



St. Johns River Water Management District

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On the internet at www.sjrwmd.com.

DATE: December 12, 2019

TO: Prospective Respondents

FROM: Pam Paulk, Sr. Procurement Specialist

SUBJECT: Addendum #3 to Request for Qualifications 35167 Lake Jesup Nutrient Reduction and Flow Enhancement

As a result of FDOT comments, the following clarifications/changes are provided for your information. Please make all appropriate changes to your solicitation documents. Note: changes are reflected with original language shown with strike-through and new language is underlined.

MODIFICATION:

The REVISED STATEMENT OF WORK, REVISED ATTACHMENT A to the Agreement has been modified. Replace Revised Attachment A with the attached REVISED ATTACHMENT A-2, REVISED STATEMENT OF WORK. Section VI BUDGET/COST SCHEDULE has been modified the revised language is in tracked changes for your consideration.

NOTE: The Proposal Submittal date and time remain the same on January 13, 2020, at 2:00 PM, EST. Please acknowledge receipt of this Addendum on the SUBMITTAL FORM provided in the RFQ Solicitation documents. If you have any questions, please call me at (386) 329-4469 or e-mail ppaulk@sjrwmd.com.

REVISED ATTACHMENT A-2**REVISED STATEMENT OF WORK
FOR THE****LAKE JESUP NUTRIENT REDUCTION AND FLOW ENHANCEMENT PROJECT
SEMINOLE COUNTY, FL****I. INTRODUCTION / BACKGROUND**

The St. Johns River (River) is impaired from nutrients within the upstream reaches of the Middle St. Johns River Basin (MSJRB) in Lake Harney to the downstream reaches of the Lower St. Johns River basin (LSJRB). The St. Johns River Water Management District (District), through the Middle and Lower St. Johns River Water Quality Initiative, has started efforts to develop nutrient reduction projects. This initiative, coupled with nutrient reductions required through the Florida Department of Environmental Protection's Total Maximum Daily Load (TMDL) program, should result in the necessary improvements to the River to meet or exceed nutrient load reductions as defined in the MSJRB TMDL and the Basin Management Action Plan. It is recognized that multiple projects will be required throughout the MSJRB to achieve the necessary reductions.

The Lake Jesup Nutrient Reduction and Flow Enhancement Project will consist of two separate components. The nutrient reduction component of the project will be a recirculating wetland treatment system made up of ponds and wetlands that will capture and treat nutrient laden lake water pumped from Lake Jesup. The project's purpose is to remove primarily phosphorus but also nitrogen from the pumped inflows, and thereby treating in-lake nutrients. Once treated, the water is discharged back into the lake. The treated discharge will improve light penetration into the lake's water column and encourage beneficial submerged aquatic vegetation (SAV). The proposed project site is located on the northwestern side of Lake Jesup on 1,169 acres of District-owned land known as the Little Cameron Ranch and within the Lake Jesup Conservation Area (Figures 1 and 2).

The flow enhancement component of the project focuses on improving water clarity/quality and providing habitat enhancements by introducing additional flow from the St. Johns River via the construction of an inflow channel, known as Channel C, into the eastern portion of Lake Jesup. Hydrologic modifications to the confluence between the River and Lake Jesup date back to the steamboat era of the late 1800s. Local stakeholders have advocated for increasing riverine flow into the lake for decades. In 2010, the Florida Department of Transportation (FDOT) completed a new 3,470 foot high-span bridge over the confluence, thereby removing the State Road (SR) 46 earthen causeway. (Figure 3). The ultimate goals of the flow enhancement project include:

- Enhance the historical hydrologic exchange between the east portion of Lake Jesup and the St. Johns River.
- Improve fish and wildlife habitat in the east portion of the Lake.
- Help restore potential habitat for SAV in the east portion of the Lake.

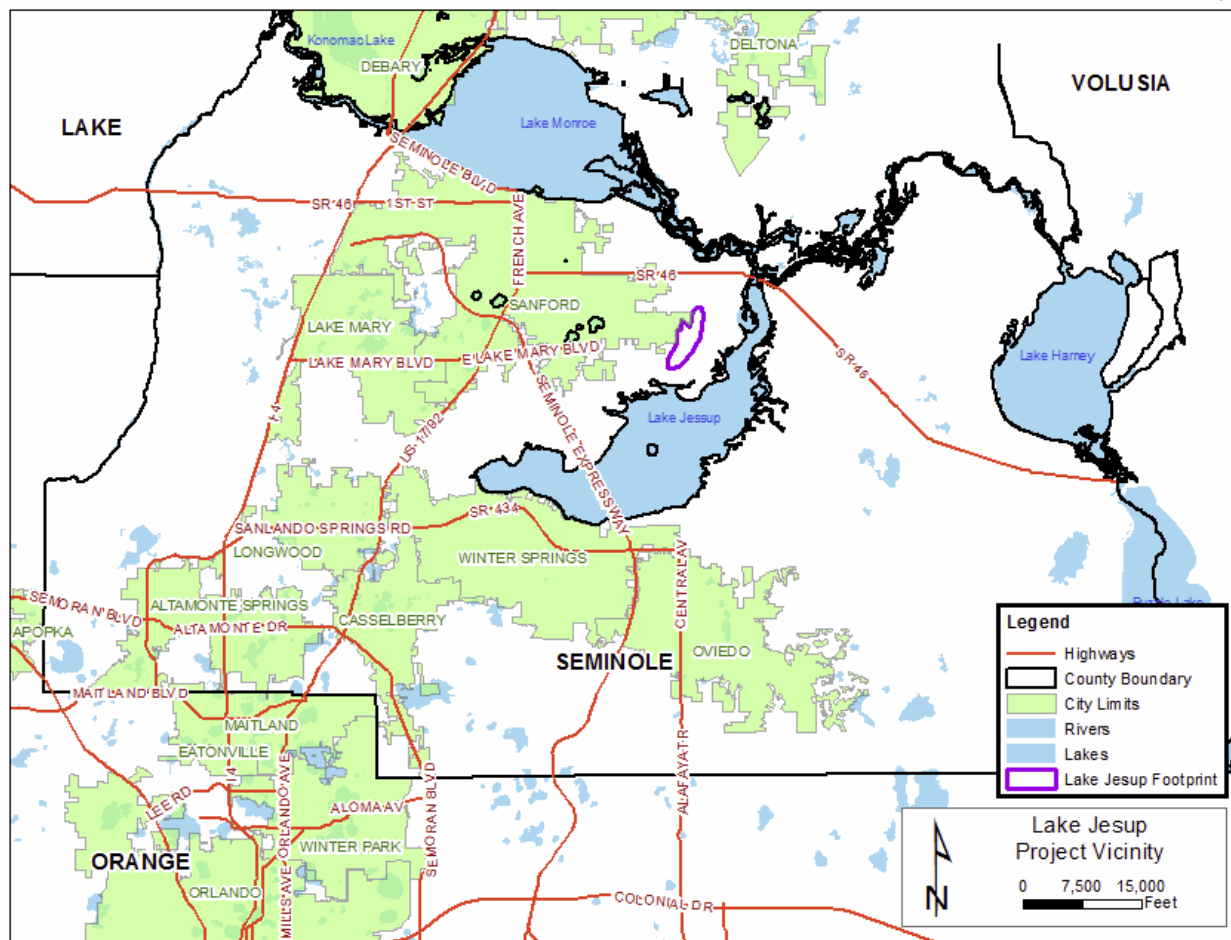


Figure 1

II. OBJECTIVE

The objective of this project is to 1) design a recirculating wetland treatment system that will capture and treat pumped inflow from Lake Jesup whenever lake water levels make it feasible and 2) develop a dredging plan for the flow enhancement channel, known as Channel C, connecting the St. Johns River to the eastern portion of Lake Jesup.

III. SCOPE OF SERVICES

For the nutrient reduction component of the project, the Consultant shall provide all necessary design services needed for the construction of a fully functional recirculating wetland treatment system. A detailed breakdown of the required services and deliverables is outlined in the following section. Design shall include, but not be limited to, appropriate number, sizing and configuration of wetland/ponds and associated interconnecting and inflow/discharge infrastructure to meet the target nutrient load reduction project goals of 2,800 lbs TP/yr and 23,800 lbs TN/yr (Exhibit 1).

For the flow enhancement component, the District has completed a feasibility study based on a Channel C configuration of 165 feet top width, 4:1 (horizontal:vertical) side slopes, channel invert elevation of -10 feet North American Vertical Datum of 1988 (NAVD 88) and a length of 2,200 feet. Consultant will complete a constructability review and develop a dredging plan that will achieve the Channel C dimensions from the feasibility analysis (Exhibit 5). The dredging plan will include, but not be limited to, calculation of dredge quantities, identification of dredging methodology, access points, staging areas, spoil reuse / disposal areas, equipment requirements, etc.

The selected Consultant shall provide all engineering services necessary to develop and produce a complete and detailed design package suitable for bid purposes. The Consultant shall coordinate with District personnel to define system needs. The Consultant shall be solely responsible to provide a complete and workable design in accordance with the project requirements.

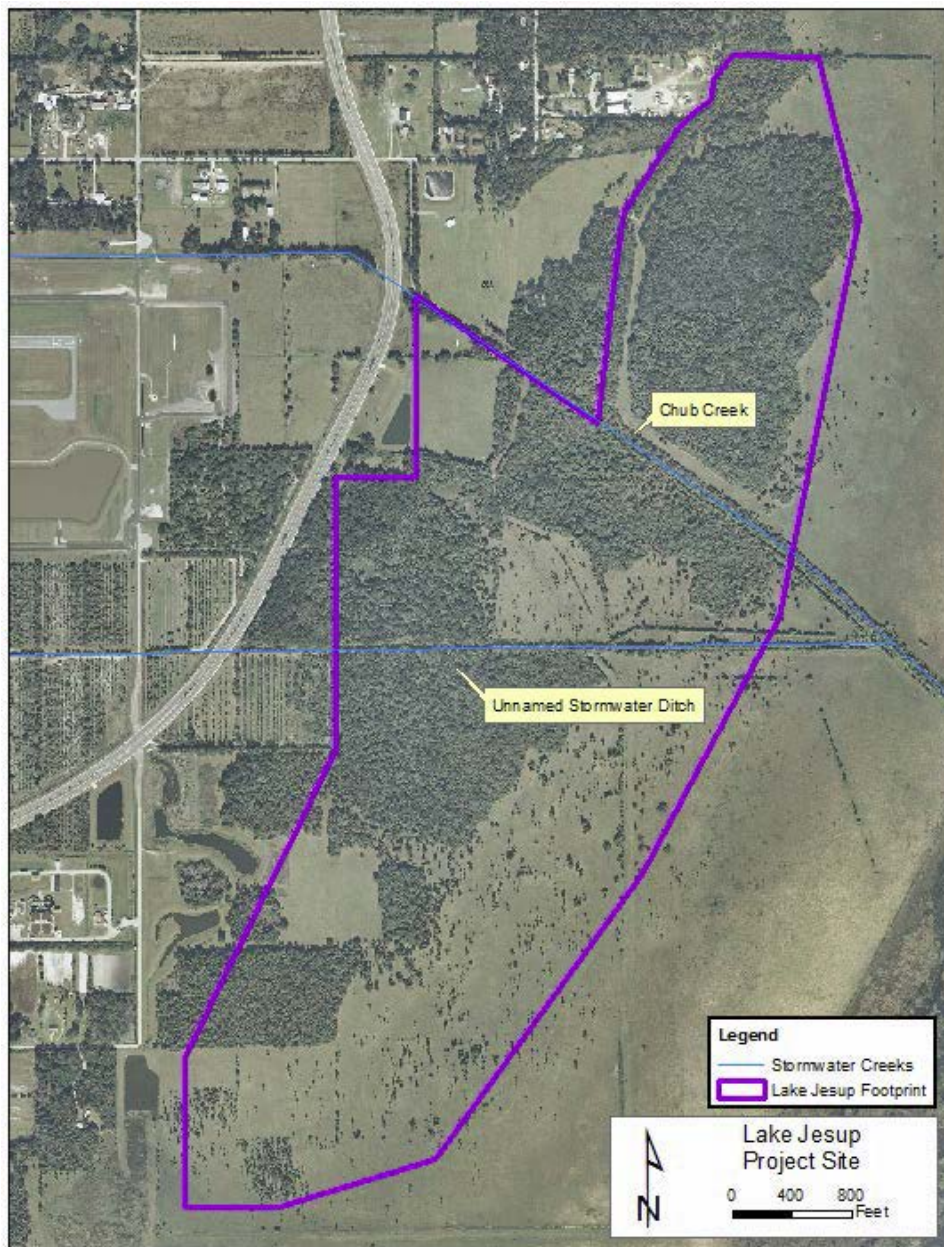


Figure 2



Figure 3

IV. TASK IDENTIFICATION

The Consultant's design effort shall include but is not necessarily limited to the following tasks:

TASK 1 – PROJECT MANAGEMENT AND WORK PLAN

1.1 Project Management

Project Management for this scope of work shall be provided by a core project team. Management and coordination activities shall include, but not be limited to, attendance and participation in meetings, preparation of meeting agendas and summaries, technical and administrative support to District requests for information, monitoring of labor utilization and project budgets on a regular basis, and the coordination of the timely submittal of deliverables according to the project management plan as developed by the Consultant and agreed to by the District. Each month, Consultant shall attend a progress meeting to be held at the District or via teleconference. The Consultant shall also update the project management plan and project schedule to include all items under this SOW.

1.2 Project Meetings

The Consultant's project manager and applicable key staff shall meet with the District for presentation and discussion of the project progress, design issues, schedule, and planned activities. The following meetings are anticipated:

- Kick-off meeting and site visit
- Pre-design meeting with the Federal Aviation Administration (FAA) concerning potential impacts to the Sanford International Airport as it relates to the wetland treatment system
- Pre-design meeting with FDOT regarding land access/alteration of FDOT lands involved in Channel C dredging
- Preliminary (30%) Design Review meeting
- Environmental Resource Permit (ERP) pre-application meeting
- Intermediate (60%) Design Review meeting
- Pre-Final (90%) Design Review meeting
- Two additional site visits with the District
- Allow for up to three additional meetings with public, stakeholders, and local partners at times determined by District.

1.3 Deliverables

- Project work plan and Microsoft Project Schedule to be submitted to the District prior to negotiations.
- Monthly status/progress reports, including an updated project management plan and project schedule to be submitted to the District within the first five business days of each month.
- Meeting minutes to be submitted within five business days after each meeting.

TASK 2 – SITE INSPECTION AND DATA COLLECTION

The Consultant's team shall perform the necessary field reviews to assess existing and proposed site conditions and design constraints. The Consultant shall collect and review all available project information/data from the District.

TASK 3 - SURVEY

The Consultant shall provide professional surveying services for the proposed Project as follows:

- 3.1 Prepare a boundary survey to establish the Project construction limits for the wetland treatment system and the flow enhancement channel. Collection of survey data within the SR 46 Right-of-Way (R/W) shall be coordinated with FDOT as they may require permits for this activity.
- 3.2 Establish horizontal and vertical control, tied to Florida State Plane coordinates and NAVD 88 Elevations.
- 3.3 Perform topographic survey to locate all existing site features as required to support the final design of the treatment wetland system and flow enhancement channel.
- 3.4 Locate all soil borings from the Task 4 Geotechnical Investigation.

3.5 Prepare a survey of the wetland limits delineated in Task 5 below.

3.5 Deliverables: Survey drawings signed and sealed by a Florida licensed professional surveyor.

TASK 4 - GEOTECHNICAL INVESTIGATION

4.1 As needed to support the final design of the wetland treatment system and ~~dredging plan for the~~ flow enhancement channel, the Consultant shall interpret soil survey maps; interpret and evaluate general subsurface conditions; perform Standard Penetration Test (SPT) borings; measure groundwater levels; install well screen piezometers; perform field permeability tests; recover thin-walled tube samples; perform muck probing; and conduct laboratory tests as needed to aid in classification of soils and measure strength. Collection of geotechnical data within the SR 46 R/W must be coordinated with FDOT as they may require permits for this activity.

4.2 Consultant shall provide engineering analyses of soils to include, as needed, scour analysis, allowable soil bearing pressures; estimated settlement; allowable pile capacity; lateral earth pressure coefficients for flexible and rigid retaining walls; slope stability analyses; seepage analyses; filter requirements and gradation; recommendations for site preparation and earthwork.

4.3 Deliverables:

Geotechnical Report signed and sealed by a Florida licensed professional engineer. The report shall include all research data, all data from site explorations, and engineering recommendations to support the design and construction of the project.

TASK 5 – SITE ASSESSMENT

Phase I and Phase II Environmental Site Assessments (ESA) have been completed for the wetland treatment site (Exhibit 2 and Exhibit 3). The location of a suspected cattle dipping vat (CDV) is described on the Phase II ESA although the presence of the CDV was never confirmed. Conduct a comprehensive site reconnaissance within the footprint of the project site to confirm the presence or absence of a remnant CDV. Consultant shall adjust the design of the treatment wetland to avoid disturbance of the suspected CDV if found.

TASK 6 – WETLAND ASSESSMENT AND MITIGATION

6.1 Wetland Assessment. Delineate onsite existing wetlands adjacent to and within the wetland treatment system and the flow enhancement channel. Conduct qualitative Uniform Mitigation Assessment Method (UMAM) to determine wetland impacts. Consultant shall perform a UMAM analysis of the existing and proposed sites to determine if wetland mitigation would be required. For the wetland treatment system, it is anticipated that the conversion of forested wetland to emergent marsh will require mitigation and conversion of pasture to wetland treatment system may require mitigation as well. It is anticipated that mitigation for the flow enhancement channel will be required as well and should include consideration of sediment reuse on adjacent District-owned wetlands via thin-layer placement.

6.2 Wetland Mitigation. Develop a mitigation plan in accordance with state and federal requirements, including success criteria and a cost estimate to include acquisition, construction, long-term maintenance and monitoring costs to offset the adverse wetland impacts associated with the project design. Purchase of credits at a mitigation bank may be an acceptable mitigation option. Conduct UMAM of the proposed mitigation plan. Consultant shall perform a UMAM analysis of the proposed mitigation for submittal to FDEP and USACE. For the flow enhancement channel, conduct analysis of FDOT mitigation restrictions and develop plan to address any FDOT mitigation concerns including the possibility of obtaining concurrence from FDOT that the proposed mitigation plan adequately offsets any changes to FDOT permitting mitigation.

Deliverables:

- Draft Wetland Assessment Report
- Draft Wetland Mitigation Plan: Delineation Shapefile and UMAM Analysis
- Final Wetland Mitigation Plan

TASK 7 – HYDROLOGIC AND HYDRAULIC MODELING

7.1 A final evaluation of the Lake Jesup wetland treatment system shall include verification of treatment capability feasibility for a treatment wetland on this property and estimates of nutrient reductions and cost-effectiveness to be considered prior to final project implementation. This work will establish criteria for determining what key project elements (i.e. wetland impacts, FAA criteria, floodplain mitigation etc.), may impact the final design. Consideration shall be given to evaluate potential offsite drainage impacts from any modifications to offsite drainage canal as a result of the design of the wetland treatment system.

7.2 Hydrologic and hydraulic modeling: Consultant shall:

- Evaluate the impoundment according to District's criteria and determine the appropriate design storm and evaluate the loss of flood plain storage.
- Develop an Interconnected Pond Routing stormwater model (ICPR) for use in the design of the wetland treatment system to determine optimum intake and discharge locations to minimize short-circuiting of discharge water and maximize nutrient intake concentrations, flows and stages under design operating conditions and control elevations, frequency of potential flooding to quantify the overall annual average functional benefit. This model should include modifications to offsite drainage canals as the result of the construction of the wetland treatment system.
- Update the ICPR modeling as needed, to evaluate and incorporate changes made at each phase of the design process.
- Review existing District Hydrodynamic Analysis report (Exhibit 4) and perform additional hydrodynamic modelling, as appropriate or needed, for in-lake currents and assessment of the likelihood of short-circuited treatment due to intake and outfall positions.
- Prepare a design level Bridge Hydraulics Report (BHR) inclusive of scour, and if necessary, a FEMA No-Rise Certification, incorporating Channel C under the SR 46 bridge over Lake Jesup. The report shall utilize the latest version of HEC-RAS (2D) available from the United States Army Corps of Engineers (USACOE) or utilize Sediment and River Hydraulics (SRH – 2D) and the report shall meet all criteria of the Florida Department of Transportation. Consultant shall coordinate the review and approval of the BHR with FDOT.

7.3 Deliverables:

- Model input and output data
- FDOT approved BHR along with HEC-RAS or SRH files
- ICPR model files
- Revised Water Quality Modeling
- Final Hydrology and Hydraulics (H & H) report signed and sealed by a Florida licensed professional engineer.

TASK 8 – DETAILED DESIGN AND CONSTRUCTION DOCUMENTS

The Consultant shall provide design services for all civil, structural, electrical, and mechanical components necessary for a complete and functional treatment wetland system and flow enhancement channel.

8.1 Project Design Features

For the wetland treatment system, the project design features shall include but are not necessarily limited to, the pump station, water control structures, inflow piping, outflow swales, channel dredging, channel relocation, and channel removal as depicted on the conceptual plan (Figure 9 of the ECT Memorandum, Exhibit 1.). Particular design consideration shall be given to a wetland design that will minimize operation and maintenance costs. For the flow enhancement channel, project design features shall include but are not necessarily limited to, dredging and dredge material handling/disposal methodology, staging area locations, access routes, (Figure 7 of the Jones Edmunds report,

Exhibit 5). Consultant shall evaluate the applicability of Thin Layer Placement (TLP) as a means of dredge material management / reuse on adjacent District-owned wetlands (<https://tlp.el.erdc.dren.mil/>) This evaluation should be included in the UMAM comparisons.

8.2 Preliminary Design (30%)

- Prepare 30% design drawings to include Preliminary Site Plan, Grading and Drainage Plan, and Pump Station Layout for the wetland treatment system and alignment, proposed cross sections, proposed access routes, staging and dredge material disposal areas for flow enhancement channel.
- Evaluation of TLP as a dredge material management methodology.
- Prepare 30% cost estimate that incorporates the cost of all changes made up to 30% design.

Deliverables:

- 30% Design Drawings
- 30% Cost Estimate
- Review drawings required by FDOT standards and policies

8.3 Intermediate Design (60%)

- Prepare 60% design drawings: Incorporate comments from 30% District review for the wetland treatment system and flow enhancement channel and provide additional details to develop 60% design drawings. For the treatment wetland system, plan drawings shall include the Site Plan, Grading and Drainage Plan, Pump Station, Water Control Structures, Electrical and Mechanical Plans, Outfall Spreader Swale, and preliminary details. For the flow enhancement channel, plans shall include channel alignment, proposed cross sections, proposed access routes, staging and dredge material disposal areas and dredge quantities.
- Prepare 60% cost estimate.

Deliverables:

- 60% Design Drawings
- 60% Cost estimate that incorporates the cost of all changes made up to 60% design.
- Permit Drawings (8.5"x11") and quantities to support ERP application
- Review drawings required by FDOT standards and policies

8.4 Pre-Final Design (90%)

- Prepare 90% design drawings: Incorporate comments from 60% District review for the wetland treatment system and flow enhancement channel and provide additional details to develop 90% design drawings. Plan drawings shall include the Site Plan, Grading and Drainage Plan, Pump Station, Water Control Structures, Electrical and Mechanical Plans, Outfall Spreader Swale, and preliminary details.
- Prepare 90% cost estimate.

Deliverables:

- 90% Design Drawings
- 90% Cost estimate that incorporates the cost of all changes made up to 90% design.
- Review drawings required by FDOT standards and policies

TASK 9 – PERMITTING

- Arrange and attend a pre-application meeting with FDEP regulatory staff to discuss and review the proposed Project prior to submittal of an ERP application.
- Prepare and submit ERP to construct the project. This task includes completion of the permit application, all supporting documents and a permit application report to be submitted with the application. It is assumed that the project will be permitted through the District's General Permit for Environmental Restoration or Enhancement (62-330.485, F.A.C.). Respond to requests for additional information.
- Arrange and attend a pre-application meeting with United States Army Corps of Engineers (USACE) regulatory staff to discuss and review the proposed project prior to submittal of a Clean Water Act (CWA) Section 404 Permit application.
- Prepare Clean Water Act Section 404 Permit and submit to USACE. Respond to requests for additional information.

- Archaeological investigation. Conduct Phase I archaeological investigation in areas of the proposed Project footprint.
- Provide a wetland determination and UMAM analysis of the proposed mitigation for submittal to FDEP and USACE and FDOT. Respond to requests for additional information
- Threatened and Endangered Species Evaluation (T/E). Perform a site inspection for T/E species in the vicinity of the project footprint. Consultant shall coordinate with District personnel to review the existing monitoring regime and determine how best to complement existing monitoring while addressing additional items associated with permitting.
- Tree Survey. Tree mitigation may be required by Seminole County. Consultant shall conduct a limited tree survey to identify heritage trees within the project limits.
- Evaluate the need for relevant local government environmental and construction permits. Consultant shall determine which local government permits are needed, if any. This information will be provided to the construction contractor at time of construction.
- Consultant shall prepare and submit any other federal, state, and local permit applications required for construction of the project, including applicable FAA and FDOT permits. FDOT approval will be required for any work within the SR 46 R/W. Respond to requests for additional information.

Deliverables:

- Pre-application meeting minutes
- ERP Application
- CWA Section 404 Permit Application
- Phase 1 Archeological Report
- Final Wetland Assessment Report
- Final Wetland Mitigation Plan: Delineation Shapefile and UMAM Analysis
- T/E Report and T/E Locations Shapefile
- Plan of tree survey and Shapefile
- Applicable FAA applications
- Other permit applications as required

TASK 10 – FINAL DESIGN CONSTRUCTION DOCUMENTS (100%)

- Monitor the permit review process and respond to requests for additional information (RAI) to ensure all permits are issued to construct the project.
- Prepare 100% design drawings: Incorporate comments from 60% District review and permitting process for the wetland treatment system and the flow enhancement channel. Detail drawings shall include; Site Plan, Grading and Drainage Plan, Water Control Structures, and Pump Station Structural, Electrical, and Mechanical Plans and Outfall Spreader Swale, channel alignment, proposed cross sections, proposed access routes, staging and dredge material disposal areas and dredge quantities. The final design drawings shall be suitable for bidding and construction of the project.
- Prepare 100% Technical Specifications
- Prepare 100% Cost Estimate
- Prepare Operation and Maintenance (O&M) plan: Prepare an O&M plan to address operation and system management during various operational and maintenance scenarios. The O & M plan should contain cost estimates.
- Coordinate with the local electric utility to bring power to the proposed pump station and incorporate any requirements into the final construction documents.

Deliverables:

- Permits
- 100% Design signed and Drawings
- 100% Technical Specifications
- 100% Cost estimate that incorporates the cost of all changes made up to 100% design.
- Operation and maintenance plan with cost estimates.
- Documentation of correspondence with electric utility

TASK 11 – CONSTRUCTION SUPPORT SERVICES

Consultant may be requested to provide construction support services during the construction phase of the wetland treatment system and flow enhancement channel. Final determination of the level of support needed during construction will be determined during contract negotiations. These services may include, but is not limited to, the following:

- Participate in a Pre-Construction Meeting.
- Maintain project files of approved submittals shop drawings.
- Review detailed construction submittals, shop drawings and other information submitted by the Contractor for compliance with the design concept and the requirements of the Contract Documents. Such data shall be recommended for approval, returned for revision, rejected, or distributed for information.
- Attend monthly formal progress meetings, weekly project status meetings, and other on-site coordination conferences.
- Assist with monthly reports, if any, as to project status or progress.
- Provide interpretation of Contract Documents when requested by the District.
- Prepare responses to Requests for Information (RFIs).
- Consider and evaluate the Contractor's suggestions for modifications to the Contract Documents and report recommendations to the Construction Supervisor.
- Review Contractor's as-built red line drawings for accuracy and completeness. Compile record drawings from reviewed set in hard copy/electronic format.
- Provide Operations and Maintenance (O&M) manual.

Deliverables:

- Meeting minutes from construction and other meetings
- Any and all documentation generated as a result of construction support services
- Operation and Maintenance (O&M) manual

V. TIME FRAMES AND DELIVERABLES

In general, the Consultant shall submit to the District at the 30%, 60%, 90% and 100% design phases. Each submittal shall include the appropriate design documents for each phase. All submittals shall include two (2) hard copies and an electronic file in PDF format. The final submittal shall include all signed and sealed construction documents, design calculations, geotechnical report, estimate of probable construction cost, and technical specifications. The final design drawings shall be submitted on 24"x36" full size sheets, signed and sealed (2 sets) and electronically in both AutoCAD and PDF format.

Consultant shall complete Tasks 1 through 10 by September 30, 2021.

VI. BUDGET/COST SCHEDULE

To be determined based on negotiations with the selected Consultant.

~~The District agrees to compensate the Consultant \$ _____ for completion of the Work which shall be negotiated with the selected Consultant.~~

EXHIBITS:

Exhibit 1 - Environmental Consulting & Technology, Inc. (ECT) Memorandum titled Lake Jesup Treatment Capability Feasibility dated 9/11/14.

Exhibit 2 - Aerostar SES, LLC - Limited Environmental Site Assessment

Exhibit 3 - Aerostar SES, LLC - Final Limited Phase II Environmental Site Assessment

Exhibit 4 - Dr. Pete Sucsy's Hydrodynamic Analysis Report dated March 7, 2016

Exhibit 5 - Jones Edmunds Report titled Seminole County, Florida Flow Restoration Feasibility Analysis dated September 2018