities in laboratory, lecture, service learning, and research courses. In fall 2011, it was placed at 100 environmentally-related businesses in the region, such as museums, boat shops, and fishing stores. In 2021, educational and service learning components were presented at the Root2Stem Symposium at FSCJ.

### **PROJECT OBJECTIVES**

The objective of this Scope of Work is to write the *Sixteenth State of the River Report* and produce a single-page Brochure summarizing the Fifteenth State of the River Report, which will be a concise, easy-to-understand, and graphically pleasing document for the general public. The team will also work with UNF's Information Technology Department, the Center for Instruction and Research Technology, and a technical editor to develop a full, web-based platform for the report and a PDF version of the Report. K-12 education efforts will focus on an evaluation of the use of water testing course materials for their utility in the K-12 classroom (also continuing work with K-12 teachers and teachers-in-training on how to use these kits; 10 lesson plans (5 for elementary and 5 for secondary) that teachers can download from the website; and documentation of all outreach, educational, and media activities by the River Report team to be completed in summer 2023. Further detail is provided below in the Project Tasks section.

### **PROJECT TASKS**

The team of investigators from Jacksonville University, the University of North Florida, Florida Southern College, and West Chester University will share the following tasks to produce the *Sixteenth State of the River Report for the Lower St. Johns River Basin*. The tasks will be carried out in accordance with the attached Project Schedule.

#### ***Sixteenth State of the River Report for the Lower St. Johns River Basin***

##### **Task 1: Find, review and organize past and present data for the St. Johns River.**

1. Compile updated datasets of the LSJRB water quality (dissolved oxygen, nutrients, turbidity, harmful algal blooms, salinity), fisheries (finfish and macroinvertebrates), aquatic life (wetlands with new case studies, submerged aquatic vegetation, threatened and endangered species, nonnative species), and contaminants (sediment pollutants, toxics release inventories, mercury in fish, metals in water, aquatic toxicology).
2. Update information regarding the management of the LSJR such as the number of impaired tributaries, changes in regulations, or significant environmental projects.
3. Manage documents, datasets and other information for the team.

##### **Task 2: Analyze datasets of past and present data for the St. Johns River.**

1. *Update statistical analyses to assess trends in datasets (e.g., linear regression models, spatial analyses, temporal trends, etc.). Analyses of trends reflect only historical change derived from*

*statistical analyses of the best available scientific data over the period analyzed. It does not include initiated or planned management efforts that have not yet had a direct impact on the indicator though these may be discussed where appropriate.*

2. *Assess the current status of individual health indicators based on the most recent data records. This rating often considers whether the indicator meets State and Federal minimum standards and guidelines.*

**Task 3: Prepare a draft *Sixteenth State of the River Report for the Lower St. Johns River***

1. summarize and discuss the analyses of for each updated parameter and other new information. S
2. consolidate all updated sections into a single document. C
3. Reorganize content as needed to improve readability and utility.
4. Produce a full, web-based platform for the Report with enhanced connectivity and graphics. Appropriate elements of the website will be searchable by Council District and Planning District.

**Task 4: Implement a review of the draft *Sixteenth State of the River Report* by an expert panel, stakeholders, and the public.**

1. Identify and contact potential reviewers
2. Request and receive reviews of the draft of the Fifteenth State of the River Report (full report and brochure summary) with River Accord Expert Review Panel (suggested reviewers in Appendix 2).

**Task 5: Finalize the *Sixteenth State of the River Report for the Lower St. Johns Basin*.**

1. Incorporate reviewer comments into the final version of the Sixteenth State of the River Report for the Lower St. Johns Basin.
2. Post and promote the final *Sixteenth State of the River Report* on the website ([www.SJRReport.com](http://www.SJRReport.com)) with links to previous *River Reports*, and websites of the City of Jacksonville, Jacksonville University and UNF's Institute of Environmental Research and Education (formally UNF's Environmental Center).
3. Update the data archives section of the website with new references.
4. Provide to the City electronic versions of the full-length, scientific report.

**Task 6: With design professionals, produce a single-page Brochure for the Fifteenth Report and distribute throughout the community.**

1. Assign all indicators with a status rating describing current conditions in the Lower St. Johns River Basin.
2. Work with design professionals to develop an attractive and public-friendly one-page brochure that summarizes the most important information in the Report.
3. Post the brochure to the [SJRReport.com](http://SJRReport.com) website and provide an electronic copy to the City of Jacksonville EPB.
4. Disseminate brochures to marinas, fish camps, boating stores, seafood stores, museums, and environmental education centers; provide to SJR Riverkeeper for use in their outreach efforts. Present River Report at Environmental Protection Board's annual Environmental Symposium, as well as other local venues such as CPACs, area schools, the Rotary Club, JCCI, Waterways Commission, boating clubs, civic organizations, on an as-needed or as-requested basis.

**Task 7. Test and utilize hands-on water quality testing kits for K-12 students.**

1. Select a commercially available water quality testing kit and evaluate it in the field. Determine the elements of required curriculum that can be taught using these kits. Find LSJRB tributaries close to K-12 schools that might adapt this method.

2. Introduce its use to secondary science teachers and teachers-in-training. Train these groups to use the kit and report their data to an existing data network.
3. Provide 10 downloadable lesson plans (5 elementary, 5 secondary) for local teachers.
4. Document all outreach, educational, and media events.

**Task 8. Creation of Community Engagement Story Map**

1. Based on work in year one, convene with the SORR team to review Duval County outputs, and determine which indicators transfer to the basin level.
2. Prioritize areas based on geospatial inputs
3. Use GIS to identify communities at risk
4. Create a database that supports EPB priorities at the basin level
5. Identify gaps in geospatial data
6. Begin data analysis using LSJR database
7. Data analysis continued
8. Data synthesis, including overlay analysis with CDC data and updated flood maps
9. Create and upload maps and data to JU organizational account
10. Continue map creation
11. Create a “wire frame” story map for the LSJR basin as it relates to pollution and social vulnerability

**PERSONNEL**

**Principal Investigator:**

**Gerard F. Pinto, Ph.D.** is an Associate Research Scientist at the Marine Science Research Institute at Jacksonville University. In addition to managing of the project, Dr. Pinto will gather and evaluate data, and author the sections on biological impacts of salinity, fisheries, submerged aquatic vegetation and federally endangered & threatened species (manatees, bald eagles, wood storks, shortnose sturgeon). Dr. Pinto will assist efforts to increasing the use of local data, from the SJR Report, in STEM education in the Duval County School System. In addition, he will be responsible for website leadership with UNF Information Technology and project administration on the financial and JU sides as well. He managed the grant also; with his co-PI Dr. Pyati (formally Chair of the Department of Chemistry at UNF) since 2016. Over the last 25 years he helped to develop and implement approved State and Federal Manatee Protection Plans for Duval and Clay Counties. He is a consultant to the City of Jacksonville Waterways Commission and conducts research to monitor manatee populations in northeast Florida. Dr. Pinto has extensive experience giving presentations to the public regarding manatee ecology and behavior, and the health of the St. Johns River watershed. He has worked to raise public awareness about manatee issues through the Manatee Research Center Online (MARCO) web site, safe boating and speed zone advisory guides, educational seminars, TV and print media. He is a board member of the Jacksonville Science Foundation. Dr. Pinto conducts aerial surveys and manages a manatee and dolphin Geographic Information System data base of aerial sightings. He has conducted research in habitat mapping for manatees, gopher tortoises, dolphins, water quality monitoring, ecosystem restoration, vessel traffic and compliance studies, near water surface acoustical studies, and manatee scar patterns. In addition, Dr. Pinto has a background in fisheries and aquaculture and has conducted research, teaching, and worked on commercial fish production systems and marketing in Armenia, the Caribbean, Kenya, and the U.S. His research interests include fisheries sampling and the impact of freshwater withdrawals, sea level rise and harbor deepening activities on the flora and fauna of the Lower St. Johns River Basin.

**Co-Investigators:**

**Radha Pyati, Ph.D.** is Dean of the college of the Sciences and Mathematics at West Chester University of Pennsylvania. Dr. Radha Pyati will write the Executive Summary for the Lower St. Johns River Report. The Executive Summary describes overall conclusions of the Report, including changes in the river’s health and any special highlight sections in the Report. Dr. Pyati led the River Report team from 2008-2018 while at the University of North Florida. She wrote several sections, including Section 1 Background, Section 2.6 Fecal Coliform, and Section 2.7 Turbidity. She managed the overall grant also, with her co-PI Dr. Gerry Pinto of Jacksonville University. She served as Chair of UNF Chemistry (2013-2018) and Director of the UNF Environmental Center (2008-2013), earned her Ph.D. in Chemistry from the University of North Carolina at Chapel Hill.



*Gretchen K. Bielmyer-Fraser, Ph.D.* is an Associate Professor in the Chemistry department at Jacksonville University and will write sections on water quality trends for Dissolved Oxygen (DO) and Biochemical Oxygen Demand (BOD) in the basin, as well as contaminants in the basin and tributaries. Dr. Bielmyer-Fraser's primary research interests are in the field of Environmental Toxicology with a focus on aquatic systems. Specifically, her research investigates how organisms respond to contaminant exposure and examines the complex interactions between contaminants and other chemical components in aquatic systems. Mechanisms of toxicity and subsequent effects may differ depending on contaminant exposure route (through ingestion or the water), duration of exposure, water chemistry and the physiology and sensitivity of the organism. Characterizing how these variables interact to influence toxicity at the organism (survival, growth, reproduction), physiological (ion transport, acid-base balance), and biochemical (enzyme activity) levels are central components of Dr. Bielmyer-Fraser's current and future planned research. Dr. Bielmyer-Fraser has been working in the field of Environmental Toxicology for over 20 years. In that time, she has published three book chapters, 13 technical reports, and 41 journal articles in peer-reviewed journals. In addition, Dr. Bielmyer-Fraser and has given 70 research presentations at external conferences and serves as a reviewer for over 10 different journals, averaging one review per month. Dr. Bielmyer-Fraser has supervised 60 undergraduate students and 12 graduate students from both Chemistry and Biology departments.

*Nisse Goldberg, Ph.D.* is a Professor in Biology and Marine Science at Jacksonville University. She will update the Wetlands section and she will explore wetland health as a function of environmental variables. She will also cover nonnative species and health advisories posted in the LSJRB. Dr. Goldberg researches temporal and spatial changes of photosynthetic organisms living in terrestrial, intertidal, and marine habitats. At JU she teaches courses in Ecology, Marine Botany and Conservation Ecology, among others. She incorporates service-learning projects in many of her courses, collaborating with community partners such as the National Park Service, Tree Hill Nature Center, Arlington Community Garden, and the SJR Riverkeeper.

*An-Phong Le, Ph.D.*, is an Associate Professor of Chemistry at Florida Southern College in Lakeland, Florida. He will write the Tributaries and Nutrients sections of the St. Johns River Report. Dr. Le's research interests focus on three major areas: 1) development of inexpensive sensors for environmental analyses using paper-based microfluidic devices, 2) characterization of the migration of flavor compounds and chemical contaminants in food during storage, preparation, and cooking, and 3) development of inexpensive instrumentation for the instructional laboratory using open-source microcontrollers. Dr. Le has collaborated with or mentored over 30 undergraduate students at Florida Southern in a wide range of projects in biology and chemistry.

*Dale Casamatta, Ph.D.* is a Professor of Biology at The University of North Florida. His contribution to the project involved the algal component, where he collected and analyzed the data on cyanobacterial blooms, and discussed the likely causes and risks of such blooms. Dr. Casamatta is a phycologist, specializing in the systematics and ecology of cyanobacteria. He has authored over 50 papers/book chapters on algae, and named more than 25 genera and species new to science in his career. With his students, both graduate and undergraduate, he has examined algal communities from freshwater rivers, springs, inter-tidal regions, and marine habitats in Florida. An active member of the phycological community, he has served as both the President and Program Director for the Phycological Society of America, and is a member of the Board of Directors for the International Phycological Society. In addition, he has been an editor for two algal journals and is an active peer reviewer. At UNF he teaches the General Biology I and II series, as well as Microbial Biology.

*William F. Penwell, Ph.D.* is currently a Professor of Biology at Jacksonville University. He authors the Fecal Indicator Bacteria section of the St. Johns River Report. Dr. Penwell research interests focus on three major areas: 1) virulence factors used by the human pathogen, *Acinetobacter baumannii*, 2) antibiotic discovery from

environmental bacteria, and 3) bacteria iron acquisition. Dr. Penwell is a member of the American Society of Microbiology. He has supervised 15 undergraduate students at Jacksonville University.

**Brian Zoellner, PhD.** is an associate professor in the Department of Foundations and Secondary Education at the University of North Florida College of Education and Human Services. He holds a PhD from the University of Wisconsin-Madison in Curriculum and Instruction with a focus on science education. Dr. Zoellner will author the section on education and outreach that includes an evaluation of the use of water testing course materials for their utility in the K-12 classroom, and work with K-12 teachers and teachers-in-training on how to use these kits. He will document all outreach and educational activities by the team. In addition, he will develop 10 lesson plans (5 for elementary and 5 for secondary) that teachers can download from the website. These materials will be intended for use in primary and secondary school classrooms in north-east Florida. In his current role, he teaches secondary science methods and foundations courses, supervises student teaching interns, and oversees the science education curriculum. His research interests include the use of technology to enhance educator professional development, STEM curriculum development and implementation, and state and federal education policy related to teachers and their practice.

**Charles Closmann, Ph.D.** is an Associate Professor of History at the University of North Florida (UNF). Dr. Closmann will gather, evaluate data for, revise, and author the background and history section of the St. Johns River Report. In addition, he will update a community executive summary that will identify the major environmental issues associated with the river and provide practical guidance for the general public. His research and teaching focus on the field of environmental History, including the environmental history of rivers in Europe and the United States, the relationship between environment and politics, and the historical relationship between warfare and nature. His current research project focuses on the history of conservation and environmental policies at major military bases in the South, and especially in Florida. He also teaches courses on global environmental history, the environmental history of the American South, and the environmental history of the United States. Past courses also include an oral-history based seminar focused on history of the St. Johns River.

**Highlights Author:** This section includes a time sensitive, or interesting, relevant topic to the St. Johns River Report. It allows for a non-team member to contribute to the report for a fixed fee on a short term basis. Funds may also be used for professional assistance with mapping and GIS services and analysis that support other sections of the report.

**Students:** St. Johns River Report authors sometimes use students to help with gathering data and information for their sections. Over the years an extensive list of students have contributed and are listed in the acknowledgements.

**PROJECT BUDGET AND SCHEDULE**

The budget request for this proposal is \$107,693 to support the next version of the State of the River Report. This request is for support of personnel time to research and write the Report, as well as funding for website and brochure design and dissemination.

<b>Date</b>	<b>Annual Request</b>	<b>Tasks</b>
April 1, 2023	\$107,693	Sixteenth State of the River Report released summer 2023.
<b>Total Request, All Three Years</b>	<b>\$107,693</b>	

**Schedule**

<b>Date</b>	<b>Activity</b>
April 1, 2023	Begin Sixteenth Report
August 1, 2023	Complete Sixteenth Report and associated tasks

## Appendix 1

### *RIVER HEALTH INDICATORS*

The *State of the River Report for the Lower St. Johns River Basin* will be based on the best available data for River Health Indicators in four major categories: 1) WATER QUALITY, including eight sub-categories—a) Biochemical Oxygen Demand, b) Dissolved Oxygen, c) Nutrients (all Nitrogen and Phosphorus constituents), d) Turbidity, e) Total Suspended Solids, f) Chlorophyll-a and Harmful Algal Blooms, g) Bacteria, h) Salinity, 2) FISHERIES, including two sub-categories a) Fin Fisheries, and b) Invertebrate Fisheries, 3) AQUATIC LIFE, including five sub-categories— a) Wetlands, b) Submerged Aquatic Vegetation, c) Macroinvertebrates, d) Threatened and Endangered Species, and e) Nonnative Aquatic Species, 4) and CONTAMINANTS, including five sub-categories— a) Sediment Pollutants, b) Toxics Release Inventories, c) Mercury In Fish, d) Metals In Water, and e) Aquatic Toxicology).

1. **WATER QUALITY.** A number of water quality variables serve as critical indicators of the ecological health of the LSJRB. Standards have been developed for many of these variables to improve and sustain river health. The success of management efforts or emergence of problems are assessed by comparing river values to standards over time.

- A. **Dissolved Oxygen (DO).** Dissolved oxygen analysis measures the amount of gaseous oxygen (O<sub>2</sub>) dissolved in water. Oxygen gets into water by diffusion from the surrounding air, by aeration (rapid movement or mixing), and by photosynthesis. Adequate DO is necessary to maintain aerobic forms of life in the river. These include organisms from bacteria to fish. As DO levels in water drop, aquatic life is put under stress. The lower the concentration, the greater the stress. DO drops when organic matter decomposes, with high temperatures, and when water bodies are shallow and still.
- B. **Nutrients (nitrogen and phosphorus).** Nitrogen and phosphorus will be examined and analyzed, as they are indicators of eutrophication. Given excess nutrients in the the LSJRB, phytoplankton grows and dissolved oxygen levels are affected. Reduction in nutrient loading can stabilize the N:P ratio and decrease the number (or prevent) periods of low DO and plankton blooms. Low nutrient loads are generally good indicators of system health.
- C. **Turbidity.** Turbidity is a measure of water transparency and is expressed in Nephelometric Turbidity Units (NTUs). Suspended solids are a common cause of turbid water. Silt and sand can enter surface waterways from runoff, poor drainage practices, and development. Other solids can come from wastewater and spills. Phytoplankton blooms are also an important cause of turbidity during summer months. Solids in the water can clog the gills of fish and block light from reaching underwater plants.
- D. **Algal Blooms.** Ideal growing conditions including light and nutrient levels can produce phytoplankton (including but not limited to algae) to grow and reproduce rapidly. With limited predation, these plants may “bloom” in numbers and initiate unhealthy conditions ranging from toxic releases to fish kills.
- E. **Bacteria (fecal indicator bacteria).** Microscopic counts of the numbers of specific bacterial types are often used as indicators of the source or type of contamination and risk of disease from waterborne bacteria. In particular, high fecal bacterial counts are indicators of poorly treated sewage, but high fecal bacteria levels are also associated with wildlife in some small tributaries.
- F. **Tributaries.** Analysis of individual tributaries selected by the River Report team is provided. Each tributary is described and water quality parameters that are particularly important or at unacceptable levels are explored in detail and current conditions, and advisories.

- G. **Salinity.** Analysis of historical salinity changes in the river and potential impacts related to the biological resources is important because of rising sea levels and man's management decisions in the basin over time.
2. **FISHERIES.** The Lower Basin of the St. Johns River is home to a number of socially and economically important commercial fisheries and a vibrant recreational fishing industry.
- A. **Finfish Fisheries.** The productiveness of these traditional fishing activities over time, in terms of Catch Per Unit Effort (CPUE), can reveal changes in overall river health over time. Notable commercial finfish fisheries in the Lower Basin include: eel, black mullet, sheepshead, catfish, sea trout, and snappers. Catch Per Unit Effort can be calculated using landings and trip data from the Florida Fish and Wildlife Conservation Commission's databases. Though recreational fisheries can be difficult to quantify, attempts will be made during the River Report project, because recreational fishing is extremely important to the general public and local economies. Because the St. Johns River Lower Basin is a mix of freshwater with saltwater inputs from springs and the ocean, there are important recreational fisheries for freshwater, brackish, and marine species. The following *freshwater* species are significant recreationally: bluegill, striped bass, shellcrackers, warmouth, crappie, and chain pickerel. The following *brackish* water species are regularly caught by recreational fishers: tarpon, redbfish, specks, cobia, bluefish, blackdrum, jack crevalle, flounder, little tunny (bonito), shad, and striped bass. Lastly, the following are the most important *marine* species caught in the Lower Basin: snappers, spotted seatrout, redbfish, and sheepshead. Recreational fishing can be quantified using anecdotal historical evidence, numbers of fishing permits granted, and/or historical archives of tournament fish catches.
- B. **Invertebrate Fisheries.** Notable commercial and recreational invertebrate fisheries in the Lower Basin include: blue crab, shrimp, and stone crab.
3. **AQUATIC LIFE.** The abundance, diversity, and distribution of aquatic life utilizing the LSJRB are important indicators of the overall health of the river.
- A. **Submerged Aquatic Vegetation (SAVs).** The distribution and abundance of SAVs are a key indicator of waterway health. Aquatic grasses help filter pollutants from the water and provide food and habitat for a variety of aquatic biota including the juveniles of many recreationally and commercially important fish. The most common underwater grasses in the LSJRB are eelgrass/tapegrass (*Vallisneria americana*), water naiad (*Najas guadalupensis*), and the salt-tolerant wideon grass (*Ruppia maritima*). Florida Statute 62-302.200 (Water Quality Standards) defines a "Nursery Area of Indigenous Aquatic Life" as any bed of grass including eelgrass or wideon grass. Nursery areas are habitats heavily utilized by "the early life stages, larvae and post-larvae, of aquatic life during the period of rapid growth and development into the juvenile states" (F.S. 62-302.200).
- B. **Wetlands.** This indicator reflects overall wetland health of the Lower Basin. The quantity and quality of natural vegetation remaining intact and unaltered along the banks of the river have significant positive impacts on a wide variety of biota that live in or utilize the river. This section will describe wetland health as a function of the different water and sediment variables reported from 2011 River Report, land use, and native/non-native species.
- C. **Macrobenthic Invertebrates.** The oligohaline waters of the Lower St. Johns support an unusual suite of both freshwater and marine benthic organisms, including annelid worms, mollusks, aquatic insects, and crustaceans. Soft-bottom benthos is adversely affected by hypoxic water conditions (low dissolved oxygen) and toxic sediments. Macrobenthic invertebrates are positively affected by the maintenance of littoral submerged aquatic vegetation along the river and the conservation of adjacent shoreline riparian vegetation. The benthic community in the Lower St. Johns is dominated by species indicative of polluted environments including the polychaete

worm *Streblospio benedicti*, the bivalve *Macoma spp.*, and the polychaete worm *Nereis succinea*.

**D. Threatened and Endangered Species.** The LSJRB supports a wide variety of federally protected species including the Florida manatee, bald eagle, wood stork, and shortnose sturgeon. A change in the status of a protected species can be an important indicator of overall watershed health and can signal changes in habitat quality or quantity.

**E. Nonindigenous Aquatic Species.** Exotic species have been documented as one of the greatest threats to aquatic biodiversity, and the arrival and establishment of nonnative species can have profoundly negative impacts on native ecosystems. The successful establishment of a nonindigenous invader can signal that the ecosystem has been altered from its pristine condition and/or the diversity or abundance of native organisms has diminished. A total of 56 nonindigenous species, including both freshwater and marine organisms, were recorded in the LSJRB (River Report 2008), and currently 92 non-native aquatic species are considered established in the LSJRB (River Report 2021).

**4. CONTAMINANTS.** Contaminants are chemicals found at unnatural concentrations in the environment. They may harm human health or ecological health under certain conditions. In this chapter several aspects of contamination in the LSJR are examined, with a primary focus on four classes of contaminants: metals, polyaromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), and organochlorine pesticides (OCPs).

**A. Sediments.** Because many contaminants persist in sediments for years, a long-term picture of LSJRB contamination emerges when sediment concentrations are examined. Sediment contamination is analyzed with respect to the relative toxicity of different compounds and extent of contamination in different areas of the river.

**B. Water.** The concentrations of soluble compounds in water provide a snapshot of the contaminant condition at the time of sampling. In addition, water quality criteria have been developed for many types of contaminants allowing a direct assessment of impairment. Water column concentrations of metals will be compared to current water quality criteria in different salinity zones.

**C. Organisms.** The exposure of organisms to contaminants can be assessed several ways. Four include direct measurement of biological tissues for the contaminants, analysis of biomarkers (e.g., enzymes that detoxify chemicals or steroids), evaluation of the condition of the organism (e.g., gonad size), and comparison of LSJRB water concentrations to levels found to be toxic in laboratories or other ecosystems. The impact of contaminants on the health of the LSJRB biota are examined by these methods. Reported levels of mercury in LSJRB fish tissue are compared to levels established to protect human health when the fish are consumed.

**D. Contaminant Releases.** The rate at which chemicals are released into the environment clearly affects their potential environmental impact. The status and trends of reported releases of chemicals from point sources into the atmosphere and waterways of the LSJRB will be tracked using the Toxics Release Inventory database provided by EPA.

**Appendix 2.**

**THE RIVER ACCORD EXPERT REVIEW PANEL**

A panel of experts will review the progress of this work and will review the *State of the River Report for the Lower St. Johns Basin*. They will be asked to serve on a *pro bono* basis. The table below lists the proposed agencies that might provide members of the River Accord Expert Review Panel.

<i>Agency</i>
City of Jacksonville
St. Johns River Water Management District
St. Johns RiverKeeper
Office of Coastal and Aquatic Managed Areas (FDEP)
Nature Conservancy
National Park Service, Timucuan Preserve
JEA
Duval County Health Department
St. Johns River Alliance
U.S. Army Corps of Engineers
Florida Department of Health
Florida Fish and Wildlife Conservation Commission

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*If this Proposed Statement of Work is acceptable to the City of Jacksonville, please confirm via email response to the address below.*

*Jacksonville University*  
*Office of Research and Sponsored Programs*  
[orsp@ju.edu](mailto:orsp@ju.edu)

## EXHIBIT B INDEMNIFICATION

Consultant shall hold harmless, indemnify, and defend the City of Jacksonville and City's members, officers, officials, employees and agents (collectively the "Indemnified Parties") from and against, without limitation, any and all claims, suits, actions, losses, damages, injuries, liabilities, fines, penalties, costs and expenses of whatsoever kind or nature, which may be incurred by, charged to or recovered from any of the foregoing Indemnified Parties for:

1. General Tort Liability, for any negligent act, error or omission, recklessness or intentionally wrongful conduct on the part of the Indemnifying Parties that causes injury (whether mental or corporeal) to persons (including death) or damage to property, whether arising out of or incidental to the Indemnifying Parties' performance of the Contract, operations, services or work performed hereunder; and

2. Environmental Liability, to the extent this Contract contemplates environmental exposures, arising from or in connection with any environmental, health and safety liabilities, claims, citations, clean-up or damages whether arising out of or relating to the operation or other activities performed in connection with the Contract; and

3. Intellectual Property Liability, to the extent this Contract contemplates intellectual property exposures, arising directly or indirectly out of any allegation that the Services, any product generated by the Services, or any part of the Services as contemplated in this Contract, constitutes an infringement of any copyright, patent, trade secret or any other intellectual property right. If in any suit or proceeding, the Services, or any product generated by the Services, is held to constitute an infringement and its use is permanently enjoined, the Indemnifying Parties shall, immediately, make every reasonable effort to secure within 60 days, for the Indemnified Parties a license, authorizing the continued use of the Service or product. If the Indemnifying Parties fail to secure such a license for the Indemnified Parties, then the Indemnifying Parties shall replace the Service or product with a non-infringing Service or product or modify such Service or product in a way satisfactory to Buyer, so that the Service or product is non-infringing.

If an Indemnified Party exercises its rights under this Contract, the Indemnified Party will (1) provide reasonable notice to the Indemnifying Parties of the applicable claim or liability, and (2) allow Indemnifying Parties, at their own expense, to participate in the litigation of such claim or liability to protect their interests. **The scope and terms of the indemnity obligations herein described are separate and apart from, and shall not be limited by any insurance provided pursuant to the Contract or otherwise. Such terms of indemnity shall survive the expiration or termination of the Contract.**

In the event that any portion of the scope or terms of this indemnity is in derogation of Section 725.06 or 725.08 of the Florida Statutes, all other terms of this indemnity shall remain in full force and effect. Further, any term which offends Section 725.06 or 725.08 of the Florida Statutes will be modified to comply with said statutes.

**EXHIBIT C**  
**INSURANCE REQUIREMENTS**

Without limiting its liability under this Contract, Consultant shall at all times during the term of this Contract procure prior to commencement of work and maintain at its sole expense during the life of this Contract (and Consultant shall require its, subcontractors, laborers, materialmen and suppliers to provide, as applicable), insurance of the types and limits not less than amounts stated below:

**Insurance Coverages**

Schedule	Limits
<b>Worker's Compensation Employer's Liability</b>	Florida Statutory Coverage \$ 100,000 Each Accident \$ 500,000 Disease Policy Limit \$ 100,000 Each Employee/Disease

This insurance shall cover the Consultant (and, to the extent they are not otherwise insured, its subcontractors) for those sources of liability which would be covered by the latest edition of the standard Workers' Compensation policy, as filed for use in the State of Florida by the National Council on Compensation Insurance (NCCI), without any restrictive endorsements other than the Florida Employers Liability Coverage Endorsement (NCCI Form WC 09 03), those which are required by the State of Florida, or any restrictive NCCI endorsements which, under an NCCI filing, must be attached to the policy (i.e., mandatory endorsements). In addition to coverage for the Florida Workers' Compensation Act, where appropriate, coverage is to be included for the Federal Employers' Liability Act, USL&H and Jones, and any other applicable federal or state law.

<b>Commercial General Liability</b>	\$2,000,000 \$2,000,000 \$1,000,000 \$1,000,000 \$ 50,000 \$ 5,000	General Aggregate Products & Comp. Ops. Agg. Personal/ Advertising Injury Each Occurrence Fire Damage Medical Expenses
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Such insurance shall be no more restrictive than that provided by the most recent version of the standard Commercial General Liability Form (ISO Form CG 00 01) as filed for use in the State of Florida without any restrictive endorsements other than those reasonably required by the City's Office of Insurance and Risk Management. An Excess Liability policy or Umbrella policy can be used to satisfy the above limits.

<b>Automobile Liability</b> (Coverage for all automobiles, owned, hired or non-owned used in performance of the Contract)	\$1,000,000	Combined Single Limit
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Such insurance shall be no more restrictive than that provided by the most recent version of the standard Business Auto Coverage Form (ISO Form CA0001) as filed for use in the State of Florida without any restrictive endorsements other than those which are required by the State of Florida, or equivalent manuscript form, must be attached to the policy equivalent endorsement as filed with ISO (i.e., mandatory endorsement).



**Professional Liability**  
(Including Medical Malpractice when applicable)

\$1,000,000 per Claim and Aggregate

Any entity hired to perform professional services as a part of this contract shall maintain professional liability coverage on an Occurrence Form or a Claims Made Form with a retroactive date to at least the first date of this Contract and with a three year reporting option beyond the annual expiration date of the policy.

**Watercraft Liability (Including Protection & Indemnity)**  
(to the extent that watercraft is utilized in the services of this contract)

\$1,000,000 Per Occurrence

**Aircraft Liability**  
(to the extent that aircraft is utilized in the services of this contract)

\$1,000,000 Each Occurrence/ Aggregate.

### **Additional Insurance Provisions**

- A. Additional Insured: All insurance except Worker's Compensation and Professional Liability shall be endorsed to name the City of Jacksonville and City's members, officials, officers, employees and agents as Additional Insured. Additional Insured for General Liability shall be in a form no more restrictive than CG2026 , Automobile Liability CA2048.
- B. Waiver of Subrogation. All required insurance policies shall be endorsed to provide for a waiver of underwriter's rights of subrogation in favor of the City of Jacksonville and its members, officials, officers employees and agents.
- C. Consultant's Insurance Primary. The insurance provided by the Consultant shall apply on a primary basis to, and shall not require contribution from, any other insurance or self-insurance maintained by the City or any City members, officials, officers, employees and agents.
- D. Deductible or Self-Insured Retention Provisions. All deductibles and self-insured retentions associated with coverages required for compliance with this Contract shall remain the sole and exclusive responsibility of the named insured Consultant. Under no circumstances will the City of Jacksonville and its members, officers, directors, employees, representatives, and agents be responsible for paying any deductible or self-insured retentions related to this Contract.
- E. Consultant's Insurance Additional Remedy. Compliance with the insurance requirements of this Contract shall not limit the liability of the Consultant or its Subcontractors, employees or agents to the City or others. Any remedy provided to City or City's members, officials, officers, employees or agents shall be in addition to and not in lieu of any other remedy available under this Contract or otherwise.
- F. Waiver/Estoppel. Neither approval by City nor failure to disapprove the insurance furnished by Consultant shall relieve Consultant of Consultant's full responsibility to provide insurance as required under this Contract.

- G. Certificates of Insurance. Consultant shall provide the City Certificates of Insurance that shows the corresponding City Contract Number in the Description, if known, Additional Insureds as provided above and waivers of subrogation. The certificates of insurance shall be mailed to the City of Jacksonville (Attention: Chief of Risk Management), 117 W. Duval Street, Suite 335, Jacksonville, Florida 32202.
- H. Carrier Qualifications. The above insurance shall be written by an insurer holding a current certificate of authority pursuant to chapter 624, Florida State or a company that is declared as an approved Surplus Lines carrier under Chapter 626 Florida Statutes. Such Insurance shall be written by an insurer with an A.M. Best Rating of A- VII or better.
- I. Notice. The Consultant shall provide an endorsement issued by the insurer to provide the City thirty (30) days prior written notice of any change in the above insurance coverage limits or cancellation, including expiration or non-renewal. If such endorsement is not provided, the Consultant shall provide said thirty (30) days written notice of any change in the above coverages or limits, coverage being suspended, voided, cancelled, including expiration or non-renewal.
- J. Survival. Anything to the contrary notwithstanding, the liabilities of the Consultant under this Contract shall survive and not be terminated, reduced or otherwise limited by any expiration or termination of insurance coverage.
- K. Additional Insurance. Depending upon the nature of any aspect of any project and its accompanying exposures and liabilities, the City may reasonably require additional insurance coverages in amounts responsive to those liabilities, which may or may not require that the City also be named as an additional insured.
- L. Special Provisions: Prior to executing this Agreement, Consultant shall present this Contract and Exhibit C& D to its Insurance Agent affirming: 1) That the Agent has personally reviewed the insurance requirements of the Contract Documents, and(2) That the Agent is capable (has proper market access) to provide the coverages and limits of liability required on behalf of Consultant.