SOLICITATION COVER SHEET

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
REQUEST FOR PROPOSALS

SUBMIT PROPOSALS TO: SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT VIA: WWW.DEMANDSTAR.COM

DIRECT INQUIRIES TO: Georgia Hudson, Senior Procurement Specialist Phone: 352-231-8376 Fax: 352-754-3497 E-mail: procurement@watermatters.org

DATE POSTED: June 2, 2023 PROPOSALS WILL BE OPENED: June 27, 2023 at 2:00 p.m., local time

PRE-PROPOSAL CONFERENCE: N/A

VIRTUAL ORAL PRESENTATIONS: July 20, 2023 (Tentative date, time(s) to be determined) (IF REQUESTED)

SOLICITATION TITLE: RFP 23-4113 DISTRICTWIDE SEAGRASS MAPPING PROJECT

SPECIFICATIONS: The Southwest Florida Water Management District seeks proposals from licensed, qualified firms for acquiring digital orthophotos, photointerpretation of seagrass and other benthic habitats, and all necessary field work to produce seagrass maps of the Florida coast contained within the boundary of the Southwest Florida Water Management District (DISTRICT) roughly from Waccasassa Bay to Charlotte Harbor along the west-central and southwest Florida coast.

<table>
<thead>
<tr>
<th>Respondent Name:</th>
<th>Reason for No-Bid:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mailing Address:</td>
<td></td>
</tr>
<tr>
<td>City-State-Zip:</td>
<td></td>
</tr>
<tr>
<td>Telephone Number: (   ) -</td>
<td>FAX Number: (   ) -</td>
</tr>
<tr>
<td>Email address for correspondence:</td>
<td></td>
</tr>
<tr>
<td>Authorized Signature:</td>
<td></td>
</tr>
<tr>
<td>Full Name (please print or type):</td>
<td></td>
</tr>
<tr>
<td>Title (please print or type):</td>
<td></td>
</tr>
</tbody>
</table>

I, the above signed, as Respondent, hereby declare that I have carefully read this RFP and its provisions, terms, and conditions covering the equipment, materials, supplies or services as called for, and fully understand the requirements and conditions. I certify that this proposal is made without prior understanding, agreement, or connection with any corporation, firm, entity, or person submitting a proposal for the same goods/services (unless otherwise specifically noted) and is in all respects fair and without collusion or fraud. I agree to be bound by all of the terms and conditions of this RFP and certify that I am authorized to sign this proposal for the Respondent.

THE DISTRICT OFFICIALLY POSTS SOLICITATION PACKAGES ON WWW.DEMANDSTAR.COM AND WWW.WATERMATTERS.ORG/PROCUREMENT. THE DISTRICT RECEIVES PROPOSALS THROUGH DEMANDSTAR AT WWW.DEMANDSTAR.COM. THE DEMANDSTAR TIME STAMP WILL BE CONCLUSIVE AS TO THE TIMELINESS OF FILING. IT IS THE RESPONDENT’S RESPONSIBILITY TO ASSURE THAT ITS PROPOSAL IS TIMELY UPLOADED. PROPOSALS RECEIVED AFTER THE DATE AND TIME SPECIFIED WILL NOT BE ACCEPTED. TO MAINTAIN A SECURED SEALED PROCESS ELECTRONIC SUBMISSIONS MAY BE MADE ONLY THROUGH THE DEMANDSTAR PLATFORM. FAXES, EMAILS, OR HAND DELIVERY WILL NOT BE ACCEPTED.
TABLE OF CONTENTS

PART I - GENERAL CONDITIONS
1.1 Purpose
1.2 Definitions
1.3 Development Cost
1.4 Changes, Delays, and Addenda
1.5 Pre-Proposal Conference
1.6 Rules for Proposals
1.7 Contingency Fee
1.8 Proposal Format
1.9 Oral Presentations
1.10 Proposal Opening
1.11 Technical Questions
1.12 Conflict of Interest
1.13 Proposal Withdrawal
1.14 Public Availability of Records
1.15 Responsive/Responsible
1.16 Right to Accept or Reject Proposals
1.17 Notice of Intended Decision
1.18 Protests
1.19 Agreement Information
1.20 Truth in Negotiation
1.21 Indemnification
1.22 Withholding Payment
1.23 Termination without Cause
1.24 Law Compliance
1.25 Americans with Disabilities Act (ADA)
1.26 Public Entity Crimes
1.27 Scrutinized Companies
1.28 Employment Eligibility Verification
1.29 Correspondence
1.30 Background Checks
1.31 Purchases by Other Public Agencies

PART II - INTRODUCTION
2.1 General Information
2.2 Background Information
2.3 Term of Contract
2.4 Budget
2.5 Calendar

PART III – SCOPE OF WORK
3.1 Project Description/Work Objective
3.2 Professional Qualifications
3.3 Scope of Work/Deliverables

PART IV - INSURANCE REQUIREMENTS
4.1 Insurance Requirements

PART V - EVALUATION PROCEDURES
5.1 Evaluation and Final Selection
5.2 Evaluation Method and Criteria

ATTACHMENTS
Attachment 1 Sample Agreement
Attachment 2 Public Entities Crime Statement
Attachment 3 Certification Regarding Drug-Free Workplace Requirements
Figure 1 - Seagrass Orthophoto Project Area
Figure 2 - Areas of Special Concern
Figure 3 - Estuaries for Color Balancing: Springs Coast
Figure 4 - Estuaries for Color Balancing: Suncoast

REFERENCE DOCUMENTS
Springs Coast Tiles Shape Files 2024: https://watermatters.sharefile.com/d-s6f69e53493964f65a0fee24b6003ea6e
Suncoast Tiles Shape Files 2024: https://watermatters.sharefile.com/d-se04c2015548d42798613f6b5190471ab
PART I - GENERAL CONDITIONS

1.1 PURPOSE.

The purpose of this RFP is to provide guidelines for submission of proposals to qualify for the nature of services described in Part III, hereinafter referred to as the "Project."

1.2 DEFINITIONS.

"Respondent" means any contractor, consultant, organization, firm, college or university, or other entity submitting a response to this RFP. "Sub-Respondent" means any subcontractor providing services to the Respondent that is directly under contract with the Respondent. "District" means the Southwest Florida Water Management District, which is the issuing agency.

1.3 DEVELOPMENT COST.

Neither the District nor its representatives will be liable for any expenses incurred in connection with preparation of a response for this RFP. All proposals should be prepared simply and economically, providing a straightforward and concise description of the Respondent's ability to meet the requirements of the RFP.

1.4 CHANGES, DELAYS, AND ADDENDA.

District reserves the right to delay scheduled RFP due dates if determined to be in the best interest of the District.

District solicitations, changes, delays, addenda and questions and answers are available for review and download at http://www.watermatters.org/procurement and www.demandstar.com. Potential respondents are responsible for rechecking the websites for any changes or addenda prior to the due date and time.

All interpretations and supplemental instructions will be in the form of written Addenda to the solicitation documents including District answers provided in response to the Technical Questions provided in Section 1.9 of this RFP. Failure to acknowledge receipt of all Addenda may be grounds for rejection of a proposal.

No interpretation of the meaning of the specifications or other contract documents, nor correction of any apparent ambiguity, inconsistency, or error therein, will be made to any Respondent orally. Prospective Respondents are advised that no other sources are authorized to give information concerning, explaining, or interpreting solicitation or contract documents. Any information obtained from an officer, agent or employee of the District or any other person will not affect Respondent’s risks or obligations or relieve it from fulfilling any and all conditions of the contract.

1.5 PRE-PROPOSAL CONFERENCE.

A pre-proposal conference will not be held for this RFP.

1.6 RULES FOR PROPOSALS.

Two (2) or more firms may combine for the purpose of responding to this RFP providing that one (1) is designated as "Prime" Respondent and the other as "Sub-Respondent(s)". The signer of the proposal must declare that any person or entity with any interest in the proposal, as a principal, is identified therein; that the proposal is made without collusion; that it is, in all respects, fair and in good faith; and that the signer of the proposal has full authority to negotiate for and bind the Respondent stated on the cover page.
1.7 CONTINGENCY FEE.

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

1.8 PROPOSAL FORMAT.

In order to assist the District's review process, proposals are to be prepared utilizing the following format. The evaluation criteria are set forth in Part V, Evaluation Procedures.

1.8.1 Solicitation Cover Sheet – Respondents must sign and return the Solicitation Cover Sheet with their proposals.

1.8.2 Letter of Transmittal – This letter should not exceed one (1) page and should briefly state the Respondent’s understanding of the work to be done and make a positive commitment to perform the work in a timely fashion. It should also give the names of the individuals who will be authorized to make representations for the organization, and their titles, addresses and telephone numbers. This letter must be signed by an official authorized to negotiate for the Respondent.

1.8.3 Organizational Profile and Qualifications – This section of the proposal should provide a description of your organization, including location(s), size, range of activities, Project team organization chart, current and projected workloads and any other appropriate information to describe the organization. Emphasis should be given to the organization’s experience with similar projects and expertise in the subject field.

1.8.4 Volume of Work – List the Prime Respondent and all Sub-Respondent names, including names of acquired or merged firms for the three (3) years prior to the posting of this RFP. The District will calculate the volume of work it has awarded to the named firms over the three (3) year period.

1.8.5 Professional Qualifications – See Part III – Scope of Work, Paragraph 3.2 for details.

1.8.6 Scope of Work – See Part III – Scope of Work, Paragraph 3.3 for details.

1.8.7 Completion of all Proposal Documents. In addition to the proposal submission requirements listed in the Subparagraphs 1.8.1 through 1.8.6, all proposal documents and forms listed below must be completely and accurately filled out and submitted with the proposal. Failure to do so could result in rejection of the proposal as non-responsive.

- Addenda Acknowledgement: The Respondent must acknowledge receipt of all written Addenda issued for this RFP on each Addendum Form issued with their proposal
- Attachment 2 – Public Entity Crime Statement
- Attachment 3 – Certification Regarding Drug-Free Workplace Requirements

1.8.8 Cost/Fees - Costs will not be submitted with your proposal. Fee Schedules will be negotiated with the most qualified firms as provided in Paragraph 5.1, Evaluation and Final Selection of this RFP and Section 287.055, F.S.
1.9 **ORAL PRESENTATIONS.**

The highest ranked Respondents will be required to participate in oral presentations with the Evaluation Committee. These presentations provide an opportunity for the Respondents to answer questions to clarify their proposals. Each presentation with questions and answers should last no more than thirty (30) minutes. The key team members as identified in the proposal must attend oral presentations.

Pursuant to Section 286.0113, F.S., the oral presentations are exempt from Section 286.011 and Section 24(b), Article I of the State Constitution. A complete recording shall be made of any portion of an exempt meeting. No portion of the exempt meeting may be held off the record.

Any Respondent deciding to appeal any decision made by the District with respect to any matter considered at such meeting, will need a record of the proceedings, and for such purpose, may need to ensure that a verbatim record of the proceedings is made, which record includes the testimony and evidence upon which the appeal may be based.

1.10 **PROPOSAL OPENING.**

Proposal opening will be open to the public, on the date and at the time specified in the RFP. It is the Respondent's responsibility to assure that its proposal is uploaded to DemandStar at the proper time. Proposals which for any reason are not timely uploaded will not be considered.

To be considered, one electronic Adobe™ Document Format File (.PDF) of a proposal must be uploaded to www.Demandstar.com, by 2:00 p.m., Local Time, on June 27, 2023. Proposals not received in a timely manner by DemandStar will not be accepted. THE DEMANDSTAR TIME STAMP WILL BE CONCLUSIVE AS TO THE TIMELINESS OF FILING. THE DISTRICT HAS NO CONTROL OVER WHETHER WWW.DEMANDSTAR.COM IS EXPERIENCING TECHNICAL DIFFICULTIES.

During the evaluation process, the District reserves the right, where it may serve the District's interest, to request additional information from Respondents for clarification purposes.

The District may make an award within one hundred twenty (120) days after the date of the opening, during which period responses shall remain firm and shall not be withdrawn. If award is not made within one hundred twenty (120) days, the response shall remain firm until either the District awards the Contract or the District receives from the Respondent written notice that the response is withdrawn. Any response that expresses a shorter duration may, in the District's sole discretion, be accepted or rejected.

By submitting a proposal, Respondent agrees to all the terms and conditions of this RFP and those included in the sample agreement attached as Attachment 3. Any changes offered by a Respondent in a proposal will not be considered by the District. The submittal of a proposal shall constitute Respondent's acknowledgement of all terms and conditions of this RFP and the District will construe the proposal as though no proposed changes were presented. If a Respondent desires to propose a change to a term or condition of this RFP or sample agreement, Respondent must submit its request under the procedure set forth in Section 1.9, Technical Questions.

AS INDICATED ON THE COVER SHEET, THE DISTRICT RECEIVES PROPOSALS THROUGH DEMANDSTAR. PROPOSAL PACKAGE DOCUMENTS MAY BE ELECTRONICALLY SIGNED OR SIGNATURES TRANSMITTED ELECTRONICALLY (VIA PDF, ETC.). ELECTRONIC SIGNATURE/TRANSMISSION SHALL BE DEEMED THE SAME AS A HANDWRITTEN SIGNATURE/ORIGINAL EXECUTED COPY FOR THE PURPOSES OF VALIDITY, ENFORCEABILITY, AND ADMISSIBILITY.

The District is providing a virtual option to join the proposal opening for RFP 23-4113 Districtwide Seagrass Mapping Project. The meeting will begin at 2:00 p.m. on June 27, 2023. Respondents may view the opening
by clicking on the “Join Microsoft Teams Meeting” title below. You may also click on or copy and paste the following Teams Link URL into your browser:

Microsoft Teams meeting  
Join on your computer or mobile app  
Click here to join the meeting  
https://bit.ly/3OFKmK2  
Or call in (audio only)  
+1 786-749-6127, 162568765# United States, Miami  
Phone Conference ID: 162 568 765#

1.11 TECHNICAL QUESTIONS.

All questions must be presented in writing to Procurement@Watermatters.org or the physical address as stated in Section 1.27 and received by the District no later than ten calendar days prior to the proposal opening, 5:00 p.m. on June 17, 2023. Inquiries must reference the proposal title, number, and the date of proposal opening. Respondents are responsible to check the District’s web site as specified in Section 1.4, Changes, Delays, and Addenda, for the District’s responses to the questions presented. The District will attempt to answer all submitted questions in a timely manner but accepts no responsibility for response delays.

1.12 CONFLICT OF INTEREST.

The award hereunder is subject to the provisions of Chapter 112, Part III, Florida Statutes, as amended, governing conflicts of interest. All Respondents must disclose with their proposal the name of any officer, director, or agent who is also a public employee. Further, all Respondents must disclose the name of any public employee who owns, directly or indirectly, an interest of five percent or more in the Respondent's firm or any of its branches.

The Respondent hereby agrees that, at the time of execution of an agreement, the Respondent will not be involved in any matters which adversely affect any interest or position of the District, and that the Respondent has no relationship with any third party relating to any matters which adversely affect any interest or position of the District. The Respondent will not accept during the term of the agreement, or any renewal thereof, any retainer or employment from a third party whose interests appear to be conflicting or inconsistent with those of the District.

1.13 PROPOSAL WITHDRAWAL.

Proposals may be withdrawn at any time prior to the opening via the DemandStar platform.

1.14 PUBLIC AVAILABILITY OF RECORDS.

Once opened, all proposals will become the property of the District and, at the sole discretion of the District, may not be returned to the Respondent. Any information, reports or other materials given to, prepared or submitted in response to this RFP will be subject to the provisions in Chapter 119, Florida Statutes, commonly known as the Florida Public Records Act. Any Respondent claiming that its proposal contains information that is exempt from the public records law must clearly segregate (separate binder and separate electronic copy PDF file) and mark that specific information as “CONFIDENTIAL”, state the reason such information is exempt from public disclosure, and provide the specific statutory citation for such exemption (i.e., Section 815.04, Florida Statutes): otherwise, Respondent waives any possible or claimed exemption upon submission, effective at opening..

The Florida Public Records Act, Section 119.071(1)(b), Florida Statutes, as amended, exempts sealed proposals from inspection, examination, and duplication until such time as the District issues a Notice of
Intent to Award pursuant to Section 120.57(3)(a), Florida Statutes, or within 30 days after the proposal opening, whichever comes first. This exemption is not waived by the public opening of the proposals.

1.15 RESPONSIVE/RESPONSIBLE.

At the time of submitting a proposal, the District requires that the Respondent and its Sub-Respondents be properly licensed and registered to do business in the State of Florida in accordance with applicable Florida Statutes. Proposals that fail to list all Sub Respondents as required in Section 1.8, Proposal Format, will be rejected as non-responsive. Responses that do not meet all requirements of this RFP or fail to provide all required information, documents, or materials as provided in Section 1.7, Proposal Format, may be rejected as non-responsive. Respondents whose responses, past performance, or current status do not reflect the capability, integrity or reliability to fully and in good faith perform the requirements of the proposal may be rejected as non-responsible. The District reserves the right to determine which responses meet the requirements of this RFP, and which Respondents are responsive and responsible. The District reserves the right before awarding the proposal, to require a Respondent and its Sub-Respondents to submit such evidence of their qualifications as it may deem necessary and may consider any evidence available to it of the financial, technical and other qualifications and abilities of a Respondent to perform the work in a satisfactory manner and within the time specified. The Respondent is assumed to be familiar with all federal, state or local laws, ordinances, rules and regulations that in any manner affect the work, and to abide thereby if awarded the contract. Ignorance of legal requirements on the part of the Respondent will in no way relieve responsibility. Respondents must verify the qualifications and performance record of any and all proposed Sub Respondents to ensure acceptability.

1.16 RIGHT TO ACCEPT OR REJECT PROPOSALS.

Proposals which are incomplete, conditional, obscure, or contain additions not contemplated by the RFP or irregularities of any kind, or do not comply in every respect with the RFP may be rejected as nonresponsive at the option of the District. The District does not bind itself to accept the minimum specifications stated in this RFP but reserves the right to accept any proposal which in the judgment of the District will best serve the needs and the interests of the District. The District reserves the right to reject all proposals and not grant any award resulting from the issuance of this RFP. If awarded, no contract will be formed between the Respondent and the District until the contract is executed by both parties.

1.17 NOTICE OF INTENDED DECISION.

The Notice of Intent to Award will be posted for review by interested parties on the District’s Internet website, (http://www.watermatters.org/procurement) and www.demandstar.com.

1.18 PROTESTS.

Any Respondent who protests the specifications or decision, or intended decision, must file with the District a notice of protest and formal protest in compliance with Chapter 28110, Florida Administrative Code (F.A.C.), and applicable provisions in Section 120.57, Florida Statutes. Failure to file a protest within the time prescribed in Section 120.57(3), Florida Statutes, will constitute a waiver of proceedings under Chapter 120, Florida Statutes.

1.19 AGREEMENT INFORMATION.

The contents of the proposal of the successful Respondent will be incorporated into a written contract document in terms acceptable to the District at its absolute discretion and will be binding on all parties to the executed contract. Failure of Respondent to accept this condition will result in the cancellation of any award. The laws of the State of Florida will govern any contract resulting from this RFP and venue will lie in Hillsborough County, Florida. The District will have the right to examine and audit the successful Respondent’s Project-related books, records, documents and papers during the Project and for at least
five years following completion date provided such disclosure does not undermine the independence or the validity of the audit process. The successful Respondent will also be required to comply with all applicable laws, rules, regulations, and contract provisions or conditions necessary in the judgment of the District to constitute a sound and complete contract. A sample agreement is attached as Attachment 1.

1.20 **TRUTH IN NEGOTIATION.**

Any agreement resulting from this RFP will require the Respondent to execute a truth-in-negotiation certificate stating that wage rates and other factual unit costs supporting the compensation are accurate, complete, and current at the time for contracting. The Agreement will also contain a provision that the original Fee Schedule and any additions thereto will be adjusted to exclude any significant sums by which the District determines the Fee Schedule was increased due to inaccurate, incomplete, or noncurrent wage rates and other factual unit costs. Any such adjustments will be made within one year following the end of the Agreement.

1.21 **INDEMNIFICATION.**

See Paragraph 8 in Attachment 1, Sample Agreement.

1.22 **WITHHOLDING PAYMENT.**

The District may, in addition to other remedies available at law or equity, retain such monies from amounts due the Respondent as may be necessary to satisfy any claim for damages, penalties, costs and the like asserted by or against the District. The District may set off any liability or other obligation of the Respondent or its affiliates to the District against any payments due the Respondent under any contract with the District.

1.23 **TERMINATION.**

Unless otherwise agreed to by the District, any contract resulting from this RFP may be terminated by the District without cause upon ten days written notice. Termination is effective upon the tenth day as counted from the date of the written notice. In the event of termination under this paragraph, the contractor or consultant will be entitled to compensation for all services provided to the District up to the date of termination on a pro-rated basis and which are within the Statement of Work, are documented in the budget, and are allowed under the Agreement.

1.24 **LAW COMPLIANCE.**

The Respondent will abide by and assist the District in satisfying all applicable federal, state and local laws, rules, regulations and guidelines (including, but not limited to, the Americans with Disabilities Act) relative to performance under this RFP. The Respondent will not discriminate against any employee or applicant for employment because of race, color, religion, sex, handicap, disability, marital status or national origin. The Respondent will obtain and maintain all permits and licenses necessary for its performance under this RFP.

1.25 **AMERICANS WITH DISABILITIES ACT (ADA).**

The District does not discriminate upon the basis of disability. This nondiscrimination policy involves every aspect of the District’s functions, including access to and participation in the District’s programs, services or activities. Anyone requiring reasonable accommodation or would like information as to the existence and location of accessible services, activities, and facilities as provided for in the Americans with Disabilities Act should contact the District’s Human Resources Office, 2379 Broad Street, Brooksville, Florida 34604-6899; telephone (352) 796-7211 or 1-800-423-1476 (FL only); or email to ADACoordinator@WaterMatters.org. If you are hearing or speech impaired, please contact the agency using the Florida Relay Service, 1-800-955-8771 (TDD) or 1-800-955-8770 (Voice). If requested, appropriate auxiliary aids and services will be provided.
at any public meeting, forum, or event of the District. In the event of a complaint, please follow the grievance procedure located at WaterMatters.org/ADA.

1.26 PUBLIC ENTITY CRIMES.

Pursuant to Subsections 287.133(2) and (3), Florida Statutes, a person or affiliate who has been placed on the convicted vendor list following a conviction for a public entity crime may not submit a proposal on a contract to provide any goods or services to a public entity, may not submit a proposal on a contract with a public entity for the construction or repair of a public building or public work, may not submit proposals 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 the threshold amount provided in Subsection 287.017, Florida Statutes, for Category Two, for a period of 36 months from the date of being placed on the convicted vendor list. By submitting a proposal to this RFP, the Respondent certifies that it is not on the convicted vendor list.

1.27 SCRUTINIZED COMPANIES.

Pursuant to Section 287.135, Florida Statutes, a company that, at the time of submitting a bid or proposal for a new contract or renewal of an existing contract, is on the Scrutinized Companies that Boycott Israel List, or is engaged in a boycott of Israel, is ineligible to, and may not bid on, submit a proposal for, or enter into or renew a contract with an agency or local governmental entity for goods or services in any amount. If the goods or services are in the amount of $1 million dollars or more, the company must also not be on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List or be engaged in business operations in Cuba or Syria. By submitting a proposal in response to this RFP, the Respondent certifies that it is not on any of the lists or engaged in any of the prohibited activities identified above, as applicable based upon the amount of its proposal.

1.28 EMPLOYMENT ELIGIBILITY VERIFICATION.

In accordance with Section 448.095, Florida Statutes, Respondent, by responding to a solicitation or entering into a contract with the District, certifies: (i) it is registered with and uses the E-Verify system operated by the U.S. Department of Homeland Security to verify the work authorization status of all newly hired employees, (ii) during the year prior to making its submission or entering into a contract with the District, no contract of Respondent was terminated by a public employer in compliance with Section 448.095, F.S, and (iii) it is and shall remain in compliance with Sections 448.09 and 448.095, Florida Statutes, including securing and maintaining subcontractor affidavits as required by Section 448.095(2)(b), Florida Statutes. Upon good faith belief that Respondent or its subcontractors of any tier have knowingly violated Sections 448.09(1) or 448.095(2), Florida Statutes the District shall terminate (or order the termination of) their contract. Respondent shall be liable for any additional cost incurred by the District as a result of its termination. The District’s receipt of proof that Respondent and each subcontractor performing through Respondent are E-Verify system participants is a condition precedent to any District contract. Information on how to obtain proof of participation, register for and use the E-Verify system may be obtained via U.S. Department of Homeland Security website: http://www.dhs.gov/E-Verify. This provision shall be incorporated into any resulting contract with the District.

1.29 CORRESPONDENCE.

Unless otherwise notified in writing by the District, correspondence pursuant to this RFP must be sent to the District at the following address:

Procurement Office (BKV-2-PRO) Building 2
Southwest Florida Water Management District
2379 Broad Street
Brooksville, Florida 34604-6899
E-mail: procurement@watermatters.org
Proposed Respondents or persons acting on their behalf may not contact any employee or officer of the District concerning any aspect of this RFP, except in writing to the Procurement Service Office as provided in this RFP, until the Notice of Intent to Award is posted and becomes final. Violation of this provision may be grounds for rejecting a proposal.

1.30 BACKGROUND CHECKS.

The District will require the Contractor to perform and provide the District with a background check on all persons assigned to perform work for the District on behalf of Respondent. This will include, at a minimum, a check of each person's criminal history record with the Florida Department of Law Enforcement (FDLE), and such additional background checking as the Contractor, or the District may deem appropriate.

Persons with certain types of criminal backgrounds may be automatically excluded from performing work for the District. Others may be excluded at the sole discretion of the District, based upon the results of the background check (see Section 373.6055 F.S. for further detail about statutory requirements).

1.31 PURCHASES BY OTHER PUBLIC AGENCIES.

With the consent and agreement of the Consultant, purchases may be made under this RFP by other governmental agencies or political subdivisions within the State of Florida. Such purchases will be governed by the same terms and conditions stated herein. This Agreement in no way restricts or interferes with the right of any public entity to procure any or all of these services independently.

PART II - INTRODUCTION

2.1 GENERAL INFORMATION.

The Southwest Florida Water Management District (District) hereby solicits offers for the services of qualified Respondents for the following purpose:

Acquiring digital orthophotos, photointerpretation of seagrass and other benthic habitats, and all necessary field work to produce seagrass maps of the Florida coast contained within the boundary of the Southwest Florida Water Management District roughly from Waccasassa Bay to Charlotte Harbor along the west-central and southwest Florida coast. The professional services associated with image acquisition shall be performed in accordance with the following: all data shall be collected and processed under the supervision of a Florida licensed Professional Surveyor and Mapper (PSM) in accordance with Chapter 472 Florida Statutes and the Standards of Practice defined in Chapter 5J-17, Florida Administrative Code, and an American Society of Photogrammetry and Remote Sensing (ASPRS) Certified Photogrammetrist (CP). Photointerpretation of seagrass and other benthic habitats shall be performed by a team of photointerpreters (PI) with sufficient photointerpretation experience in mapping benthic marine habitats and under conditions similar to those found along the Florida Gulf Coast. See Part III – Scope of Work, Paragraph 3.2 of this RFP for more details.

During the evaluation process, the District reserves the right, where it may serve the District’s interest, to request additional information from Respondents for clarification purposes.

The District reserves the right to retain all proposals submitted. Submission of a proposal indicates acceptance by the Respondent of the conditions contained in this Request for Proposals.

This RFP is in accordance with and pursuant to Section 287.055, F.S., "Consultants' Competitive Negotiation Act" (CCNA).
2.2 **BACKGROUND INFORMATION.**

The District is one of five regional water management districts charged by Chapter 373 of the Florida Statutes to preserve and protect the resources for the people through water resource development, regulatory and other programs. Central to the mission is maintaining the balance between the water needs of current and future residents, while protecting and maintaining the natural systems which provide the District with its existing and future water supply. The District’s services include, but are not limited to, flood control; regulatory programs such as surface water and water use permitting; natural systems management; preservation and restoration of threatened lakes, rivers, streams and estuaries; land management and acquisition; and public education awareness.

2.3 **TERM OF CONTRACT.**

The expected term of the contract resulting from this RFP will be from the date of execution through October 31, 2025.

2.4 **BUDGET.** The anticipated budget for Fiscal Year 2023 (FY23) is Five Hundred Thousand Dollars ($500,000) and is contingent upon approval by the District’s Governing Board.

The District anticipates qualifying, negotiating and entering into a cost reimbursement Agreement with the highest ranked Respondent to accomplish the work detailed in this RFP.

2.5 **PROPOSAL CALENDAR.** The following is a list of key actions and dates:

<table>
<thead>
<tr>
<th>ACTION</th>
<th>DATE</th>
<th>LOCAL TIME</th>
</tr>
</thead>
<tbody>
<tr>
<td>REQUEST FOR PROPOSALS ISSUED</td>
<td>June 2, 2023</td>
<td></td>
</tr>
<tr>
<td>DEADLINE FOR TECHNICAL QUESTIONS</td>
<td>June 17, 2023</td>
<td>5:00 PM</td>
</tr>
<tr>
<td>SUBMISSION DEADLINE</td>
<td>June 27, 2023</td>
<td>2:00 PM</td>
</tr>
<tr>
<td>PRELIMINARY EVALUATION COMMITTEE MEETING</td>
<td>July 10, 2023</td>
<td>2:00 PM</td>
</tr>
<tr>
<td>ORAL PRESENTATIONS</td>
<td>July 20, 2023</td>
<td>TBD*</td>
</tr>
<tr>
<td>FINAL EVALUATION COMMITTEE MEETING</td>
<td>July 20, 2023</td>
<td>2:00 PM</td>
</tr>
<tr>
<td>NOTICE OF INTENDED DECISION</td>
<td>July 30, 2023</td>
<td>TBD*</td>
</tr>
<tr>
<td>AGREEMENT EXECUTION</td>
<td>TBD*</td>
<td>TBD*</td>
</tr>
</tbody>
</table>

*TBD – To be Determined

The remainder of this page intentionally left blank.
PART III – SCOPE OF WORK

3.1 PROJECT DESCRIPTION / WORK OBJECTIVE

Since the early 1990’s, the District has mapped seagrass every two years from Tampa Bay southward to Charlotte Harbor. For the purpose of this RFP, this region will be referred to as the Suncoast Region. In 2007, the District began mapping seagrass habitat along the Springs Coast Region encompassing an area from Anclote Key northward to Waccasassa Bay on roughly a four-year cycle. This Project is a continuation of these previous mapping efforts to monitor the status and trends in seagrass and other benthic estuarine habitat contained within these waters. In 2004, the District switched from traditional film to digital photography for all its seagrass mapping projects. Today the District continues to use digital orthophotos, captured for the specific purpose of viewing benthic habitats through estuarine and nearshore coastal waters, to support geospatial mapping of seagrass and other benthic habitats along the west-central and southwest Florida coast. For this RFP, the entirety of the District coast inclusive of the Suncoast and Springs Coast regions shall be mapped under a single agreement.

3.2 PROFESSIONAL QUALIFICATIONS

Respondents must provide the following documentation to substantiate their qualifications to provide the services set forth in this RFP.

3.2.1 This RFP requires the services of a Professional Surveyor and Mapper and an American Society of Photogrammetry and Remote Sensing (ASPRS) Certified Photogrammetrist (CP). The following information is required to verify that the Respondent and all surveyors and mappers working on District projects are licensed to provide the professional services in the State of Florida, in accordance with Chapter 472, F.S., and Chapter 5J-17, F.A.C.:

3.2.1.1 Copy of Respondent's current Board of Professional Surveyors and Mappers "Certificate of Authorization"; and

3.2.1.2 Names and Florida Professional Surveyor and Mapper (PSM) license numbers of all surveyor and mappers proposed for this RFP, in accordance with Chapter 472, F.S.

3.2.1.3 Copy of Respondent's current ASPRS Certification.

3.2.2 All work for the imagery acquisition portion of the project must be under the supervision of a Florida licensed Professional Surveyor and Mapper (PSM) and in accordance with Florida Statute 472 and Rule 5J-17, Florida Administrative Code.

3.2.3 Résumés of key team members detailing years of experience, years working with the Respondent or Sub-Respondent, relevant software or other proficiencies and significant accomplishments. The photointerpretation (PI) team and the field team are also considered key team members.

3.2.4 Respondents must provide qualifications of the photointerpretation (PI) team to include but not limited to the following elements: (1) PI team must demonstrate experience mapping underwater habitats, to include seagrass, greater than 1,000 square miles in area, (2) PI team must demonstrate experience mapping complex benthic habitats similar to those found within the project area, and (3) PI team must demonstrate previous mapping experience in varying water clarity conditions and depths similar to those found within the Project area.

3.2.5 Respondents must provide qualifications of the field team detailing experience collecting, (1) field data for aerial image ground-truthing, and (2) benthic habitat mapping field verification and accuracy assessment. In addition, respondents must indicate how the field work was used to ground truth imagery and to verify map accuracy.
3.2.6 Respondents must provide a minimum of three references from organizations that they completed recent projects for within the last five (5) years, that are similar in scope and complexity to this Project, including all major aspects of the scope of work.

3.3 SCOPE OF WORK / DELIVERABLES.

Respondents must clearly address their approach, time schedule, activities work products, and prior experience for each of the sections and tasks under each section detailed below. To facilitate the review process, all proposals must be formatted using the section and sub-section numbers and titles detailed below.

This Scope of Work (SOW) is divided into three (3) sections. Section One, Imagery Acquisition, provides specific details regarding the collections, processing, and QA/QC of the digital orthophotography. Section Two, Photointerpretation, provides specific details regarding imagery QC, photointerpretation of benthic habitats, and GIS requirements. Finally, Section Three, Field Work, details specific field requirements related to both imagery acquisition and photointerpretation.

3.3.1 Section One - Imagery Acquisition

The Southwest Florida Water Management District (District) uses digital orthophotos, captured for the specific purpose of viewing through estuarine water columns, to support the geospatial mapping of seagrass habitats and other benthic features. This project is a continuation of previous efforts to determine the status and trends of seagrass resources in the coastal waters of the District. This document defines the specifications and technical aspects for developing project specific 2023–2024 digital orthophotos. For this RFP, the Respondent and the CONSULTANT, as referenced in the SWFWMD Seagrass Specifications 2.14, are the same entity. All data will be the property of the District and will be considered a public record as defined by applicable Florida Statutes (1B-26).

Benthic imagery acquisition requires careful attention to atmospheric conditions (such as sun angle, clouds, haze) and water conditions (such as turbidity, waves, tides) to achieve optimum results. Large area projects add extra challenges with the management of multiple aircraft, limitations on flight line length (for IMU drift), and air traffic restrictions.

The Project tasks under this section will include the follow elements:

- Flight Planning and Coordination
- Digital Orthophotography
- Project Management and quality assurance and control

3.3.1.1 The successful Respondent shall acquire new RGBi digital imagery for the Project area of interest (AOI; Figure 1) covering a total area of approximately 2,543 square miles. The AOI contains the area known as the Springs Coast, comprising approximately 1,280 square miles (1,427 tiles) off the coast of Pasco, Hernando, Citrus and Levy counties. The Springs Coast includes the estuaries of Waccasassa Bay, Withlacoochee River Mouth, Crystal Bay, Homosassa River Mouth, Chassahowitzka River Mouth, Weeki Wachee River Mouth, Pithlachascotee River Mouth, and Anclote River Mouth (northern portion of St. Joseph Sound/Clearwater Harbor) (Figure 3). Some estuaries within the Springs Coast have an inshore and offshore component (Figure 3). The Suncoast region comprises approximately 1,263 square miles (1,408 tiles) and includes the estuaries of Tampa Bay, St. Joseph Sound/Clearwater Harbor, Sarasota Bay, Lemon Bay and Charlotte Harbor (Figure 4). Imagery should be 6-inch pixel resolution or better. The aerial imagery and ultimate creation of orthophotos shall be of high quality to facilitate the completion of a detailed benthic habitat thematic map (see Photointerpretation Key for a complete list of focal habitats).
3.3.1.2 The horizontal and vertical datum used for this Project shall be in accordance with the standards and guidance documents which are incorporated into and made a part of the subsequent agreement and SWFWMD Seagrass Specification 2.14, (Section 2.4 Horizontal and Vertical Datum).

3.3.1.3 The photogrammetric mapping survey control and checkpoints used for this Project shall be in accordance with the standards and guidance documents which are incorporated into and made a part of the subsequent agreement and SWFWMD Seagrass Specification 2.14, (Section 2.5 Photogrammetric Mapping Survey Control and Checkpoints).

3.3.1.4 The professional services shall be performed in accordance with the standards and guidance documents which are incorporated into and made a part of the subsequent agreement and SWFWMD Seagrass Specification 2.14, (Exhibit “A”).

3.3.1.5 Section One, Task 1– Mobilization and Imagery Acquisition

The image acquisition flight window will be from December 1, 2023 through February 29, 2024. The successful Respondent must receive written approval from the District before collecting any imagery outside of this flight window. Because seagrass distribution can change relatively quickly, no more than a 5-7-day gap between mission sets is preferred.

3.3.1.5.1 The flight mission planning including final determination for flight shall be in accordance with the standards and guidance documents which are incorporated into and made a part of the subsequent agreement and SWFWMD Seagrass Specification 2.14, (Section 2.7 Mission Planning).

3.3.1.5.2 The successful Respondent needs to address in the proposal how they plan to evaluate water clarity, especially in the Springs Coast where there are large expanses of open water. The imagery shall have sufficient water clarity to enable interpretation of the benthic habitat. The District reserves the right to request a re-flight after inspection of the preliminary imagery if it is found to have unacceptable image quality.

3.3.1.5.3 The successful Respondent shall compile a table of optimal flight schedules that meet tidal stage and sun angle requirements within the specified flight window. The successful Respondent together with the District shall cross-reference the flight schedule with daily environmental conditions prior to flight.

3.3.1.5.4 All imagery will be collected using a digital airborne imaging sensor in accordance with SWFWMD Seagrass Specifications 2.14, (Section 2.1 Sensor).

3.3.1.5.5 Respondents should be aware of likelihood of re-flights in areas of special concern as seen in Figure 2 – Areas of Special Concern. In addition to the 5 passes shown in Figure 2 and as mentioned in SWFWMD Seagrass Specifications 2.14 (Section 2.7 Mission Planning), other potential areas of concern include Sand Key, Jetty, Stump, Longboat, and Big Sarasota.

3.3.1.5.6 The successful Respondent shall adhere to all specifications on image quality in SWFWMD Seagrass Specifications 2.14, (Section 2.8 Image Quality). Of note, Level 02 geo-referenced imagery shall be made available for virtual online review by the District via a web-based client interface (WBCI). The successful Respondent needs to address in the proposal how they propose to provide a WBCI. At a minimum, the WBCI shall have the capability to log any issues or errors.
3.3.1.6 Section One, Task 2 – Ortho-imagery Processing

3.3.1.6.1 The successful Respondent shall adhere to all specifications on ortho-imagery processing in SWFWMD Seagrass Specifications 2.14, (2.9 Ortho-Imagery Processing). Of note, the successful Respondent shall utilize District source data, such as existing Digital Elevation Models (DEM), breaklines or Lidar data available for the project area.

3.3.1.6.2 The successful Respondent shall match the existing DEM data to a photo image to create a digital ortho-image. The relevant DEM data shall be merged with the orientation parameters and the new digital imagery. A complete differential rectification is carried out with a set of algorithms that remove image displacement due to topographic relief and the tip and tilt of the aircraft at the time of exposure. The successful Respondent is not expected to correct for "building lean" or bridge distortion.

3.3.1.6.3 As stated in, SWFWMD Seagrass Specifications 2.14, (2.9 Ortho-Imagery Processing), special consideration shall be made during the image post-processing to enhance the visibility of underwater features while still preserving the image fidelity of topographic features. Where applicable, two separate radiometric adjustment efforts shall be employed to emphasize visually seamless color balancing, tone, and contrast across both estuarine and topographic extents. Prior to finalizing the image post-processing, the successful Respondent shall submit samples to the District for approval from various areas within each estuary segment.

3.3.1.6.4 The successful Respondent shall use software for color balancing, tone/contrast adjustments, and image mosaicking. In accordance with Section 2.9 SWFWMD Seagrass Specifications 2.14. Of note, significant differences in water clarity and bottom type are common within and across Springs Coast and Suncoast estuaries. All images within each estuary shall be merged to help eliminate mismatches between tiles in contrast and tonal quality.

3.3.1.7 Section One, Task 3 – QA/QC and Final Deliverables

3.3.1.7.1 Prior to deliverable submittal, the successful Respondent will schedule a pre-submittal meeting as specified in Section 5 Orthophoto Deliverables, Paragraph 3 in the SWFWMD Seagrass Specifications 2.14.

3.3.1.7.2 Deliverables shall be provided in accordance with the standards and guidance documents which are incorporated into and made a part of the subsequent agreement and SWFWMD Seagrass Specification 2.14, (Attachment D – Deliverable Summary Table). Imagery deliverables include:

- Daily progress reports during acquisition
- Monthly progress reports after acquisition
- Preliminary imagery for QAQC
- Preliminary color balance samples (Level 02) per estuary
- Primary Flight Lines – Imagery Tiles
- Primary Flight Lines – Imagery Mosaics
- Primary Flight Lines – Preliminary Imagery (strips or frames)
- Alternate Flight Lines – Imagery Tiles
- Alternate Flight Lines – Imagery Mosaics
- Alternate Flight Lines – Preliminary Imagery (strips or frames)
- Survey Report (Hardcopy & PDF)
- Calibration Report and Flight Logs (Hardcopy & PDF)
• Metadata File for each Imagery Tile and project-wide: Orthophoto, Cutline Feature Class, Flight Line Feature Class, and Ground Control Feature Class
• File geodatabase: Cutline Feature Class, Flight Line Feature Class, and Ground Control Feature Class
• Secure Hash Algorithm Output File

3.3.2 Section Two - Photointerpretation

The successful Respondent will complete photointerpretation of seagrass and other benthic habitat types using digital orthophotos collected under 3.3.1, Section One - Imagery Acquisition. All line work will be completed to the satisfaction of the District and in accordance with the Performance Schedule and Performance Budget set forth in the subsequent agreement with the selected firm.

3.3.2.1 Section Two, Task 1 - Quality Control of Imagery

The successful Respondent will review all the imagery and will provide feedback to the District on any issues found and any challenges anticipated for the interpretation. This section refers to quality control by the photointerpreter and is separate from the imagery quality control as specified in the SWFWMD Seagrass Specifications 2.14, (Section 2.8 Image Quality and 2.9 Ortho-imagery processing). This feedback will be provided within the web mapping system and approval of the imagery will be provided directly to the District. Quality control shall include manual verification of positional accuracy and attribution of photointerpreted data.

3.3.2.2 Section Two, Task 2 - Photointerpretation and GIS-Based Mapping

The successful Respondent shall acquire new RGBi digital imagery for the Project area of interest (AOI; Figure 1) covering a total area of approximately 2,543 square miles. The AOI contains the area known as the Springs Coast, comprising approximately 1,280 square miles (1,427 tiles) off the coast of Pasco, Hernando, Citrus and Levy counties. The Springs Coast includes the estuaries of Waccasassa Bay, Withlacoochee River Mouth, Crystal Bay, Homosassa River Mouth, Chassahowitzka River Mouth, Weeki Wachee River Mouth, Pithlachascotee River Mouth, and Anclote River Mouth (northern portion of St. Joseph Sound/Clearwater Harbor) (Figure 3). Some estuaries within the Springs Coast have an inshore and offshore component (Figure 3). The Suncoast region comprises approximately 1,263 square miles (1,408 tiles) and includes the estuaries of Tampa Bay, St. Joseph Sound/Clearwater Harbor, Sarasota Bay, Lemon Bay and Charlotte Harbor (Figure 4).

3.3.2.2.1 Photointerpretation Kickoff Meeting – The successful Respondent, including all staff completing photointerpretation for the Project, shall attend a photointerpretation kick-off meeting. During the meeting the Project team shall review ancillary data available for use during the Project, discuss areas in question from previous maps, review imagery, and begin coordinating a field work schedule.

3.3.2.2.2 Photointerpretation – The successful Respondent shall interpret photographic signatures of various benthic habitat types from imagery acquired between December 1, 2023 through February 29, 2024, under this RFP using a modified Florida Land Use Land Cover Classification System (FLUCCS). A GIS workstation will be utilized with ESRI ArcGIS software tools to visualize imagery and delineate polygons using the modified FLUCCS classification scheme provide by the District. Each FLUCCS Level III category will be identified within the minimum mapping unit (MMU) of 0.25 acres. Refer to Exhibit “D” – SWFWMD: Biennial Seagrass – Suncoast 2022 (W331) Photointerpretation Key of Seagrass Coverage. The existing 2020 Springs Coast and 2022 Suncoast seagrass vector data will be superimposed on current digital imagery to serve as the baseline dataset during the photointerpretation process. For signature identification purposes, information sources beyond the 2020 Springs Coast and 2022 Suncoast imagery that can
be utilized by the PI team include previous District seagrass maps, independent imagery, bathymetry data, other ground truth and field verification data points, oyster bar maps, and hard bottom maps. All ancillary data used for this Project must be approved by the District.

3.3.2.2.3 Mapping – On screen, head’s up digitizing techniques shall be used to produce an ESRI file-based geodatabase (.GDB) containing feature classes for the 2024 Seagrass Map, plus 2020 to 2024 Springs Coast Change Analyses vector datasets and 2022 to 2024 Suncoast Change Analyses vector datasets. The geodatabase and subsequent feature classes will have the following minimum characteristics:

- Each FLUCCS Level III category will be identified within the MMU of 0.25 acres.
- Polygon topology with no overlap/underlap
- Each polygon will have only one label within its boundaries
- Florida State Plane Feet West NAD 83/2011

The feature attribute table will contain the following fields:

- FLUCCS_Code – Four (4) digit numeric Florida Land Use and Cover Classification System
- FLUCCS_Descrip – Florida Land Use and Cover Classification System text description
- DATESTAMP – Represents the date of final processing coverage
- GIS_ACRES – Each polygon’s defined acreage

3.3.2.2.4 Second Party Review – A second party photointerpreter qualified in seagrass mapping who did not participate in the photointerpretation shall conduct the review. In addition, automatic verification shall be conducted of missing polygon label points, invalid attribution codes, and adjacent polygons with the same attributes.

3.3.2.3 Section Two, Task 3 – Project Management and Final Deliverables

3.3.2.3.1 The successful Respondent will provide management and oversight of subcontractors, project administration, contract management, billing, and project meetings as needed.

3.3.2.3.2 The successful Respondent shall provide Weekly Progress Reports that shall contain, at a minimum, the following information:

- An assessment of the Project’s actual progress as compared to the Performance Schedule (details must include any deficiencies and the recovery actions completed and planned).
- An updated Gantt chart showing task percent complete, current date, and estimated schedule to completion by task.
- Labor resource planned and actual (show - prior months, past month, current month, months to completion).
- Anticipated date of next pre-submittal meeting or deliverable.

3.3.2.3.3 GIS Geodatabase from the Photointerpretation – The DISTRICT will require final products as an ESRI file-based geodatabases (.GDB) secured using SHA-1.

3.3.2.3.4 Metadata - The successful Respondent shall deliver metadata in an ESRI ArcCatalog compatible XML format. Metadata must be compliant with the Federal Geographic Data Committee’s (FGDC) Content Standard for Spatial Metadata. All metadata must pass through the USGS metadata parser at http://geo-nsdi.er.usgs.gov/validation/ with no errors.

3.3.2.3.5 Updated Photointerpretation Key – A photointerpretation key for all FLUCCS codes will be created to identify the various photo signatures associated with the project. A single PI key will be used for both Springs Coast and Suncoast regions. However, not all FLUCCS
codes may be used in both regions. This key will be provided in both ESRI Story Map and pdf formats. The key will include the current FLUCCS definitions; two (2) representative aerial images of each unique habitat (FLUCCS code) for both the Springs Coast and Suncoast regions; and two (2) representative in-field images of each unique habitat (FLUCCS code) for both the Springs Coast and Suncoast regions and where possible, full motion video. See Exhibit “B” – SWFWMD Full Motion Video Specification 1.1 for detail concerning the use of full motion video. The District will provide the successful Respondent access to its ArcGIS Online for completion of the Story Map.

3.3.2.3.6 Final Report from the Photointerpretation - The successful Respondent shall prepare a brief final report that documents methods and logic employed to create the mapping products. The report must include the following items:

- Executive Summary
- Introduction
- Project Area Description
- Source data issues and resolutions
- Mapping methods and processing documentation
- Updated Photointerpretation Key
- Draft and Final Maps
- Problems Encountered During Photointerpretation
- Project Metadata
- Acreage Analysis Results
- Change Analysis
- Conclusion

3.3.2.3.7 Final Acreages Photointerpretation Spreadsheet – A tabular summary of estimated seagrass and other FLUCCS code acreages by bay segment and waterbody.

3.3.2.3.8 Deliverables

1. Springs Coast Area (includes inshore and offshore segments where applicable)
   - Area-wide final draft map and field verification results
   - Waccasassa Bay final draft map and field verification results
   - Withlacoochee River final draft map and field verification results
   - Crystal Bay final draft map and field verification results
   - Homosassa River final draft map and field verification results
   - Chassahowitzka River final draft map and field verification results
   - Weeki Wachee River final draft map and field verification results
   - Pithlachascotee River final draft map and field verification results
   - Anclote River final draft map and field verification results

2. Suncoast Area
   - St. Joseph Sound / Clearwater Harbor final draft map and field verification results
   - Tampa Bay final draft map and field verification results
   - Sarasota Bay final draft map and field verification results
   - Lemon Bay final draft map and field verification results
   - Charlotte Harbor final draft map and field verification results

3. Final Geodatabase:
   - Final 2024 Seagrass Map
   - Topology for Final 2024 Seagrass Map
   - Suncoast: 2022 to 2024 Change Analysis
   - Springs Coast: Final 2020 to 2024 Change Analysis
4. Updated Photointerpretation Key
   • GIS-based photointerpretation key with minimum of five representative locations for each FLUCCS code to include photographs and full motion video
   • Hard copy version of updated photointerpretation key including representative locations with photographs for each FLUCCS code
5. Final Report and Acreage Estimates Spreadsheet
6. FDGC compliant metadata
7. Working Classification Model as an .XML

3.3.3 Section Three - Field Work

The purpose of this Section is to describe the necessary field work to support the tasks associated with Sections One and Two of the Scope of Work Part of this RFP. The two phases of field work to be completed are the Field Verification phase and Accuracy Assessment phase. The successful Respondent shall use underwater video or photographic stills to characterize each field site. Underwater video snippets are preferred. These underwater video snippets and/or photos shall be the primary means for attribution of field data and will provide a visual record of each point. If Full Motion Video is employed the successful Respondent shall adhere to the Full Motion Video (FMV) Specifications (Exhibit “B” of Attachment 1, Full Motion Video Specifications). The successful Respondent may choose to employ unmanned aircraft systems (UAS) to augment data collection. The successful Respondent shall follow the District’s guidelines and specifications documents regarding the operations of unmanned aircraft systems (UAS) if the proposal includes the use of such systems (Exhibit “C” – Guidelines and Specifications for the Use of Unmanned Aircraft Systems). The successful Respondent must clearly identify in the proposal if such systems will be used.

3.3.3.1 Section Three, Task 1 – Field Verification

The objective of field verification is to verify photo signatures that are representative, unique, and/or problematic on the 2024 aerial imagery. Locations will be selected by the lead photointerpreter in conjunction with District staff. A minimum of two successful Respondent staff with seagrass identification experience, inclusive of the captain, shall be in attendance for all field verification activities unless alternative arrangements are approved by the District Project Manager. The successful Respondent must be able to accommodate District staff on the vessel as needed. The successful Respondent or it's subcontractor shall provide necessary field equipment (boat, WAAS or equivalent enabled GPS navigation device, and underwater video equipment) and crew (minimum of two crew members with seagrass identification experience, inclusive of the captain).

3.3.3.2 Section Three, Task 2 – Independent Accuracy Assessment

The Independent Accuracy Assessment is a means to assess the overall accuracy of the seagrass maps completely independent of the photointerpreters. Therefore, the successful Respondent should hire a subcontractor to handle all aspects of this assessment. The subcontractor will not interact with the Respondent’s photointerpreters but may confer and coordinated with District staff so long as District staff do not share information with the photointerpreters prior to the assessment’s completion. After the assessment is complete and the maps have been accepted by the District, all data associated with the Independent Accuracy Assessment may be shared with the photointerpreters.

The Independent Accuracy Assessment Team will develop the sampling design and accuracy assessment plan prior to the beginning of the flight window. Every effort shall be made to collect field data during or shortly after the flight window. To the extent possible, underwater video will be collected and catalogued for each site location visited. Point selection will be statistically valid and will follow the National Standards for Spatial Data Accuracy (NSSDA) specifications (https://www.fgdc.gov/standards/projects/FGDC-standardsprojects/accuracy/part3 ). Specific details on the methodology used to assess accuracy will be documented in the Independent Accuracy Assessment
Plan and approved by the District.

3.3.3.3 Section Three, Task 3 – Field Data Reporting

The successful Respondent shall record field data for all sites visited during both the accuracy assessment and field verification phases. These data shall be annotated in a geodatabase and include, but not limited to, the following attributes: location, percent cover, dominant species type, and presence of drift algae.

3.3.3.3.1 Deliverables

1. GIS Geodatabase from the field verification provided as an ESRI file-based geodatabase (.GDB).
2. GIS Geodatabase from the accuracy assessment provided as an ESRI file-based geodatabase (.GDB).
4. All data collected by the successful Respondent including all photographs and video files produced during field operations shall be submitted to the District.

PART IV - INSURANCE REQUIREMENTS

4.1 INSURANCE REQUIREMENTS

See Insurance Requirement provision in the attached Sample Agreement.

PART V - EVALUATION PROCEDURES

5.1 EVALUATION AND FINAL SELECTION

Timely submitted responsive proposals will be evaluated by an Evaluation Committee consisting of five or more representatives of the District. Each representative will score each proposal using the criteria described in Paragraph 5.2 below. Evaluation Committee members will meet at a public meeting to finalize the preliminary rankings of the proposals. Individual raw scores will be ranked with the top ranked Respondent receiving the rank of one. The individual rankings will be totaled. The preliminary ranking of Respondents will be determined by the lowest total of the combined individual rankings. In the event of a tie, the raw scores of the tied Respondents will be totaled and the ranking will be determined based upon the highest cumulative raw score for the tied Respondents. The Respondents with the highest preliminary ranked proposals will be required to participate in oral presentations, with the number of Respondents required to participate in oral presentations being determined solely by the Evaluation Committee (but not less than three). If oral presentations are not necessary, the Evaluation Committee will finalize the ranking of the proposals at the public meeting.

Following oral presentations, Evaluation Committee members will finalize their evaluations at a public meeting. Individual raw scores will be ranked with the top ranked Respondent receiving the rank of one (1).

The District anticipates that on, or shortly after July 30, 2023, the Notice of Intended Decision will be posted listing three or more of the highest ranked Respondents, as determined by the District in its sole discretion. After the District’s decision becomes final, the District will commence negotiations with the highest ranked Respondent. The District shall not engage in negotiations with the Respondents simultaneously. If the District is unable to negotiate a satisfactory Agreement with the highest ranked Respondent at a fee schedule that the District determines to be fair, competitive and reasonable for the scope and complexity of the professional services required under this RFP, negotiations with that Respondent will be terminated and the District will undertake negotiations with the next highest ranked Respondent.
5.2 **EVALUATION METHOD AND CRITERIA.**

Proposals will be evaluated by the following criteria:

<table>
<thead>
<tr>
<th>Category</th>
<th>Point Range</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Organization Profile and Qualifications/Professional Qualifications</strong></td>
<td>0 – 23</td>
</tr>
<tr>
<td>Respondent has: Established resources, equipment, and qualified staff to complete the project (10); Positive feedback from references on similar past projects (13).</td>
<td></td>
</tr>
<tr>
<td><strong>Methodology / Approach</strong></td>
<td>0 – 50</td>
</tr>
<tr>
<td>Respondent has: A detailed solicitation response that is clear and concise, structured and organized, easy to read and navigate, that outlines their methodology and approach to completing the Project and all requirements of this RFP (20); Respondents who do the Photointerpretation line work in-house (10); Demonstrated the ability to meet Project work schedule and time requirements for completion of the Project (15); and availability to complete the Project based on their recent, current and projected workloads (5).</td>
<td></td>
</tr>
<tr>
<td><strong>Technical Knowledge</strong></td>
<td>0 - 25</td>
</tr>
<tr>
<td>Respondent has: A clear understanding of project goals and objectives (20); Quality, creativity and depth in their solicitation response (3); and Effective project management, controls and communications (2).</td>
<td></td>
</tr>
<tr>
<td><strong>Volume of Work</strong></td>
<td>0 - 2</td>
</tr>
<tr>
<td>Volume of work previously awarded:</td>
<td></td>
</tr>
<tr>
<td>Points</td>
<td>Dollar Volume</td>
</tr>
<tr>
<td>2</td>
<td>0 – 1,000,000</td>
</tr>
<tr>
<td>1</td>
<td>1,000,001 – 2,000,000</td>
</tr>
<tr>
<td>0</td>
<td>2,000,001+</td>
</tr>
</tbody>
</table>

5.3 **FINAL SELECTION.**

The District anticipates that on, or shortly after July 20, 2023, the Notice of Intended Decision will be posted on the District’s Internet web site (http://www.watermatters.org/procurement) and at www.demandstar.com.

The remainder of this page is intentionally left blank.
This AGREEMENT is made and entered into by and between the SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT, a public corporation of the State of Florida, having an address of 2379 Broad Street, Brooksville, Florida 34604-6899, hereinafter referred to as the "DISTRICT," and the CONSULTANT FIRM, a private, for profit corporation, of the State of Florida, having an address of ______________________, hereinafter referred to as "CONSULTANT."

WITNESSETH:

WHEREAS, the DISTRICT desires to engage the CONSULTANT to provide Districtwide Seagrass Mapping, hereinafter referred to as the "PROJECT"; and

WHEREAS, the DISTRICT has selected the CONSULTANT in accordance with the DISTRICT'S procurement policy and provisions of the Florida Consultants' Competitive Negotiation Act (CCNA); and

WHEREAS, CONSULTANT represents that it possesses the requisite skills, knowledge, expertise and resources and agrees to provide the desired services to the DISTRICT.

NOW THEREFORE, the DISTRICT and the CONSULTANT, in consideration of the mutual terms, covenants and conditions set forth herein, agree as follows:

1. **INDEPENDENT CONSULTANT.**

   Neither the DISTRICT nor any of its employees shall have any control over the conduct of the CONSULTANT or any of the CONSULTANT'S employees, subcontractors or agents, except as set forth in this Agreement, and the CONSULTANT expressly warrants not to represent at any time or in any manner that the CONSULTANT or the CONSULTANT'S employees, subcontractors or agents, are in any manner agents or employees of the DISTRICT. It is understood and agreed that the CONSULTANT is and shall at all times remain as to the DISTRICT, a wholly independent contractor and that the CONSULTANT'S obligations to the DISTRICT are solely as prescribed by this Agreement.

2. **PROJECT MANAGER AND NOTICES.**

   Each party hereby designates the individual set forth below as its respective Project Manager for matters arising under this Agreement. Project Managers shall assist with PROJECT coordination and shall be each party's prime contact person. Notices and
reports shall be sent to the attention of each party's Project Manager by U.S. mail, postage paid, by nationally recognized overnight courier, or personally to the parties' addresses as set forth in the introductory paragraph of this Agreement. Notice is effective upon receipt.

Project Manager for the DISTRICT: ________________
Project Manager for the CONSULTANT: ________________

Any changes to the above representatives or addresses must be provided to the other party in writing.

2.1 The DISTRICT’S Project Manager is hereby authorized to approve requests to extend a PROJECT task deadline set forth in this Agreement. Such approval must be in writing, explain the reason for the extension and be signed by the Project Manager and his or her Bureau Chief, or Director if the Bureau Chief is the Project Manager, unless the DISTRICT’S Signature Authority provides otherwise. The DISTRICT’S Signature Authority supersedes the approval requirements provided in this provision. The DISTRICT’S Project Manager is not authorized to approve any time extension which shall result in an increased cost to the DISTRICT, or exceed the expiration date of the contract term set forth in Paragraph 6, Contract Period.

2.2 The DISTRICT’S Project Manager is authorized to adjust a line item amount of the Project Budget developed in accordance with this Agreement. The authorization must be in writing, explain the reason for the adjustment, and be signed by all appropriate DISTRICT staff in accordance with the DISTRICT’S Signature Authority. The DISTRICT’S Project Manager is not authorized to make changes to the General Scope of Work, and is not authorized to approve any increase in the not-to-exceed amount. The parties acknowledge that the execution of this Agreement does not guarantee that a Notice to Proceed will be issued to the CONSULTANT.

3. SCOPE OF WORK.

The professional services that may be required under this Agreement are set forth in Exhibit "A," Scope of Work, Exhibit “B,” Full Motion Video Specifications and Exhibit “C”, Guidelines and Specifications for the Use of Unmanned Aircraft Systems. As needed, the DISTRICT will provide the CONSULTANT with the proposed Scope of Work and general timeline for the professional services the DISTRICT requires the CONSULTANT to perform. Upon receipt of said Scope of Work, the CONSULTANT shall provide the DISTRICT with a proposal that includes a detailed Scope of Work to be performed, including deliverables, an itemized project budget spreadsheet, and a project and staffing schedule that conforms to the DISTRICT’S PROJECT and schedule requirements. A not-to-exceed price will be negotiated based on the Fee Schedule (hourly labor rates and unit pricing) set forth in Exhibit "B" of this Agreement. Final payment in all cases will be subject to successful completion of the PROJECT and the DISTRICT’S acceptance of deliverables and PROJECT milestones, in accordance with the terms of this Agreement.
The parties acknowledge that the execution of this Agreement does not guarantee that a Notice to Proceed will be issued to the CONSULTANT.

3.1 Upon written approval of the Scope of Work, cost, deliverables, and performance schedule, a Notice to Proceed will be issued to the CONSULTANT. The Notice to Proceed must be approved in writing by the Project Manager, his or her Manager and Bureau Chief and all other DISTRICT staff required in accordance with the DISTRICT’S Signature Authority. The CONSULTANT shall commence work upon receipt of a Notice to Proceed and shall satisfactorily complete all work in accordance with the performance schedule. Any Agreement modification(s) must be approved in writing by all appropriate DISTRICT staff in accordance with the DISTRICT’S Signature Authority and the CONSULTANT prior to being performed by the CONSULTANT.

3.2 The parties agree that time is of the essence in the performance of the Agreement.

3.3 The DISTRICT and the CONSULTANT hereby recognize the specialized expertise of the CONSULTANT’S key employees and subconsultants (_________________), listed in the CONSULTANT’S proposal to RFP 23-4113, as part of the PROJECT team. Both parties further agree that replacement of key team members or subconsultants must be with equal or more qualified persons, and must be approved in writing by the DISTRICT Project Manager before a new member works on the PROJECT.

3.4 In addition to the work set forth in this Agreement, the CONSULTANT shall perform the following:

3.4.1 The CONSULTANT shall secure at its own expense, all personnel, facilities and equipment required to perform the work necessary to complete this Agreement.

3.4.2 The CONSULTANT shall maintain an adequate and competent staff licensed within the State of Florida.

3.4.3 The CONSULTANT shall comply with all federal, state and local law, statutes, rules, regulations, ordinances, orders and decisions in effect at the time of the execution of this Agreement and during its entire duration.

3.4.4 The CONSULTANT shall at all times, keep the DISTRICT advised as to the status of this PROJECT including but not limited to the progress on individual tasks within the Scope of Work. The DISTRICT and its authorized representatives shall have the right to visit any work site and the office of the CONSULTANT at any reasonable time for purposes of inspection.

3.4.5 The CONSULTANT shall cooperate with other engineers, consultants, construction contractors and suppliers retained by the DISTRICT as needed.
4. COMPENSATION.

The DISTRICT agrees to pay the CONSULTANT on a cost reimbursement basis for work performed under this Agreement in accordance with the Local Government Prompt Payment Act, Part VII of Chapter 218, Florida Statutes (F.S.), upon receipt of a proper invoice, as defined in subparagraph 4.2 of this Agreement for work satisfactorily performed by CONSULTANT. Invoices shall be submitted by the CONSULTANT to the DISTRICT electronically at invoices@WaterMatters.org, or at the following address:

Accounts Payable Section
Southwest Florida Water Management District
Post Office Box 1166
Brooksville, Florida 34605-1166

4.1 The DISTRICT'S performance and payment pursuant to this Agreement are contingent upon the DISTRICT'S Governing Board appropriating funds in its approved budget for the PROJECT in each Fiscal Year of this Agreement.

4.2 All invoices must include the following information: (1) the CONSULTANT'S name, address and phone number (include remit address, if different than principal address in the introductory paragraph of this Agreement); (2) the CONSULTANT'S invoice number and date of invoice; (3) DISTRICT Agreement number; (4) Dates of service; (5) the CONSULTANT'S Project Manager; (6) DISTRICT'S Project Manager; (7) Progress Report with the CONSULTANT Project Manager's assessment of the PROJECT'S actual progress as compared to the performance schedule in the Agreement (details must include any deficiencies and the recovery actions completed and planned); and (8) Supporting documentation necessary to satisfy auditing purposes, for cost and PROJECT completion (based upon the cost and performance schedule in the Agreement). The final invoice will include information relating to the amount of expenditures made to disadvantaged business enterprises (based on the requirements contained in Paragraph 22). Invoices that do not conform to this provision will not be considered a proper invoice.

4.3 If an invoice does not meet the requirements of this Agreement, the DISTRICT shall, within ten (10) days after the improper invoice is received, notify the CONSULTANT in writing that the payment invoice is improper and indicate what corrective action on the part of the CONSULTANT is needed to make the invoice proper. Prior to providing this notice, the DISTRICT'S Project Manager must consult with and obtain concurrence from his or her Bureau Chief. If a corrected invoice is provided to the DISTRICT that meets the requirements of this Agreement, the corrected invoice will be paid within forty-five (45) days after the date the corrected invoice is received by the DISTRICT.

4.4 In the event any dispute or disagreement arises during the course of the PROJECT, the CONSULTANT shall fully perform the PROJECT work in accordance with the DISTRICT'S written instructions and may claim additional compensation. The CONSULTANT is under a duty to seek clarification and
resolution of any issue, discrepancy, or dispute by submitting a formal request for additional compensation, schedule adjustment or other proposed dispute resolution to the DISTRICT’S Project Manager no later than ten (10) days after the precipitating event. Disputes shall be resolved in accordance with the DISTRICT’S dispute resolution procedure. No PROJECT work shall be delayed or postponed pending resolution of any disputes or disagreements. This paragraph shall survive the termination or expiration of this Agreement.

4.5 By October 5th of each year of the Agreement, the CONSULTANT must provide the following documentation to the DISTRICT for all work performed through September 30th: i) invoices for completed, accepted and billable tasks, and ii) an estimate of the dollar value of work performed, but not yet billable.

4.6 Each CONSULTANT invoice must include the following certification, and the CONSULTANT hereby delegates authority by virtue of this Agreement to its Project Manager to affirm said certification:

"I hereby certify that the costs requested for payment, as represented in this invoice, are directly related to the performance under the agreement between the Southwest Florida Water Management District and Consultant Firm (Agreement No. 23CN0004113), are allowable, allocable, properly documented, and are in accordance with the approved Project Budget."

4.7 The DISTRICT may, in addition to other remedies available at law or equity, retain such monies from amounts due the CONSULTANT as may be necessary to satisfy any claim for damages, penalties, costs and the like asserted by or against the DISTRICT. The DISTRICT may set off any liability or other obligation of the CONSULTANT or its affiliates to the DISTRICT against any payments due the CONSULTANT under any agreement with the DISTRICT. This paragraph shall survive the expiration or termination of this Agreement.

5. SUSPENSION OF PROJECT – EXTRA WORK.

5.1 The DISTRICT shall have the absolute right to terminate or suspend this Agreement, or modify the Agreement upon mutual agreement, at any time and for any reason upon reasonable notice, and such action on its part shall not be deemed a default or breach of this Agreement. Suspensions or termination of this Agreement, or modifications to the Agreement by the DISTRICT, shall be in writing.

5.2 If the CONSULTANT is of the opinion that any work the DISTRICT directs it to perform substantially increases the work of the CONSULTANT beyond the original Scope of Work (“Extra Work”), the CONSULTANT shall within ten (10) days of such direction, notify the DISTRICT in writing of this opinion. The DISTRICT shall within twenty (20) days after receipt of such notification, fairly judge as to whether or not such work in fact increases the work of the CONSULTANT beyond the Scope of Work and constitutes Extra Work. If the DISTRICT determines such service does constitute Extra Work, it shall provide extra compensation to the CONSULTANT
negotiated by the DISTRICT and the CONSULTANT based upon provisions of Paragraph 4, Compensation, above.

5.3 In the event this Agreement is entirely or partly suspended, delayed, or otherwise hindered by any cause whatsoever, the CONSULTANT shall make no claim for additional compensation or damages owing to such suspensions, delays or hindrances. Such suspensions, delays or hindrances may only be compensated for by an extension of time, as the DISTRICT may decide, however such extension shall not operate as a waiver of any other rights of the DISTRICT. Upon resumption of the Agreement, the CONSULTANT shall resume its service until the Scope of Work is completed in accordance with the Agreement, and the time for completion of the work, which was suspended, shall be extended for the duration of the suspension.

5.4 If, in the opinion of the DISTRICT, the progress of assigned PROJECT tasks during any period is substantially less than the amount which is necessary to meet the PROJECT schedule, the DISTRICT may require the CONSULTANT to take whatever action is necessary, in the opinion of the DISTRICT, to put the PROJECT back on schedule. Such action shall not constitute Extra Work unless the delays were caused by circumstances beyond the control of the CONSULTANT or its agents, employees or subcontractors.

5.5 In the event of claims by others against the DISTRICT in connection with the work being conducted under this Agreement, the CONSULTANT shall provide to the DISTRICT such technical assistance that the DISTRICT may request. Such assistance shall constitute Extra Work, unless such claims are caused by the failure of the CONSULTANT, its agents, employees, or subcontractors to comply with the terms and conditions of this Agreement.

5.6 If the DISTRICT requires the CONSULTANT to assist with an audit of Agreement costs, such assistance shall not be considered Extra Work.

6. **CONTRACT PERIOD.**

This Agreement will be effective upon execution by both parties and will remain in effect through October 31, 2025, unless terminated pursuant to the provisions of this Agreement, or as amended or renewed in writing by the parties. All work authorized under this Agreement must be completed within the term of this Agreement.

7. **PROJECT RECORDS AND DOCUMENTS.**

The CONSULTANT, upon request, will permit the DISTRICT to examine or audit all Project related records and documents during or following completion of the PROJECT at no cost to the DISTRICT. These records shall be available at all reasonable times for inspection, review, or audit. “Reasonable” shall be construed according to circumstances, but ordinarily shall mean normal business hours of 8:00 a.m. to 5:00 p.m., local time, Monday through Friday. In the event any work is subcontracted, the CONSULTANT shall similarly require each subconsultant to maintain and allow access to such records for inspection, review, or audit purposes. Payments made to the CONSULTANT under this
Agreement shall be reduced for amounts found to be not allowable under this Agreement by an audit. If an audit is undertaken by the DISTRICT, all required records shall be maintained until the audit has been completed and all questions arising from it are resolved. The CONSULTANT will maintain all such records and documents for at least five (5) years following completion of the PROJECT. If an audit has been initiated and audit findings have not been resolved at the end of the five years, the records shall be retained until resolution of the audit findings, which would include an audit follow-up by the inspector general if the findings result from an external auditor, or any litigation. The CONSULTANT and any subconsultant understand and will comply with their duty, pursuant to Section 20.055(5), Florida Statutes, to cooperate with the inspector general in any investigation, audit, inspection, review, or hearing.

7.1 Each party shall allow public access to PROJECT documents and materials made or received by either party in accordance with the Public Records Act, Chapter 119, Florida Statutes. To the extent required by Section 119.0701, Florida Statutes, the CONSULTANT shall (1) keep and maintain public records required by the DISTRICT to perform the service; (2) upon request from the DISTRICT’S custodian of public records, provide the DISTRICT with a copy of the requested records or allow the records to be inspected or copied within a reasonable time at a cost that does not exceed the cost provided by law; (3) ensure that public records that are exempt or confidential and exempt from public records disclosure requirements are not disclosed except as authorized by law for the duration of the term of this Agreement and following completion of the Agreement if the CONSULTANT does not transfer the records to the DISTRICT; and (4) upon completion of this Agreement, transfer, at no cost to the DISTRICT, all public records in possession of the CONSULTANT or keep and maintain public records required by the DISTRICT to perform the service. If the CONSULTANT transfers all public records to the DISTRICT upon completion of this Agreement, the CONSULTANT shall destroy any duplicate public records that are exempt or confidential and exempt from public records requirements. If the CONSULTANT keeps and maintains public records upon completion of this Agreement, the CONSULTANT shall meet all applicable requirements for retaining public records. All records stored electronically must be provided to the DISTRICT, upon request from the DISTRICT’S custodian of public records, in a format that is compatible with the information technology systems of the DISTRICT.

7.2 IF THE CONSULTANT HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO THE CONSULTANT’S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS CONTRACT, CONTACT THE CUSTODIAN OF PUBLIC RECORDS by telephone at 352-352-205-8482, by email at RecordsCustodian@SWFWMD.state.fl.us, or at the following mailing address:

Public Records Custodian
Southwest Florida Water Management District
2379 Broad Street
Brooksville, Florida 34604-6899
7.3 This provision shall survive the termination or expiration of this Agreement. Nothing in the foregoing shall excuse CONSULTANT’S obligation to generate and provide the DISTRICT with signed and sealed plans, drawings, as-builts, etc. as required by this Agreement and industry standard practice.

8. OWNERSHIP OF REPORTS, DOCUMENTS AND OTHER MATERIALS.

The CONSULTANT will provide the DISTRICT with any and all reports, models, studies, maps or other documents resulting from the PROJECT at no cost to the DISTRICT. Additionally, two (2) sets (three (3) if cooperator copy is required, electronic and hardcopy, of any final reports must be submitted to the DISTRICT as Record and Library copies.

8.1 All original documents prepared by the CONSULTANT are instruments of service and shall become property of the DISTRICT. The use of data gathered under this Agreement, excluding the data in the public domain, shall not be used in connection with other contracts or for other clients of the CONSULTANT without the written permission of the DISTRICT. The CONSULTANT will provide the DISTRICT with reproducible copies of all reports and other documents. Copies of electronic media used to store data shall be provided to the DISTRICT in a format suitable for hard copy print out. Reports, documents and maps obtained from other agencies in the course of executing the PROJECT will be considered the property of the DISTRICT and will be delivered by the CONSULTANT to the DISTRICT upon the DISTRICT’S request and/or completion of the PROJECT. The CONSULTANT shall retain ownership and property interest in its pre-existing intellectual property and pre-existing work products.

8.2 Copies of all technical data and working papers regarding the PROJECT shall be made available to the DISTRICT if requested by the DISTRICT.

8.3 All tracings, plans, specifications, maps, evaluations, reports and technical data including working papers prepared or obtained under this Agreement, shall become property of the DISTRICT without restriction or limitation of use, and shall be made available upon request to the DISTRICT at any reasonable time. The CONSULTANT may retain copies thereof for their files and internal use. Any use by the DISTRICT of such materials obtained under this Agreement for any purpose not within the Scope of Work of the CONSULTANT pursuant to this Agreement or use of incomplete materials obtained from the CONSULTANT by the DISTRICT shall be made at the risk of the DISTRICT and made without liability to the CONSULTANT. However, this does not constitute a disclaimer of the professional competency of the original work as used within the Agreement.

8.4 All final plans, contract documents and/or such other documents that are required by Florida law to be endorsed and are prepared by the CONSULTANT in connection with the Agreement shall bear the certification of a person in the full employment of the CONSULTANT or duly retained by the CONSULTANT, and duly licensed and with current registration in the State of Florida.

8.5 The CONSULTANT shall make any patentable product or result of the Scope of Work and all information, design, specifications, data, and findings available to the
DISTRICT if requested by the DISTRICT. No material prepared in connection with the PROJECT will be subject to copyright by the CONSULTANT. The DISTRICT shall have the right to publish, distribute, disclose and otherwise use any material prepared by the CONSULTANT pursuant to the Agreement. Any use of materials or patents obtained by the DISTRICT under this Agreement for any purpose not with the Scope of Work of the CONSULTANT pursuant to this Agreement shall be at the risk of the DISTRICT.

8.6 For a period of five (5) years after completion of the Agreement, the CONSULTANT agrees to provide the DISTRICT with copies of any additional materials in its possession resulting from the performance of this Agreement. However, this provision shall not be considered a waiver of any claim of attorney/client privilege to which the CONSULTANT is entitled. The CONSULTANT shall not publish, copyright, or patent any of the data furnished or developed pursuant to the Agreement without first obtaining the DISTRICT’S written consent.

8.7 The provisions of this Ownership of Reports, Documents and Other Materials Paragraph shall survive the expiration or termination of this Agreement.

9. CONSULTANT’S ACKNOWLEDGMENTS AND REPRESENTATIONS.

The CONSULTANT acknowledges and explicitly represents to the DISTRICT the following:

9.1 The CONSULTANT is duly authorized to conduct business in the State of Florida.

9.2 The CONSULTANT will abide by and assist the DISTRICT in satisfying all applicable federal, state and local laws, rules, regulations and guidelines (including but not limited to the Americans with Disabilities Act) relative to performance under this Agreement. The CONSULTANT will not discriminate against any employee or applicant for employment because of race, color, religion, sex, handicap, disability, marital status or national origin. The CONSULTANT will obtain and maintain all permits and licenses necessary for its performance under this Agreement.

9.3 The CONSULTANT has familiarized itself with the nature and extent of this Agreement, work expected to be performed under this Agreement, and federal, state and local laws, statutes, rules, regulations, ordinances, order and decisions, that may affect the CONSULTANT’S performance of this Agreement.

9.4 The CONSULTANT has reviewed this Agreement (including its Exhibits) and all available information and data shown or indicated in this Agreement and has given the DISTRICT written notice of all conflicts, errors, ambiguities, or discrepancies that it has discovered in this Agreement or information or data, and the written resolution thereof by the DISTRICT is acceptable to the CONSULTANT.

9.5 The CONSULTANT shall obtain and review all information and data which relates to the Agreement or which the CONSULTANT may reasonably anticipate may affect cost, scheduling, progress, performance or furnishing of any Scope of Work, including but not limited to, information and data indicated in this Agreement or
related to work under separate agreements, to the extent such work may interface with the CONSULTANT’S work provided pursuant to this Agreement.

10. **STANDARD OF PERFORMANCE.**

The CONSULTANT shall perform and complete all assigned PROJECT tasks in a timely manner in accordance with the standard of care, skill and diligence customarily provided by an experienced professional organization rendering the same services, and in accordance with sound principles and practices. The DISTRICT shall decide all questions, difficulties and disputes of any nature whatsoever that may arise under or by reason of this Agreement, the prosecution and fulfillment of the work called for hereunder, or the character, quality, amount, or value thereof. The decision of the DISTRICT upon all such claims, questions, or disputes shall be reasonable and in adherence with sound principles and practices applicable to the professional services.

11. **INDEMNIFICATION.**

The CONSULTANT agrees to, indemnify and hold harmless the DISTRICT and all DISTRICT officers and employees, from liabilities, damages, losses, and costs, either at law or in equity, including, but not limited to reasonable attorney fees and costs and attorney fees and costs on appeal, as a result of any negligent or reckless act or omission or any intentionally wrongful conduct by the CONSULTANT and other persons employed or utilized by the CONSULTANT in the performance of this Agreement. This paragraph shall survive the expiration or termination of this Agreement.

PURSUANT TO SECTION 558.0035, F.S., AN INDIVIDUAL EMPLOYEE OR AGENT MAY NOT BE HELD INDIVIDUALLY LIABLE FOR NEGLIGENCE IF THE CONSULTANT MAINTAINS THE PROFESSIONAL LIABILITY INSURANCE REQUIRED UNDER THIS AGREEMENT AND ANY DAMAGES ARE SOLELY ECONOMIC IN NATURE AND THE DAMAGES DO NOT EXTEND TO PERSONAL INJURIES OR PROPERTY NOT SUBJECT TO THIS AGREEMENT. THIS PROVISION APPLIES TO ARCHITECTS, INTERIOR DESIGNERS, LANDSCAPE ARCHITECTS, ENGINEERS, SURVEYORS AND GEOLOGISTS, LICENSED IN THE STATE OF FLORIDA.

12. **INSURANCE REQUIREMENT.**

The CONSULTANT must maintain during the entire term of this Agreement, insurance in the following kinds and amounts or limits with a company or companies authorized to do business in the State of Florida and will not commence work under this Agreement until the DISTRICT has received an acceptable certificate of insurance showing evidence of such coverage. Certificates of insurance must reference the DISTRICT Agreement Number and Project Manager.

12.1 Liability insurance on forms no more restrictive than the latest edition of the Commercial General Liability policy (CG 00 01) of the Insurance Services Office
without restrictive endorsements, or equivalent, including aircraft liability, as applicable, with the following minimum limits and coverage:

<table>
<thead>
<tr>
<th>Type</th>
<th>Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Per occurrence</td>
<td>$1,000,000</td>
</tr>
</tbody>
</table>

12.2 Vehicle liability insurance, including owned, non-owned and hired autos with the following minimum limits and coverage:

- Bodily Injury Liability per Person: $100,000
- Bodily Injury Liability per Occurrence: $300,000
- Property Damage Liability: $100,000

or

- Combined Single Limit: $500,000

12.3 Aviation Liability insurance on an “occurrence” basis, including products and completed operations, property damage and bodily injury with the following minimum limits and coverage.

- Per occurrence of $1,000,000
- Aggregate of $2,000,000

Alternatively, this coverage may be provided by endorsement to a Commercial General Liability policy as follows:

Liability insurance on forms no more restrictive than the latest edition of the Commercial General Liability policy (CG 00 01) of the Insurance Services Office, including products and completed operations, property damage and bodily injury with limits no less than $1,000,000 per occurrence and $2,000,000 in aggregate.

12.4 The DISTRICT and its employees, agents, and officers must be named as additional insureds on the general liability policy to the extent of the DISTRICT'S interests arising from this Agreement.

12.5 The CONSULTANT must carry workers' compensation insurance in accordance with Chapter 440, F.S., if applicable. If the CONSULTANT does not carry workers' compensation coverage, the CONSULTANT must submit to the DISTRICT both an affidavit stating that the CONSULTANT meets the requirements of an independent CONSULTANT as stated in Chapter 440, F.S. and a certificate of exemption from workers' compensation coverage.

12.6 Professional liability (errors and omissions) insurance in a minimum amount of One Million Dollars ($1,000,000).

12.7 The CONSULTANT must notify the DISTRICT in writing of the cancellation or material change to any insurance coverage required by this Agreement. Such notification must be provided to the DISTRICT within five (5) business days of the CONSULTANT'S notice of such cancellation or change from its insurance carrier.
12.8 The CONSULTANT must obtain certificates of insurance from any subconsultant otherwise the CONSULTANT must provide evidence satisfactory to the DISTRICT that coverage is afforded to the subconsultant by the CONSULTANT'S insurance policies.

13. TERMINATION WITHOUT CAUSE.

This Agreement may be terminated by the DISTRICT without cause upon written notice to the CONSULTANT. Termination will be effective on the date provided in the notice. In the event of termination under this paragraph, the CONSULTANT shall be entitled to compensation for all services provided to the DISTRICT up to the date of termination which are within the Scope of Work, documented in the Budget, and are allowed under this Agreement. If the Agreement is so terminated, the CONSULTANT must promptly deliver to the DISTRICT copies of all then completed deliverable items and all tracings, drawings, survey notes and other documents that directly support the deliverables prepared by the CONSULTANT. This paragraph shall survive the termination or expiration of this Agreement.

14. DEFAULT.

Either party may terminate this Agreement upon the other party's failure to comply with any term or condition of this Agreement, as long as the terminating party is not in default of any term or condition of this Agreement at the time of termination. To effect termination, the terminating party shall provide the defaulting party with a written "Notice of Termination" stating its intent to terminate and describing all terms and conditions with which the defaulting party has failed to comply. If the defaulting party has not remedied its default within thirty (30) days after receiving the Notice of Termination, this Agreement shall automatically terminate. In addition, the initiation, either by the CONSULTANT or against the CONSULTANT, of proceedings in bankruptcy, or other proceedings for relief under any law for the relief of debtors, or the CONSULTANT becoming insolvent, admitting in writing its inability to pay its debts as they mature or making an assignment for the benefit of creditors shall constitute a default by the CONSULTANT entitling the DISTRICT to terminate this Agreement as set forth above. The parties agree that this Agreement is an executory contract. If, after termination by the DISTRICT, it is determined that the CONSULTANT was not in default, or that the default was excusable, the rights and obligations of the parties shall be the same as if the termination had been issued for the convenience of the DISTRICT. The rights and remedies in this provision are in addition to any other rights and remedies provided by law or this Agreement.

15. RELEASE OF INFORMATION.

The CONSULTANT agrees not to initiate any oral or written media interviews or issue press releases on or about the PROJECT without providing notices or copies to the DISTRICT'S Project Manager and Public Affairs Bureau Chief no later than three (3) business days prior to the interview or press release.
16. ASSIGNMENT.

Except as otherwise provided in this Agreement, the CONSULTANT may not assign any of its rights or delegate any of its obligations under this Agreement without the prior written consent of the DISTRICT. If the CONSULTANT assigns its rights or delegates its obligations under this Agreement without the DISTRICT'S prior written consent, the DISTRICT is entitled to terminate this Agreement. If the DISTRICT terminates this Agreement, the termination is effective as of the date of the assignment or delegation. Any termination is without prejudice to the DISTRICT'S claim for damages.

17. LAW COMPLIANCE.

The CONSULTANT will abide by and assist the DISTRICT in satisfying all applicable federal, state and local laws, rules, regulations and guidelines, related to performance under this Agreement. The CONSULTANT will not discriminate against any employee or applicant for employment because of race, color, religion, sex, handicap, disability, marital status or national origin.

18. EMPLOYMENT ELIGIBILITY VERIFICATION.

In accordance with Section 448.095, Florida Statutes, the CONSULTANT, before entering into a contract with the DISTRICT, agrees with the following: (i) it will be registered with and use the E-Verify system operated by the U.S. Department of Homeland Security to verify the work authorization status of all newly hired employees, (ii) that during the year prior to making its submission or entering into a contract with the DISTRICT, no contract of the CONSULTANT was terminated by a public employer in compliance with Section 448.095, Florida Statutes, and (iii) it is and shall remain in compliance with Sections 448.09 and 448.095, Florida Statutes, including securing and maintaining subconsultant affidavits as required by Section 448.095(2)(b), Florida Statutes. Upon good faith belief that the CONSULTANT or its subconsultant of any tier have knowingly violated Sections 448.09(1) or 448.095(2), Florida Statutes, the DISTRICT shall terminate (or order the termination of) their contract. The CONSULTANT shall be liable for any additional cost incurred by the DISTRICT as a result of its termination. The DISTRICT'S receipt of proof that the CONSULTANT and each subconsultant performing through the CONSULTANT are E-Verify system participants is a condition precedent to any DISTRICT contract. Information on how to obtain proof of participation, register for and use the E-Verify system may be obtained via U.S. Department of Homeland Security website: http://www.dhs.gov/E-Verify.

19. GOVERNING LAW.

This Agreement is governed by Florida law and venue for resolving disputes under this Agreement, if in state court will be in Hillsborough County, Florida, and if in federal court, will be in the Middle District of Florida, Tampa Division. This provision shall survive the termination of expiration of this Agreement.

20. REMEDIES.

Unless specifically waived by the DISTRICT, the CONSULTANT'S failure to timely comply with any obligation in this Agreement shall be deemed a breach of this Agreement and the expenses and costs incurred by the DISTRICT, including attorneys' fees and costs and attorneys' fees and costs on appeal, due to said breach shall be borne by the
CONSULTANT. Additionally, the DISTRICT shall not be limited by the above but may avail itself of any and all remedies under Florida law for any breach of this Agreement. The DISTRICT'S waiver of any of the CONSULTANT'S obligations shall not be construed as the DISTRICT'S waiver of any other obligations of the CONSULTANT. This paragraph shall survive the termination or expiration of this Agreement.

21. **ATTORNEY FEES.**

Should either party employ an attorney or attorneys to enforce any of the provisions of this Agreement, or to protect its interest in any matter arising under this Agreement, or to recover damages for the breach of this Agreement, the party prevailing is entitled to receive from the other party all reasonable costs, charges and expenses, including attorneys' fees, expert witness fees, fees and costs on appeal, and the cost of paraprofessionals working under the supervision of an attorney, expended or incurred in connection therewith, whether resolved by out-of-court settlement, arbitration, pre-trial settlement, trial or appellate proceedings, to the extent permitted under Section 768.28, F.S. This paragraph does not constitute a waiver of the DISTRICT'S sovereign immunity or extend the DISTRICT'S liability beyond the limits established in Section 768.28, F.S. This paragraph shall survive the expiration or termination of this Agreement.

22. **SUBCONTRACTORS.**

The CONSULTANT shall be solely responsible for the employment, direction, supervision, compensation and control of any and all subcontractors, consultants or other persons employed by the CONSULTANT. The CONSULTANT shall cause all subcontractors, consultants or other persons employed by the CONSULTANT to abide by the terms and conditions of this Agreement and all applicable law as their work or services affect the DISTRICT. Nothing in this Agreement will be construed to create, or be implied to create, any relationship between the DISTRICT and any subcontractor of the CONSULTANT.

23. **DISADVANTAGED BUSINESS ENTERPRISES.**

The DISTRICT expects the CONSULTANT to make good faith efforts to ensure that disadvantaged business enterprises, which are qualified under either federal or state law, have the maximum practicable opportunity to participate in contracting opportunities under this Agreement. Final invoice documentation submitted to the DISTRICT must include information relating to the amount of expenditures made to disadvantaged businesses by the CONSULTANT, to the extent the CONSULTANT maintains such information.

24. **THIRD PARTY BENEFICIARIES.**

Nothing in this Agreement will be construed to benefit any person or entity not a party to this Agreement.

25. **CONFLICTING EMPLOYMENT.**

The CONSULTANT certifies that it does not at the time of execution of this Agreement have any retainer or employment agreement, oral or written, with any third party that
directly conflicts with any interest or position of the DISTRICT relating to the services provided by the CONSULTANT under this Agreement. The CONSULTANT further agrees that it shall not accept during the term of this Agreement any retainer or employment from a third party whose interests are in direct conflict with those of the DISTRICT regarding the work being performed under this Agreement. In the event the CONSULTANT is faced with an employment opportunity that appears to be a direct conflict with the work the CONSULTANT is performing under this Agreement, the CONSULTANT shall provide the DISTRICT with notice of the employment opportunity. If the DISTRICT determines that the employment would be a direct conflict with the work the CONSULTANT is performing under this Agreement, the CONSULTANT and the DISTRICT shall have the opportunity to decide whether or not the CONSULTANT will decline the employment opportunity or will accept the employment opportunity and terminate this Agreement.

26. PUBLIC ENTITY CRIMES.

Pursuant to Subsections 287.133(2) and (3), F.S., a person or affiliate who has been placed on the convicted vendor list following a conviction for a public entity crime may not submit a bid, proposal, or reply on a contract to provide any goods or services to a public entity; may not submit a bid, proposal, or reply on a contract with a public entity for the construction or repair of a public building or public work; may not submit bids, proposals, or replies 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 the threshold amount provided in Section 287.017, F.S., for Category Two, for a period of 36 months following the date of being placed on the convicted vendor list. By signing this Agreement, the CONSULTANT warrants that it is not currently on a suspended vendor list and that it has not been placed on a convicted vendor list in the past 36 months. The CONSULTANT further agrees to notify the DISTRICT if placement on either of these lists occurs.

27. SCRUTINIZED COMPANIES.

Pursuant to section 287.135, Florida Statutes, a company that, at the time of submitting a bid or proposal for a new contract or renewal of an existing contract, is on the Scrutinized Companies that Boycott Israel List, or is engaged in a boycott of Israel, is ineligible to, and may not bid on, submit a proposal for, or enter into or renew a contract with an agency or local governmental entity for goods or services in any amount. If the goods or services are in the amount of $1 million dollars or more, the company must also not be on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List or be engaged in business operations in Cuba or Syria. By signing this Agreement, the CONSULTANT certifies that it is not on any of the lists or engaged in any of the prohibited activities identified above, as applicable based upon the amount of this Agreement. The CONSULTANT agrees to notify the DISTRICT if it is placed on any of the applicable lists or engages in any of the prohibited activities during the term of this Agreement. The DISTRICT may immediately terminate this Agreement at its option if the CONSULTANT is found to have submitted a false certification, is placed on any of the applicable lists or engages in any prohibited activities.
28. **CONTINGENT FEES.**

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, or firm, other than a bona fide employee working solely for the CONSULTANT any fee, commission, percentage, gift or other consideration contingent upon or resulting from the award or making of this Agreement. For breach or violation of this provision, the DISTRICT shall have the right to terminate this Agreement without liability and, at its discretion, to deduct from the Agreement price, or otherwise recover, the full amount of such fee, commission, percentage, gift, or consideration.

29. **TRUTH-IN-NEGOTIATIONS.**

The CONSULTANT certifies that wage rates and other factual unit costs supporting the compensation are accurate, complete, and current at the time of contracting. The original Agreement Fee Schedule and any additions thereto shall be adjusted to exclude any significant sums by which the DISTRICT determines the Agreement Fee Schedule price was increased due to inaccurate, incomplete, or non-current wage rates and other factual unit costs. Any such adjustments will be made within one (1) year following the end of this Agreement.

30. **ENTIRE AGREEMENT.**

This Agreement and the attached exhibits listed below constitute the entire agreement between the parties and, unless otherwise provided herein, may be amended only in writing, signed by all parties to this Agreement.

31. **SEVERABILITY.**

If any provision or provisions of this Agreement shall be held to be invalid, illegal, or unenforceable, the validity, legality and enforceability of the remaining provisions shall not in any way be affected or impaired thereby.

32. **AGREEMENT DOCUMENTS.**

The following documents are attached or incorporated herein by reference and made a part of this Agreement. In the event of a conflict of contract terminology, priority shall first be given to the language in the body of this Agreement, then to the DISTRICT’S RFP 23-4113, then to Exhibit "A," then to Exhibit “B,” then to Exhibit “C,” then to Exhibit “F,” then CONSULTANT’S Proposal to RFP 23-4113, then to Exhibit "D," and then to Exhibit “E.”

- Exhibit "A"  Scope of Work
- Exhibit “B”  Full Motion Video Specifications
- Exhibit “C”  Guidelines and Specifications for the Operation of Unmanned Aircraft Systems
- Exhibit "D"  Fee Schedule
Exhibit "E"  Key Team Members
Exhibit "F"  Deliverable Acceptance and Performance Evaluation
RFP 23-4113  Districtwide Seagrass Mapping Project
CONSULTANT'S Proposal to RFP 23-4113

The remainder of this page intentionally left blank.
IN WITNESS WHEREOF, the parties hereto, or their lawful representatives, have executed this Agreement on the day and year set forth next to their signatures below.

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

By: ________________________________
   Amanda Rice, P.E.  Date
   Assistant Executive Director

CONSULTANT FIRM

By: ________________________________
   Name, Title  Date
   Authorized Agent for Company
Exhibit “A”
SCOPE OF WORK
SEAGRASS IMAGERY SPECIFICATIONS

Southwest Florida Water Management District

INTRODUCTION ............................................................................................................. 1
1 PROJECT AREA ....................................................................................................... 1
2 ORTHOPHOTO SPECIFICATIONS ........................................................................ 1
  2.1 Sensor .................................................................................................................. 1
  2.2 Image Resolution ................................................................................................ 2
  2.3 Horizontal Accuracy ............................................................................................ 2
  2.4 Horizontal and Vertical Datum .......................................................................... 2
  2.5 Photogrammetric Mapping Survey Control and Checkpoints ....................... 2
  2.6 Flight Season ...................................................................................................... 3
  2.7 Mission Planning ................................................................................................. 3
  2.8 Image Quality ..................................................................................................... 4
  2.9 Ortho-Imagery Processing .................................................................................. 4
3 PROJECT MANAGEMENT AND REPORTING ......................................................... 5
4 INFORMATION PROVIDED BY THE DISTRICT .................................................... 5
  4.1 Digital Elevation Models ..................................................................................... 5
  4.2 Historical Images ................................................................................................ 5
  4.3 Metadata Templates ............................................................................................ 5
5 ORTHOPHOTO DELIVERABLES .......................................................................... 6
  5.1 Imagery ................................................................................................................ 6
  5.2 Metadata .............................................................................................................. 7
  5.3 Image Cutline Feature Class and Flight Line Feature Class ............................ 7
  5.4 Survey Report .................................................................................................... 8
  5.5 Secure Hash Standard (SHA) ............................................................................. 8
6 ORTHOPHOTO PROJECT SCHEDULE ................................................................. 9
7 PROJECT PAYMENT .............................................................................................. 9
ATTACHMENT A – SEAGRASS ORTHOPHOTO PROJECT AREA .......................... 10
ATTACHMENT B – AREAS OF SPECIAL CONCERN ............................................. 11
ATTACHMENT C – ESTUARIES FOR COLOR BALANCING .................................. 12
ATTACHMENT D – DELIVERABLE SUMMARY TABLE ...................................... 14
ATTACHMENT E – REQUIRED TIFF AND GEO TIFF TAGS AND KEYS AND SAMPLE VALUES .......................................................... 15
ATTACHMENT F – SWFWMD SURVEYING AND MAPPING REPORT GUIDELINES 16
INTRODUCTION

The Southwest Florida Water Management District (District) uses digital orthophotos, captured for the specific purpose of viewing through estuarine water columns, to support the geospatial mapping of seagrass habitats and other benthic features. This project is a continuation of previous efforts to determine the status and trends of seagrass resources in the coastal waters of the District. This document defines the specifications and technical aspects for developing project specific 2023 – 2024 digital orthophotos. All final data will be stored in the District's ArcSDE database and will be made available to internal and external customers through client applications such as Esri ArcGIS, ERDAS-Imagine, Harris-ENVI, Trimble/INPHO-eCognition and/or other similar software. All data will be the property of the District and will be considered a public record as defined by applicable Florida Statutes (1B-26).

1 PROJECT AREA

The project area is comprised of a collection of 5000 foot by 5000 foot cells that serve as the tiling scheme for orthophoto and topographic data deliverables. The orthophoto area of interest (AOI) to be mapped consists of 2,835 tiles (approximately 2,543 square miles) defined in ATTACHMENT A – SEAGRASS ORTHOPHOTO PROJECT AREA and in the ArcGIS Shapefiles. SpringsCoast_Tiles_2024.shp and SunCoast_Tiles_2024.shp delivered under separate cover. The AOI contains the area known as the Springs Coast, comprising approximately 1,280 square miles (1,427 tiles) off the coast of Pasco, Hernando, Citrus and Levy counties. The Springs Coast includes the estuaries of Waccasassa Bay, Withlacoochee River Mouth, Crystal Bay, Homosassa River Mouth, Chassahowitzka River Mouth, Weeki Wachee River Mouth, Pithlachascotee River Mouth, and Anclote River Mouth (northern portion of St. Joseph Sound/Clearwater Harbor). The Suncoast region comprises approximately 1,263 square miles (1,408 tiles) and includes the estuaries of Tampa Bay, St. Joseph Sound/Clearwater Harbor, Sarasota Bay, Lemon Bay and Charlotte Harbor. Imagery should be 6-inch pixel resolution or better. The aerial imagery and ultimate creation of orthophotos shall be of high quality to facilitate the completion of a detailed benthic habitat thematic map (see Photointerpretation Key for a complete list of focal habitats).

2 ORTHOPHOTO SPECIFICATIONS

All work for the imagery acquisition portion of the project must be under the supervision of a Florida licensed Professional Surveyor and Mapper (PSM) and in accordance with Florida Statute 472 and Rule 5J-17, Florida Administrative Code. The imagery shall be processed under the supervision of an American Society of Photogrammetry and Remote Sensing (ASPRS) Certified Photogrammetrist (CP).

2.1 Sensor

All imagery will be collected using a digital airborne imaging sensor. The sensor must have a valid United States Geological Survey (USGS) Sensor/Camera calibration report. The District prefers push-broom, multi-spectral sensors for this project. However, as technology advances, other sensor-types may be applicable. The sensor must be capable of simultaneous collection of 24-bit natural color (RGB) or 32-bit co-registered near infrared (i) imagery (RGBi).

2.2 Image Resolution

All imagery will have a ground sampling distance (GSD) not to exceed 0.5 feet. The CONSULTANT will deliver 3-band (RGB) / 4-band stack (RGBi) images that have been resampled to 15cm (6 inch) pixels as defined in Section 5: Orthophoto Deliverables of this document.
2.3 Horizontal Accuracy

Ortho-imagery shall be tested to meet the horizontal accuracy of 73.4 cm at the 95% confidence interval (30cm RMSE, and 30cm RMSE,; 42.4cm RMSE,) with an Orthoimagery Mosaic Seamline Maximum Mismatch less than 60cm as specified in the ASPRS Positional Accuracy Standards for Digital Geospatial Data, Edition 1, Version 1.0, November - 2014 (https://www.asprs.org/a/society/committees/standards/Positional_Accuracy_Standards.pdf). Verification will follow methods as outlined in FGDC Geospatial Positioning Accuracy Standards, Part 3: National Standard for Spatial Data Accuracy (NSSDA; https://www.fgdc.gov/standards/projects/FGDC-standards-projects/accuracy/part3). A minimum of thirty (30) independent image checkpoints within the project area will be used for verification. Check points will be distributed so that points are spaced at intervals of at least twenty-five (25) percent of the diagonal distance across the dataset and at least twenty (20) percent of the points are located in each quadrant of the dataset.

2.4 Horizontal and Vertical Datum

Horizontal Datum will be referenced to the Florida State Plane Coordinate System, West Zone (0902), Units US Survey Feet, North American Datum of 1983 (2011) including the most recent NSRS adjustment.

Vertical Datum will be referenced to the North American Vertical Datum of 1988 (NAVD 88), Units US Survey Feet, using the most recent geoid model (GEOID18) to compute orthometric heights based on GPS derived ellipsoid heights.

The coordinate system will be reported as the European Petroleum Survey Group (EPSG) code 6443.

2.5 Photogrammetric Mapping Survey Control and Checkpoints

The photogrammetric ground control must be adequate to support the accuracy specifications identified for this project. The CONSULTANT will submit a survey report that documents and certifies the procedures and accuracies of the horizontal and vertical control, aircraft positioning systems and aerial triangulation utilized in the photogrammetric mapping project.

The CONSULTANT is responsible for quality assessment of the available photo identifiable points provided in the Aerial Mapping Points geodatabase delivered under separate cover. If it is determined that more points are required, then the CONSULTANT will coordinate with District survey staff during the mission planning phase of this project. District survey staff will collect the agreed upon points and provide the CONSULTANT with a survey report in accordance with Rule 5J -17, Florida Administrative Code.

2.6 Flight Season

The flight season will be from December 1, 2023 through February 29, 2024. CONSULTANT must receive written approval from the District before collecting any imagery outside of this flight window.

2.7 Mission Planning

The CONSULTANT is responsible for the initial flight mission planning, which shall include special consideration for target inlets and passes prone to high turbidity, defined in ATTACHMENT B – AREAS OF SPECIAL CONCERN. There are 5 passes along the Suncoast region that present special challenges to the mapping effort. These passes are subject to extreme turbulence and lack of water clarity. For the Springs Coast, the entire Waccasassa Bay area has proven challenging due to the
relatively turbid waters and muddy bottom. The CONSULTANT should expect re-flights in these areas and should build this into the flight schedule and budget.

The CONSULTANT shall compile a table of optimal flight schedules that meet tidal stage and sun angle requirements within the specified flight window. The CONSULTANT together with the District shall cross-reference the flight schedule with daily environmental conditions prior to flight.

Large area projects add extra challenges with the management of multiple aircraft, limitations on flight line length (for IMU drift), and air traffic restrictions. The CONSULTANT shall provide the District with the proposed flight line layout for review and approval prior to the flight window.

During the flight window, the CONSULTANT will coordinate all efforts to assess flight readiness and to monitor water conditions prior to acquisition of imagery. To assist with this effort, the District project manager will provide the CONSULTANT with potential on-site cooperators for the purpose of daily water clarity monitoring and reporting. The CONSULTANT will be responsible for coordinating virtual meetings or phone calls with the District project manager and acquisition lead each morning of potential flight to disseminate their findings of flight readiness and water conditions. The CONSULTANT will provide a recommendation and the District will make the final determination whether the imagery will be flown.

**Water Quality and Flight Conditions**

Benthic imagery acquisition requires careful attention to atmospheric and water conditions to achieve optimum results. The following parameters are expected to be met during imagery acquisition. Exceptions to any of these specifications must receive prior approval from the District during the mission planning discussions.

- **SKY CONDITION** – The ortho-imagery shall be free of cloud, smoke, haze, and fog to the greatest extent possible, and should not obscure mapped elements. Any mapped areas obscured by clouds, smoke, haze and/or fog may require re-flight.

- **TIDAL CONDITION** – Tidal stage shall be between low tide and mean tide level depending. When preparing to fly passes and inlet systems, special consideration of incoming and outgoing tides will be made. Re-flights may be required to account for changing tide in these areas. The District will provide locations and a description of special environmental areas where water clarity is especially sensitive to wave height, winds, and tides; see ATTACHMENT B – AREAS OF SPECIAL CONCERN.

- **WAVE HEIGHT** – Wave heights shall be less than 2 feet at the time of image acquisition.

- **WIND CONDITION** – Sustained wind speeds shall be less than 10 miles per hour within the preceding 48 hours at minimum, 72 hours preferred.

- **SUN ANGLE** – Sun angle shall be between 25 and 45 degrees at the time of image acquisition, ideally between 10:00 to 14:30 local time to minimize shadows.

The CONSULTANT needs to address in the proposal how they plan to evaluate water clarity, especially in the Springs Coast where there are large expanses of open water. The imagery shall have sufficient water clarity to enable interpretation of the benthic habitat.

2.8 Image Quality

The CONSULTANT is not expected to correct for "building lean" or bridge distortion. The District reserves the right to request a re-flight after inspection of the preliminary imagery if it is found to have unacceptable image quality.
The CONSULTANT needs to address in the proposal how they plan to provide a web-based client interface (WBCI) to host the digital ortho-imagery for quality assurance and quality control (QA/QC) purposes. Preliminary ortho-imagery strips or frames (geo-referenced and initial color balanced) shall be made available within about 4 days after each data acquisition mission for virtual online review by the District to check sky condition, turbidity, and other water clarity issues, including but not limited to excessive water surface glint.

Preliminary imagery tile QA/QC review shall also be accomplished using the WBCI, allowing the District to check each estuary for color balancing, seamlines and image quality. The District prefers placement of seamlines on land whenever possible to minimize disruption of the study area. Any identified issues will be marked for correction with a WBCI tool. Once all edits are completed, reviewed and approved by the District, the CONSULTANT shall commence with image processing.

2.9 Ortho-imagery Processing

The CONSULTANT shall use a systematic approach to produce the digital ortho-imagery. This approach shall have QA/QC procedures integrated throughout the entire process. The methods used by CONSULTANT for digital ortho-imagery processing takes place as follows: the CONSULTANT shall match the existing DEM data to a photo image to create a digital ortho-image. The relevant DEM data shall be merged with the orientation parameters and the new digital imagery. A complete differential rectification is carried out with a set of algorithms that remove image displacement due to topographic relief and the tip and tilt of the aircraft at the moment of exposure.

- Special consideration shall be made during the image post-processing to enhance the visibility of underwater features while still preserving the image fidelity of topographic features. Where applicable, two separate radiometric adjustment efforts shall be employed to emphasize visually seamless color balancing, tone, and contrast across both estuarine and topographic extents. Prior to finalizing the image post-processing, the CONSULTANT shall submit samples to the District for approval from various areas within each estuary segment.

- The CONSULTANT shall use software for color balancing, tone/contrast adjustments, and image mosaicking for each estuary defined in ATTACHMENT C – ESTUARIES FOR COLOR BALANCING. All images within each estuary shall be merged to help eliminate mismatches between tiles in contrast and tonal quality. Tiles shall then be clipped from the mosaicked image. All adjacent tiles shall edge match with surrounding tiles. Tiles are then run through a visual QA/QC to ensure that no errors were introduced during previous steps.

3 PROJECT MANAGEMENT AND REPORTING

The CONSULTANT will provide project management and tracking reports. During the flight window, daily status reports are required. After completion of acquisition, monthly progress reports shall contain, at a minimum, the following information:

- An assessment of the Project’s actual progress as compared to the Performance Schedule (details must include any deficiencies and the recovery actions completed and planned).
- An updated Gantt chart showing task percent complete, current date, and estimated schedule to completion by task.
- Labor resource planned and actual (show - prior months, past month, current month, months to completion).
- Anticipated date of next pre-submittal meeting or deliverable.
4 INFORMATION PROVIDED BY THE DISTRICT

Upon request the District will provide the following information to the CONSULTANT.

4.1 Digital Elevation Models

The Digital Elevation Model (DEM) must be adequate to support accuracy specifications identified for this project. The CONSULTANT shall use District source data, such as existing DEM and/or Lidar data available for the AOI. The CONSULTANT will submit information in the final survey report and metadata which documents the source and accuracy of the DEM utilized in the photogrammetric mapping project.

4.2 Historical Images

To maintain consistency between images collected during different years, the District will provide historical examples of imagery to the CONSULTANT to assist in color balancing.

4.3 Metadata Templates

The following metadata templates in XML format are available from the District upon request:

1. Imagery Tile Template
2. Project-wide Orthophoto Template
3. Cutline Feature Class Template
4. Flightline Feature Class Template

5 ORTHOPHOTO DELIVERABLES

The CONSULTANT will document all data deliveries with an itemized transmittal letter. Upon acceptance of the final deliverables, the drive(s) containing the final deliverables will become the property of the District, and drive(s) containing preliminary data will be returned to the CONSULTANT. All deliverables that are the property of the District are considered a public record. The CONSULTANT must receive written permission from the District prior to releasing data to any party. The CONSULTANT will keep a copy of the original data for a period of five (5) years and must contact the District before destroying the data. Refer to ATTACHMENT D – DELIVERY SUMMARY TABLE for an overview of all required deliverables.

The CONSULTANT shall schedule a pre-submittal meeting with the District’s Project Manager prior to transmitting to the District any deliverable identified in this section. Upon written approval by the District’s Project Manager, the successful Respondent shall submit the deliverable to the District for review. The District will either accept the deliverable or provide written comments to the successful Respondent within 30 days business days from date of receipt of the deliverable. If the District’s Project Manager provides comments, the successful Respondent shall provide a response within 30 days business days from receipt of the comments, unless another timeframe is communicated in writing by the District’s Project Manager. This process shall continue until the District accepts the deliverable.

5.1 Imagery

Clarity and quality of the imagery is of the highest importance to the District. For all 24/32-bit images, coloration should be equivocal to conventional natural color film products. The District anticipates when creating "batch runs" by water body for color balancing, and/or mosaicking of images. Color balancing is to include two individual balancing efforts of water features and land features in order to enhance benthic features while maintaining natural coloring of land features. The CONSULTANT will submit samples from several different areas for multiple image types (natural shoreline and nearshore water,
tidal flats and nearshore water, hardened shoreline and nearshore water, and bridges) for approval prior to completing radiometric processing of the entire dataset.

Imagery tiles will be delivered as uncompressed GeoTIFF images with valid projection header information. Refer to ATTACHMENT E – REQUIRED TIFF AND GEOTIFF TAGS AND KEYS AND SAMPLE VALUES for details. One GeoTIFF file per 5000 x 5000 foot tile is required.

Natural Color Imagery – The natural color (RGB/RGBi) bands will be color balanced across the entire study area to the greatest extent possible to allow viewing of the image tiles as a visually seamless mosaic. Care should be taken during radiometric processing to prioritize the quality of submerged features over terrestrial features.

The orthoimages delivered according to the tiling scheme are based on the scheme defined in Section 2: Project Area. Tiles will be contiguous and non-overlapping and will be suitable for creating a seamless image mosaic that includes no data void cells or gaps. Tile naming convention is as follows:

SCSGOPYYYY_SPW_bit.TIF

Where: SC stands for Springs Coast (or Suncoast)  
SG stands for Seagrass  
OP stands for Orthophoto  
YYYY is the year  
SPW is the appropriate SPW_ID number found in  
SpringsCoast_Tiles_2024.shp and SunCoast_Tiles_2024shp.  
Bit is the number of bits in the imagery (24) for RGB / (32) for RGBi

e.g.: SCSGOP2024_412279_24.TIF

Imagery mosaics for each estuary as defined in ATTACHMENT C – ESTUARIES FOR COLOR BALANCING will be delivered as compressed MrSID format.

5.2 Metadata

Metadata must be delivered for imagery and all GIS data in an ESRI ArcCatalog compatible XML format. Metadata must be compliant with the Federal Geographic Data Committee's (FGDC) Content Standard for Spatial Metadata. All metadata must pass through the USGS metadata parser at http://mrdata.usgs.gov/validation/ with no errors.

Individual metadata files are required for final deliverable individual imagery tiles and the image collection date(s) must apply to each individual tile. The image collection date(s) must be populated in the following field:

- Time Period for Which the Data is Relevant: e.g. 20240105

5.3 Image Cutline Feature Class and Flight Line Feature Class

The CONSULTANT will deliver an ESRI file geodatabase to contain the following feature classes:

1- Springs_Coast_Seagrass2024_Cutlines and Sun_Coast_Seagrass2024_Cutlines: to contain non-overlapping polygons with no data voids for the project area. Each polygon will delineate image capture dates used to seam together flightlines for the production of orthophotos. The cutlines feature class should conform to the project boundary and must have one date field named FLIGHTDATE that identifies the date the imagery was collected. The FLIGHTDATE attribute field should be populated as YYYYMMDD.
2- Springs_Coast_Seagrass2024_Flightlines and Sun_Coast Seagrass 2024_Flightlines to contain the point location of each individual photo frame (if frame sensor is used) or polygons showing the push-broom strips (if a push-broom sensor is used) and will display the frame number (or strip number) and the flight date and time for each frame (or strip) in the attribute table. The flightlines feature class must have the FLIGHTDATE field specified above as well as FLIGHTTIME field.

5.4 Survey Report

The CONSULTANT will prepare a survey report that documents all photogrammetric ground control, aircraft global positioning system, aerial triangulation, DEM creation, photo identification (horizontal and vertical) check points and orthorectification processes utilized in the project. The survey report must also include an accuracy report and statement compliant with FGDC Geospatial Positioning Accuracy Standards, National Standard for Spatial Data Accuracy (NSSDA). The survey report must include a map delineating flight line locations and flight dates. This report must be compliant with relevant standards of practice for Professional Surveying and Mapping done in Florida and delivered in hardcopy and PDF formats.

The CONSULTANT will deliver a draft survey report for review and approval by the Survey Section at the District. Upon acceptance, the CONSULTANT will deliver an electronically signed PDF and a hard copy of the survey report with an original signature and raised seal as per FAC 5J-17.

The survey report must include items outlined in ATTACHMENT F – SWFWMD SURVEYING AND MAPPING REPORT GUIDELINES. The following supporting materials must be delivered with the survey report:

- Final deliverable file stating filename with extension and delivery date in the appendix of the survey report.
- Ground control layout map containing all check points, horizontal and vertical control.
- Digital copy of the final GPS least squares adjustment.
- Surveyed image checkpoints used for accuracy testing in one (1) file geodatabase named SWFWMD_Seagrass2024_GroundControl with a feature class also named SWFWMD_Seagrass2024_GroundControl feature class (point) format and excel format. The minimum required fields are listed in TABLE 1 – GROUND SURVEY CONTROL POINTS FIELD PROPERTIES.

TABLE 1 – GROUND SURVEY CONTROL POINTS FIELD PROPERTIES

<table>
<thead>
<tr>
<th>Field Name</th>
<th>Date Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONTROLPTNAME</td>
<td>Text</td>
<td>Control point designation.</td>
</tr>
<tr>
<td>LATITUDE</td>
<td>Double</td>
<td>Geographic Y-coordinate specifying vertical position.</td>
</tr>
<tr>
<td>LONGITUDE</td>
<td>Double</td>
<td>Geographic X-coordinate specifying horizontal position.</td>
</tr>
<tr>
<td>ELLIPSOIDHEIGHT</td>
<td>Double</td>
<td>Height above or below the reference ellipsoid.</td>
</tr>
<tr>
<td>EASTING</td>
<td>Double</td>
<td>State Plane X-coordinate in US Survey Feet.</td>
</tr>
<tr>
<td>NAVD88HEIGHT</td>
<td>Double</td>
<td>Orthometric height in US Survey Feet.</td>
</tr>
<tr>
<td>DESCRIPTION</td>
<td>Text</td>
<td>Additional information or details pertaining to the control point.</td>
</tr>
</tbody>
</table>

5.5 Secure Hash Standard (SHA)

All final deliverables will have computed a fixed-length digital representation of the file using a Secure
Hash Algorithm (SHA). The CONSULTANT is required to use SHA-1, and will provide a digital comma delimited text document containing the hash outputs on the final drive.

6 ORTHOPHOTO PROJECT SCHEDULE

All final deliverables must be received within one hundred twenty (120) calendar days from the successful collection of aerial imagery. The CONSULTANT will submit a proposed project schedule and cost plan. The CONSULTANT will notify the District when aerial images have been collected. Orthophoto data may be delivered incrementally as completed. The District will have thirty (30) calendar days to inspect and accept each incremental delivery. All data and products generated for this project must be delivered to the District with project title, purchase order number, work order name, work order number, CONSULTANT name, and project manager's names, in addition to fully complying with the standards identified in the preceding sections.

7 PROJECT PAYMENT

The CONSULTANT will submit invoices broken down into tasks defined in TABLE F – COST PLAN and as per the Master Services Agreement.

Payment in accordance with this schedule will be made upon receipt of proper invoices and in accordance with percentage complete for each of the categories defined above. Invoices must include the following statement:

"I hereby certify that the costs requested for payment in this invoice are directly related to the performance under (Project number) in accordance with the Processional Consulting Services agreement between the Southwest Florida Water Management District and (CONSULTANT), are allowable, allocable, properly documented and are in accordance with the approved project budget."

(The remainder of this page intentionally left blank)
ATTACHMENT A – SEAGRASS ORTHOPHOTO PROJECT AREA

SPRINGS COAST
1,427 tiles
1,280 square miles

SUNCOAST
1,408 tiles
1,263 square miles
ATTACHMENT C – ESTUARIES FOR COLOR BALANCING
<table>
<thead>
<tr>
<th>Description</th>
<th>Format</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily progress reports during acquisition</td>
<td>TBD</td>
</tr>
<tr>
<td>Monthly progress reports after acquisition</td>
<td>TBD</td>
</tr>
<tr>
<td>Preliminary imagery for QAQC</td>
<td>WBCI</td>
</tr>
<tr>
<td>Preliminary color balance samples (Level 02) per estuary</td>
<td>FTP</td>
</tr>
<tr>
<td>Primary Flight Lines - Imagery Tiles</td>
<td>GeoTIFF</td>
</tr>
<tr>
<td>Primary Flight Lines - Imagery Mosaics</td>
<td>MrSID</td>
</tr>
<tr>
<td>Primary Flight Lines - Preliminary Imagery (strips or frames)</td>
<td>GeoTIFF</td>
</tr>
<tr>
<td>Alternate Flight Lines - Imagery Tiles</td>
<td>GeoTIFF</td>
</tr>
<tr>
<td>Alternate Flight Lines - Imagery Mosaics</td>
<td>MrSID</td>
</tr>
<tr>
<td>Alternate Flight Lines - Preliminary Imagery (strips or frames)</td>
<td>GeoTIFF</td>
</tr>
<tr>
<td>Survey Report</td>
<td>Hardcopy</td>
</tr>
<tr>
<td>Survey Report</td>
<td>PDF</td>
</tr>
<tr>
<td>Calibration Report and Flight Logs</td>
<td>Hardcopy</td>
</tr>
<tr>
<td>Calibration Report and Flight Logs</td>
<td>PDF</td>
</tr>
<tr>
<td>Metadata File for each Imagery Tile and project-wide: Orthophoto, Cutline Feature Class, Flight Line Feature Class, and Ground Control Feature Class</td>
<td>ArcGIS XML</td>
</tr>
<tr>
<td>File geodatabase: Cutline Feature Class, Flight Line Feature Class, and Ground Control Feature Class</td>
<td>ArcGIS Feature Class</td>
</tr>
<tr>
<td>Secure Hash Algorithm Output File</td>
<td>Comma Delimited Text File or Excel</td>
</tr>
</tbody>
</table>
ATTACHMENT E – REQUIRED TIFF AND GEOTIFF TAGS AND KEYS AND SAMPLE VALUES

<table>
<thead>
<tr>
<th>TIFF Tags Required</th>
<th>Tag Name</th>
<th>Decimal</th>
<th>Hex</th>
<th>Type</th>
<th>Sample Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>ImageWidth</td>
<td>256</td>
<td>100</td>
<td>Short or Long</td>
<td>5000</td>
<td></td>
</tr>
<tr>
<td>ImageLength</td>
<td>257</td>
<td>101</td>
<td>Short or Long</td>
<td>5000</td>
<td></td>
</tr>
<tr>
<td>BitsPerSample</td>
<td>258</td>
<td>102</td>
<td>Short</td>
<td>8 8 8</td>
<td></td>
</tr>
<tr>
<td>Compression</td>
<td>259</td>
<td>103</td>
<td>Short</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>PhotometricInterpretation</td>
<td>262</td>
<td>106</td>
<td>Short</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Orientation</td>
<td>274</td>
<td>112</td>
<td>Short</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>StripOffsets</td>
<td>273</td>
<td>111</td>
<td>Short or Long</td>
<td>8 510008 . . .</td>
<td></td>
</tr>
<tr>
<td>SamplesPerPixel</td>
<td>277</td>
<td>115</td>
<td>Short or Long</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>RowsPerStrip</td>
<td>278</td>
<td>116</td>
<td>Short or Long</td>
<td>34</td>
<td></td>
</tr>
<tr>
<td>StripByteCounts</td>
<td>279</td>
<td>117</td>
<td>Short or Long</td>
<td>510000 510000 . . .</td>
<td></td>
</tr>
<tr>
<td>ImageDescription</td>
<td>270</td>
<td>10E.H</td>
<td>ASCII</td>
<td>Southwest Florida Water Management District Digital Orthophoto</td>
<td></td>
</tr>
<tr>
<td>DocumentName</td>
<td>269</td>
<td>10D.H</td>
<td>ASCII</td>
<td>&lt;Cell Number&gt; &lt;Zone&gt; &lt;State&gt;</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Tiff Tags Defined by GeoTIFF</th>
<th>Tag Name</th>
<th>Decimal</th>
<th>Hex</th>
<th>Type</th>
<th>Sample Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>ModelPixelScaleTag</td>
<td>33550</td>
<td>830E</td>
<td>Double</td>
<td>1.0 1.0 0</td>
<td></td>
</tr>
<tr>
<td>ModelTiePointTag</td>
<td>33922</td>
<td>8482</td>
<td>Double</td>
<td>0 0 0 525000 188000 0</td>
<td></td>
</tr>
<tr>
<td>GeoAsciiParamsTag</td>
<td>34737</td>
<td>87B1</td>
<td>ASCII</td>
<td>Southwest Florida Water Management District One Foot Resolution &lt;start flight date&gt; - &lt;end flight date&gt; NAD 83/2011 (NSRS 2011) State Plane Florida West FIPS 0902 Feet</td>
<td></td>
</tr>
<tr>
<td>GeoKeyDirectoryTag</td>
<td>34735</td>
<td>87AF</td>
<td>ASCII</td>
<td>1 1 0 6 1024 0 1 0 1025 0 1 1 1026 34737 78 0 3072 0 1 26959 3073 34737 53 78 3076 0 1 9003</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>GeoKeys Defined by GeoTIFF</th>
<th>Tag Name</th>
<th>Decimal</th>
<th>Hex</th>
<th>Type</th>
<th>Sample Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>GTModelTypeGeoKey</td>
<td>1024</td>
<td>400</td>
<td>Short</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>GTRasterTypeGeoKey</td>
<td>1025</td>
<td>401</td>
<td>Short</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>GTCitationGeoKey</td>
<td>1026</td>
<td>402</td>
<td>ASCII</td>
<td>Southwest Florida Water Management District One Foot Resolution &lt;start flight date&gt; - &lt;end flight data&gt;</td>
<td></td>
</tr>
<tr>
<td>ProjectedCSTypeGeoKey</td>
<td>3072</td>
<td>C00</td>
<td>Short</td>
<td>2882</td>
<td></td>
</tr>
<tr>
<td>PCSCitationGeoKey</td>
<td>3073</td>
<td>C01</td>
<td>ASCII</td>
<td>NAD 1983/2011 (NSRS 20112007) State Plane Florida West FIPS 0902 Feet</td>
<td></td>
</tr>
<tr>
<td>ProjLinearUnitsGeoKey</td>
<td>3076</td>
<td>C04</td>
<td>Short</td>
<td>9003</td>
<td></td>
</tr>
</tbody>
</table>
ATTACHMENT F – SWFWMD SURVEYING AND MAPPING REPORT GUIDELINES
PHOTOGRAMMETRIC MAPPING SERVICES

The following outline presents guidance and requirements for professional surveying and mapping in the process of photogrammetric mapping services for the Southwest Florida Water Management District (SWFWMD).

1. GEODE蒂C (HORIZONTAL AND VERTICAL) GROUND CONTROL SURVEYS

The Professional Surveyor and Mapper (PSM) will prepare a certified report of survey according to: FLORIDA ADMINISTRATIVE CODE, CHAPTER 5J-17, Standards of Practice applicable for this work. The report will include the following items:

1.1 DISTRICT Project Title, Purchase Order Number, TWA Name, TWA Number, CONSULTANT Name, and Project Managers Names

1.2 Name and address of corporation (certificate of authorization number)

1.3 Surveyor in responsible charge (contact information)

1.4 Abbreviations; data sources; etc.

1.5 Introduction, purpose, project objective, scope of work, results and conclusions

1.6 Describe equipment, hardware and software

1.7 Describe the accuracy standards and specifications, procedures and methodology for establishing ground control (including the quality control (QC) check points)

1.8 Describe and list the geodetic control (existing and newly-established), displaying the horizontal and vertical coordinates, datums used, geoid model and error estimates (95% confidence level)

1.9 Accuracy reporting will be according to FGDC geospatial accuracy standards:

1.9.1 Report the horizontal and vertical (heights) accuracies (local and network) according to: FGDC STANDARDS FOR GEODETIC NETWORKS (FGDC-STD-007.2-1998)

1.9.2 Report the accuracy analysis for the check point data in spreadsheet format according to: FGDC GEOSPATIAL POSITIONING ACCURACY STANDARDS, PART 3: NATIONAL STANDARD FOR SPATIAL DATA ACCURACY (FGDC-STD-007.3-1998)

1.10 List the field and office personnel

1.11 Date of field survey

1.12 Describing monumentation recovered and set

1.13 Professional surveyor and mapper certification will include the following: “THIS PHOTOGRAMMETRIC MAPPING GROUND CONTROL SURVEY IS CERTIFIED TO THE SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT AS MEETING OR EXCEEDING, IN QUALITY AND PRECISION, THE STANDARDS APPLICABLE FOR THIS WORK, AS SET FORTH IN CHAPTER 5J-17, FLORIDA ADMINISTRATIVE CODE.”

1.14 Existing geodetic control recovery/to-reach descriptions, sketches, field notes, photographs, etc.

1.15 Newly-established photogrammetric control location descriptions, sketches, field notes, photographs, etc.

1.16 Copies of Global Positioning System (GPS) data logs and a listing of GPS occupations
1.17 All GPS data observed and produced during the survey (digital format), including the raw observation data, processed baselines, loop closures and least squares adjustments (free and fixed)

1.18 Report will include a map overlay which will display the following items:
   1.18.1 GPS baseline network, indicate repeated measurements
   1.18.2 Existing horizontal and vertical geodetic control
   1.18.3 Newly-established photogrammetric control
   1.18.4 QC check points
   1.18.5 Base map features (SWFWMD boundaries, county boundaries, major roads, major hydrography/water bodies, township/range lines, cities)

2. AERIAL TRIANGULATION, DIGITAL ORTHOPHOTOGRAPHY AND LiDAR TOPOGRAPHIC MAPPING REPORT

The PSM will prepare a certified report of survey according to: FLORIDA ADMINISTRATIVE CODE, CHAPTER 5J-17. The report will contain the following items:

2.1 SWFWMD project title and reference number
2.2 Name and address of corporation (certificate of authorization number)
2.3 Surveyor in responsible charge (contact information)
2.4 Abbreviations, definitions; data sources; etc.
2.5 Introduction, purpose, objectives
2.6 Scope of work
2.7 Describe all equipment, software, etc.
2.8 Imaging sensor description and calibration report
2.9 Airborne GPS report
2.10 Aerial triangulation control coordinates and aerial triangulation blocks along with statistical summaries
2.11 Digital orthophoto image acquisition dates and logs
2.12 Digital orthophoto image production specifications
2.13 Digital elevation model acquisition (identify source and accuracy)
2.14 Digital orthophotography image accuracy analysis (photo id QC vs photogrammetric derived) according to: FGDC NATIONAL STANDARD FOR SPATIAL DATA ACCURACY (FGDC-STD-007.3-1998
2.15 LiDAR data acquisition dates and logs
2.16 LiDAR sensor description and calibration report
2.17 LiDAR specifications and procedures
2.18 LiDAR QC accuracy analysis according to: FGDC NATIONAL STANDARD FOR SPATIAL DATA ACCURACY (FGDC-STD-007.3-1998
2.19 List the field and office personnel
2.20 The following Professional surveyor and mapper certification:
   “THIS PHOTOGRAMMETRIC MAPPING DATA AND REPORT IS CERTIFIED TO SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT AS MEETING OR EXCEEDING, IN QUALITY AND PRECISION, THE STANDARDS APPLICABLE FOR THIS WORK, AS SET FORTH IN CHAPTER 5J-17, FLORIDA ADMINISTRATIVE CODE.”
2.21 FGDC Metadata in digital XML file format
2.22 Photogrammetric identification quality control point sketches, descriptions, photographs
2.23 Report will include a map overlay which will display the following items:
   2.23.1 Ground control
   2.23.2 Aerial triangulation blocks
   2.23.3 Digital ortho image cut lines and dates associated with the strips
   2.23.4 Digital ortho image tile limits and layout
   2.23.5 Digital orthophotography QC Check Point Locations
   2.23.6 LiDAR QC accuracy locations
   2.23.7 Base map features such as: USGS quad, SWFWMD boundaries, county boundaries, major roads, major hydrography/water bodies, township/range lines, basin boundaries, cities

The remainder of this page intentionally left blank
EXHIBIT “B”
FULL MOTION VIDEO SPECIFICATION
Table of Contents

GLOSSARY OF TERMS 60
GENERAL USES FOR UNMANNED AIRCRAFT SYSTEMS (UAS) 61
UAS should be used for and when: 61
Good projects for UAS would include: .......................................................... 61
UAS should not be used for or when: 61
Poor projects for UAS would include: ............................................................ 61
GENERAL RISK FACTORS 62
GENERAL REQUIREMENTS 62
FAA Authorization 62
Part 107 62
Operational Limitations .............................................................................. 62
Remote Pilot Certification ........................................................................... 63
UAS Aircraft Requirements ......................................................................... 64
Site Review/Preparation 64
MAPPING REQUIREMENTS 64
UAS Type 64
Rotorcraft ................................................................................................. 64
Multi Rotors ............................................................................................... 65
Fixed Wing ................................................................................................. 65
Hybrid (VTOL) .......................................................................................... 65
Sensors 65
RGB Cameras .......................................................................................... 65
Multispectral Sensors ............................................................................... 65
Thermal Sensors ...................................................................................... 66
LiDAR Sensors ........................................................................................ 66
Appendix A: Consultant UAS Operation Checklist 67
GLOSSARY OF TERMS

- Aircraft: any contrivance invented, used, or designed to navigate, or fly in, the air
- Airport: a landing area used regularly by aircraft for receiving or discharging passengers or cargo
- ATO: Air Traffic Organization
- ATC: Air Traffic Control
- Calibration: The science of determining and compensating for error in a Camera or Lens
- COA: Certificate of Waiver or Authorization (COA)
- FAA: Federal Aviation Administration
- Fixed Wing: Aircraft with one or more fixed wings with a motor forward of or behind the wings
- FLIR: Forward-Looking InfraRed (Camera)
- IMU: Inertial Measurement Unit
- INS: Inertial Navigation System
- Launch area: Open area, field, parking lot, or airport used, or intended to be used, for the launching of aircraft
- Landing area: Open area, field, parking lot, or airport used, or intended to be used, for the landing of aircraft
- LiPo: Lithium Polymer (battery type)
- Multi Rotor: Multi Rotor VTOL Aircraft. Usually with, 4, 6, or 8 rotors
- Operations Area: Geographic area where UAS mission will take place
- Part 107 (14 CFR): Federal Regulations governing use of UAS
- Remote Pilot: Pilot in Command as used in 14 CFR Part 107
- Rotorcraft: Single rotor Aircraft (Helicopter)
- Sectional Aeronautical Charts: Designed for visual navigation of slow to medium speed aircraft, these are to be used when submitting COA applications (or Waiver requests) and communicating operations area with the ATC and FAA
- SOP: Standard Operational Procedures
- UAS: Unmanned Aircraft System
- UAV: Unmanned Aerial Vehicle
- VO: Visual Observer
- VTOL: Vertical Take Off and Landing
- Waiver: Authorization beyond approved use under 14 CFR Part 107
- Sensors: Can Include, Multi Spectral or Thermal Cameras, or LiDAR, etc.
- Payload: Item or Items (sensors) carried by UAS
GENERAL USES FOR UNMANNED AIRCRAFT SYSTEMS (UAS)

Unmanned Aircraft Systems (UAS) are well suited for mapping small areas at very high resolution. In addition, UAS can be used for real time monitoring of events such as chemical or hazardous waste spills, breaches, flooding and so on.

UAS should be used for and when:

- Taking photographs or video to create a record in time.
- Creating planimetric and topographic maps (supporting a 1’ or larger contour interval).
- Monitoring hazards.
- Small amounts of ground (<50 acres for rotary/ <1500 acres for fixed wing).
- Visual line of sight can be maintained.
- Operations can be conducted in Class G airspace under 400’.
- Operations in airspace other than Class G can be attained with FAA Approval (Waiver).

Good projects for UAS would include:

- Mapping of a site where the ground is clearly visible from the sky.
- Recording/documenting ground conditions at a development site.
- Monitoring small areas or projects over time.
- Recording/documenting water levels at difficult or hazardous to reach locations.
- Inspecting a structure for defects, cracks, or workmanship.
- Observing a lake-level gauge or staff gauge that is inaccessible resulting from storm water inundation.
- Assessing a site for ERP suitability.
- Assessing the use of equipment to treat (ex. mow) an area.
- Assessing the level of completion of a project site.
- Document the state/status of a development site.
- Emergency documentation following a storm event.
- Mapping Submerged Aquatic Vegetation (SAV).
- “Ground-truthing” seagrass imagery.
- Mapping invasive plant patches.
- Measuring vegetation changes on a site.
- Replacing existing Lidar surface data where land development has altered the terrain.
- Monitoring/measuring dirt piles.
- Mapping habitat or Florida Land Use Cover and Forms Classification System.
- Assisting with prescribed burns.
- Assessing condition of SWFWMD-owned Conservation Easements.

UAS should not be used for or when:

- Topographic mapping at very high accuracy (supporting contour intervals less than 1’).
- Topographic mapping in areas where dense vegetation impedes a clear view of the ground.
- Covering large amounts of ground (greater than 5000 acres).
- When visual line of sight cannot be maintained.
- Where airspace approval has not been granted by the FAA.

Poor projects for UAS would include:

- Mapping sites with a significant amount of vegetation or ground cover.
• Mapping sites where airspace access is extremely complex.
• Mapping sites where the population is dense (ex. over people) or where local prohibitions are in effect.
• Mapping sites with rapidly changing weather conditions.
• Mapping sites where active construction is occurring.

GENERAL RISK FACTORS

Battery Ignition – Lithium Polymer (LiPo) batteries are the most common energy source for commercial-grade UASs. These batteries are known to generate large amounts of heat as they discharge. When not carefully monitored, the heat may build up resulting in ignition.

Weather Conditions – Weather conditions may be unpredictable or variable during a mission. What may start out as a calm day, may turn windy toward the end of the mission. Smaller, less stable UASs may not be able to maneuver through changing weather conditions resulting in unforeseen flight patterns, holding patterns and even crash-landings.

Land Cover Conditions – Most UASs are designed for flight over “urban-type” land covers, those where the major features are asphalt, low grass (manicured lawns), and/or water. The land covers typically of interest to the Southwest Florida Water Management District (SWFWMD) include, wetlands, overgrown fields, tall brush, and covers difficult for people to walk through. A “crash” in these habitats may result in unforeseen events (ex. brush fires, loss of vehicle, etc.)

Personal Privacy - While FAA Rule 107 specifically prohibits use of UASs over non-participating people, it provides waivers for UAS use in populated areas.

GENERAL REQUIREMENTS

In order for Consultants to operate UAS for SWFWMD projects, they must operate in compliance with FAA rules and regulations and Florida law. They must also meet the SWFWMD’s insurance requirements and operate under the guidelines in this document.

FAA Authorization

All UAS operations must follow FAA approved guidelines for operation. The FAA grants permission to operate UAS through two different means: Section 333 exemption and more recently its replacement Part 107. Since the Section 333 exemption is being phased out, this document will reference operations under Part 107. These requirements will be adjusted as Part 107 is modified.

Part 107

Operational Limitations

UAS operations under Part 107 must adhere to the operational limitations identified in the regulations, including, but not limited to:

• Unmanned aircraft must weigh less than 55 lbs. (25 kg).
• Visual line-of-sight (VLOS) only; the unmanned aircraft must remain within VLOS of the remote pilot in command and the person manipulating the flight controls of the small UAS. Alternatively, the unmanned aircraft must remain within VLOS of the visual observer.
At all times the small unmanned aircraft must remain close enough to the remote pilot in command and the person manipulating the flight controls of the small UAS for those people to be capable of seeing the aircraft with vision unaided by any device other than corrective lenses.

- Small unmanned aircraft may not operate over any persons not directly participating in the operation, not under a covered structure, and not inside a covered stationary vehicle.
- Daylight-only operations, or civil twilight (30 minutes before official sunrise to 30 minutes after official sunset, local time) with appropriate anti-collision lighting.
- Must yield right of way to other aircraft.
- May use visual observer (VO) but not required.
- First-person view camera cannot satisfy “see-and-avoid” requirement but can be used as long as requirement is satisfied in other ways.
- Maximum groundspeed of 100 mph (87 knots).
- Maximum altitude of 400 feet above ground level (AGL) or, if higher than 400 feet AGL, remain within 400 feet of a structure.
- Minimum weather visibility of 3 miles from control station.
- Operations in Class B, C, D and E airspace are allowed with the required Air Traffic Control (ATC) permission.
- Operations in Class G airspace are allowed without ATC permission.
- No person may act as a remote pilot in command or VO for more than one unmanned aircraft operation at one time.
- No operations from a moving aircraft.
- No operations from a moving vehicle unless the operation is over a sparsely populated area.
- No careless or reckless operations.
- No carriage of hazardous materials.
- Requires preflight inspection by the remote pilot in command.
- A person may not operate a small unmanned aircraft if he or she knows or has reason to know of any physical or mental condition that would interfere with the safe operation of a small UAS.
- Foreign-registered small unmanned aircraft are allowed to operate under Part 107 if they satisfy the requirements of Part 375.
- External load operations are allowed if the object being carried by the unmanned aircraft is securely attached and does not adversely affect the flight characteristics or controllability of the aircraft.

* The entire summary can be found here: https://www.faa.gov/sites/faa.gov/files/2021-08/Part_107_Summary.pdf

Pursuant to Part 107, the Consultant may deviate from the Operational Limitations after obtaining a waiver from the FAA.

Remote Pilot Certification

Any person operating a small UAS must either hold a remote pilot certificate with a small UAS rating or be under the direct supervision of a person who does hold a remote pilot certificate (remote pilot in command). A remote pilot certificate must be on the person operating the small UAS at all times when UAS operations occur. A remote pilot must:

- Make available, upon request, the small UAS for inspection or testing, and any associated documents/records required to be kept under Part 107.
- Report to the FAA within 10 days of any operation that results in at least serious injury, loss of consciousness, or property damage of at least $500.
• Conduct a preflight inspection, to include specific aircraft and control station systems checks, to ensure the small UAS is in a condition for safe operation.
• Ensure that the small unmanned aircraft complies with the existing registration requirements specified in 14 CFR 91.203(a)(2).

UAS Aircraft Requirements

The UAS must be registered with the FAA and the identification number must be affixed to the UAS in a location accessible to others. Prior to any mission the UAS must undergo pre-flight check to ensure the UAS is in condition for safe operation.

Documentation

SWFWMD requires the documents identified in Appendix A: Consultant UAS Operation Checklist, prior to commencement of any UAS operation.

Site Review/Preparation

The Consultants accessing SWFWMD lands must operate pursuant to Part 107 operational limitations and Florida law. Prior to any UAS operation, the Consultant must do the following:

• Review the physical characteristics of area in question for suitability in UAS operation.
• Review the surrounding airspace for suitability in operation.
• Acquire any necessary waivers and/or special use agreements for operations.
• Develop and provide a mission plan including proposed flight layout to SWFWMD for review.
• Obtain a Special Use Authorization, if necessary.

MAPPING REQUIREMENTS

Any mapping mission must be under the direct supervision of a Florida Licensed Surveyor or Professional Survey Mapper, pursuant to Chapter 472, Florida Statutes, and Chapter 5J-17, Florida Administrative Code. Each mission is unique and the accuracies desired and deliverables should be discussed prior to determining the appropriate UAS and sensor combination.

UAS Type

UAS types include Rotorcraft, Multi Rotors, Fixed Wings, and Hybrids (VTOL systems). Each has its unique characteristics, benefits and limitations. It is the Consultant’s responsibility to determine and use the appropriate system given the mission type. Below is more detailed information on the typical capabilities of each type of UAS.

Rotorcraft

Rotorcraft (helicopters) are best used for operations where hover capabilities are required such as inspection of utility poles, cell towers and or powerlines. Due to their hover capabilities and ability to carry larger payloads they are also well suited for LiDAR acquisition. However, rotorcraft consume a lot of power and as a result are only suitable for mapping smaller areas < 50 acres.
Multi Rotors

Multi Rotors are by far the most popular systems. These have similar maneuvering capabilities of Rotorcraft and are suited for similar use. However, Multi Rotors are much less expensive and easier to operate. Typically, they fly for approximately 20 to 26 minutes per battery and as a result are best suited for mapping smaller areas < 50 acres.

Fixed Wing

Fixed wing UAS are best suited for mapping larger areas up to 1500 acres. They are typically battery operated and fly up to 40 minutes per charge. Fixed wing UAS can be limited by the requirements for launch and landing areas.

Hybrid (VTOL)

Hybrid systems have the VTOL capabilities of Rotorcraft allowing them to launch and land within a small footprint, but transition to fixed wing flight midair allowing them to cover larger areas similar to fixed wing UAS. Typically, they fly for 40 minutes and can map areas up to 400 acres per battery.

Sensors

UAS offer the ability to fly much lower than conventional aircraft, and in some cases, have hot swappable sensors. Sensors range from RGB cameras to Multispectral sensors containing red, green and blue (RGB) and Near IR bands, and LiDAR. For mapping purposes, the UAS must be able to geotag the imagery being captured either through post processing from the UAS to the images or directly within the camera being used to acquire the imagery. LiDAR requires an Inertial Measurement Unit (IMU) of a quality and accuracy to support desired mapping accuracy.

RGB Cameras

RGB cameras often serve a dual purpose in UAS providing still imagery and video. The SWFWMD requires the camera to be a minimum of 20 megapixels and support 4k video. RGB cameras should be of a quality to suitably produce mapping deliverables at the scale desired. GoPro (or fish eye) lens cameras should not be considered. RGB cameras, while not metric should go through some form of calibration prior to creation of deliverables. This calibration report must accompany final deliverables. Note: This is not necessary when being used for video capture.

Multispectral Sensors

Multispectral sensors can be used to determine plant health, moisture content, and determine drainage/water run-off. There are many systems available. Consultants should provide specific information about their systems and particular benefits for the SWFWMD to determine their appropriate use on a given task. Multispectral sensors typically have a calibration target captured at the beginning and end of each mission to validate data.
Thermal Sensors

The use of Thermal Sensors (FLIR) may be required. FLIR sensors capture heat signatures with still and/or video imagery. Since these are extremely effective at night, the UAS operator must have a waiver of authorization to operate beyond daylight hours.

LiDAR Sensors

LiDAR sensors in combination with their IMU/INS should be able to produce deliverables meeting USGS LiDAR Base Specifications for QL 2 Lidar which can be found here https://pubs.usgs.gov/tm/11b4/pdf/tm11-B4.pdf. LiDAR systems should be bore-sighted and/or calibrated prior to processing deliverables. This report must accompany final deliverables.

(REMAINDER OF THIS PAGE IS INTENTIONALLY BLANK)
**Appendix A: Consultant UAS Operation Checklist**

The SWFWMD requires its Consultants to provide the following items prior to any UAS operation.

<table>
<thead>
<tr>
<th>Item</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>UAS FAA registration and Photo of UAV showing tail number or serial number</td>
<td></td>
</tr>
<tr>
<td>Proof of UAS Insurance</td>
<td></td>
</tr>
<tr>
<td>FAA Remote Pilot Certificate of Pilot in Command</td>
<td></td>
</tr>
<tr>
<td>Remote Pilot in Command Driver’s License</td>
<td></td>
</tr>
<tr>
<td>An Operations Manual which includes:</td>
<td></td>
</tr>
<tr>
<td>• Standard Operating Procedures</td>
<td></td>
</tr>
<tr>
<td>• Operating Instructions for UAS being employed</td>
<td></td>
</tr>
<tr>
<td>• Safety Mitigation Plan</td>
<td></td>
</tr>
<tr>
<td>• Pilot Log Sheet(s) (To be provided after mission is complete)</td>
<td></td>
</tr>
<tr>
<td>• Maintenance Log(s)</td>
<td></td>
</tr>
<tr>
<td>Mission Specific Plan of Operation</td>
<td></td>
</tr>
<tr>
<td>FAA Approved Waivers (as needed)</td>
<td></td>
</tr>
<tr>
<td>SWFWMD Task Work Assignment (executed)</td>
<td></td>
</tr>
<tr>
<td>SWFWMD Special Use Authorization (as needed)</td>
<td></td>
</tr>
</tbody>
</table>
Exhibit "D"
FEE SCHEDULE

<table>
<thead>
<tr>
<th>Labor Category/Aircraft/Sensor/Watercraft</th>
<th>$/HR</th>
<th>Total Hours</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Grand Total:
EXHIBIT “E”  
Key Team Members

<table>
<thead>
<tr>
<th>NAME OF KEY PERSONNEL</th>
<th>POSITION TITLE</th>
<th>JOB CLASSIFICATION</th>
</tr>
</thead>
</table>

**Section One – Imagery Acquisition**

**Name of Primary Firm**

- Jonathon Doe: Senior Ecologist/Principal, Project Management Professional 10
- James Doe: Managing Engineer, Project Management Professional 7
- Joseph Doe: Project Engineer, Project Management Professional 2

**APPROVED SUBCONTRACTORS**

**Name of Subcontractor**

- Robert Jones: General Manager, Project Management Professional 8
- Rick Jones: Professional Engineer, Engineer 3
- Roger Jones: Data Modeler, Data Modeler 2

**Section Two – Imagery Acquisition**

**Name of Primary Firm**

- Jonathon Doe: Senior Ecologist/Principal, Project Management Professional 10
- James Doe: Managing Engineer, Project Management Professional 7
- Joseph Doe: Project Engineer, Project Management Professional 2

**APPROVED SUBCONTRACTORS**

**Name of Subcontractor**

- Robert Jones: General Manager, Project Management Professional 8
- Rick Jones: Professional Engineer, Engineer 3
- Roger Jones: Data Modeler, Data Modeler 2

**Section Three – Field Work**

**Name of Primary Firm**

- Jonathon Doe: Senior Ecologist/Principal, Project Management Professional 10
- James Doe: Managing Engineer, Project Management Professional 7
- Joseph Doe: Project Engineer, Project Management Professional 2

**APPROVED SUBCONTRACTORS**

**Name of Subcontractor**

- Robert Jones: General Manager, Project Management Professional 8
- Rick Jones: Professional Engineer, Engineer 3
- Roger Jones: Data Modeler, Data Modeler 2
EXHIBIT “F”
DELIVERABLE ACCEPTANCE AND PERFORMANCE EVALUATION

A. DELIVERABLE ACCEPTANCE DETERMINATION. PROJECT deliverables are outlined in the DISTRICT’S Agreement. The DISTRICT’S Project Manager shall evaluate the CONSULTANT’S deliverables and determine if the deliverables are acceptable. Deliverables shall only be accepted when they are in compliance with the Agreement and approved by the DISTRICT’S Project Manager at the pre-submittal meeting. Deliverables that are not acceptable shall be returned to the CONSULTANT to address deficiencies. If an acceptable deliverable cannot be provided within an identified time frame, other action shall be taken as deemed necessary by the Project Manager including suspension as specified in Paragraph 5, or Agreement termination as specified in Paragraphs 13 and 14 of the Agreement.

B. PERFORMANCE EVALUATION. The DISTRICT shall evaluate the CONSULTANT’S performance throughout the Agreement in four performance categories: Performance Schedule, Communications, Staff Assignments and Technical Quality, and Project Management. Performance evaluation ratings of Exceptional, Very Good, Satisfactory, Marginal and Unsatisfactory shall be assigned to the CONSULTANT for each performance category at the completion of the Agreement. Each invoice submission must include an Agreement progress report with the CONSULTANT’S Project Manager's assessment of the PROJECT’S actual progress as compared to the approved performance schedule. Details must include any deficiencies and the recovery actions completed and planned.

The performance evaluations shall be furnished to the CONSULTANT. A Marginal or Unsatisfactory rating in any of the areas may result in re-evaluation of eligibility for future assignments, and termination of this Agreement.

The performance evaluation criteria are broadly defined as follows:

1. **Performance Schedules** - The CONSULTANT is expected to adhere to the performance schedule negotiated in the Agreement.

2. **Communications** - The CONSULTANT’S Project Manager is expected to respond in a timely manner to inquiries and requests made by the DISTRICT’S Project Manager, and is expected to set aside time for review and discussion of deliverables. The parties should engage in free and open discussion of PROJECT issues to insure expeditious resolution of such issues.

3. **Staff Assignments and Technical Quality** - Team members presented in the CONSULTANT’S response to the DISTRICT’S solicitation 23-4113 are expected to be utilized in such a manner as to result in efficient workflow, quality deliverables and on-time performance. Reassignments should be minimal and positively influence performance. Staffing adjustments to address turnovers or performance deficiencies are to be handled expeditiously, maintaining on–time performance. Replacement of team members is subject to the terms and conditions of this Agreement.

4. **Project Management** - An Agreement that is completed on time, within budget, and with consistently acceptable deliverables is demonstration of a well-managed project.
ATTACHMENT 2
PUBLIC ENTITY CRIMES STATEMENT
FOR
DISTRICTWIDE SEAGRASS MAPPING PROJECT
RFP 23-4113

Sworn Statement Under Section 287.133(3)(a),
Florida Statutes, on Public Entity Crimes

This Statement must be signed in the presence of a Notary Public or other officer
authorized to administer oaths:

1. This sworn statement is submitted to Southwest Florida Water Management District
   by

   ____________________________________________

   (print individual's name and title)

   for

   ____________________________________________

   (print name of entity submitting sworn statement)

   Whose business address is

   ____________________________________________

   and (if applicable) its Federal Employer Identification Number (FEIN) is ____________
   (if the entity has no FEIN, include the Social Security number of the individual
   signing this sworn statement):

2. I understand that a "public entity crime" as defined in Section 287, 1 33(l)(g), Florida
   Statutes, means a violation of any state or federal law by a person with respect to
   and directly related to the transaction of business with any public entity or with an
   agency or political subdivision of any other state or with the United States, including,
   but not limited to, any bid, proposal, reply, or contract for goods or services, any
   lease for real property, or any contract for the construction or repair of a public
   building or public work, involving antitrust, fraud, theft, bribery, collusion,
   racketeering, conspiracy, or material misrepresentation.

3. I understand that "convicted" or "conviction" as defined in Section 287, 133(l)(b),
   Florida Statutes, means a finding of guilt or a conviction of a public entity crime, with
   or without an adjudication of guilt, ill any federal or state trial court of record relating
   to charges brought by indictment or information after July 1, 1989, as a result of a
   jury verdict, nonjury trial, or entry of a plea of guilty or nolo contendere.
4. I understand that an "affiliate" as defined in Section 287.133(1)(a), Florida Statutes, means:
   a. A predecessor or successor of a person convicted of a public entity crime; or
   b. An entity under the control of any natural person who is active in the management of the entity and who has been convicted of a public entity crime. The term "affiliate" includes those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in the management of an affiliate. The ownership by one person of shares constituting a controlling interest in another person, or a pooling of equipment or income among persons when not for fair market value under an arm's length agreement, shall be a prima facie case that one person controls another person. A person who knowingly enters into a joint venture with a person who has been convicted of a public entity crime in Florida during the preceding 36 months shall be considered an affiliate.

5. I understand that "person" as defined in Section 287.133(1)(e), Florida Statutes, means any natural person or entity organized under the laws of any state or of the United States with the legal power to enter into a binding contract and which bids or applies to bid on contracts for the provision of goods or services let by a public entity, or which otherwise transacts or applies to transact business with a public entity. The term "person" includes those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in management of an entity.

6. Based on information and belief, the statement which I have marked below is true in relation to the entity submitting this sworn statement. [indicate which statement applies]

   __ Neither the entity submitting this sworn statement, nor any of its officers, directors, executives; partners, shareholders, employees, members, or agents who are active in the management of the entity, nor any affiliate of the entity, has been charged with and convicted of a public entity crime subsequent to July 1, 1989.

   __ The entity submitting this sworn statement, or one or more of its officers, directors, executives, partners, shareholders, employees, members or agents who are active in the management of the entity, or an affiliate of the entity, has been charged with and convicted of a public entity crime subsequent to July 1, 1989. However, there has been a subsequent proceeding before a Hearing Officer of the State of Florida, Division of Administrative Hearings and the Final Order entered by the Hearing Officer determined that it was not in the public interest to place the entity submitting this sworn statement on the convicted vendor list. [attach a copy of the final order]
I understand that the submission of this form to the contracting officer for the public entity identified in paragraph (1) above is for the public entity only and, that this form is valid through December 31 of the calendar year in which it is filed. I also understand that I am required to inform the public entity prior to entering into a contract in excess of the threshold amount provided in Section 287.017, Florida Statutes for CATEGORY TWO of any change in the information contained in this form.

CONTRACTOR: ___________________________________________________  
(Signature) Date

STATE OF FLORIDA COUNTY OF ___________________________  
The foregoing instrument was acknowledged before me this ___ day of ______________, 201__ by ________________________ as _________________________  
of ________________________________, a ________________________ corporation,  
on behalf of the corporation. He/she is personally known to me or has produced  
_______________ as identification.

Name typed/printed: ____________________________
Notary Public, State of Florida Commission No: ____________________
My Notary Commission Seal:
ATTACHMENT 3
CERTIFICATION REGARDING DRUG-FREE WORKPLACE REQUIREMENTS
FOR
RFP 23-4113 - SEAGRASS MAPPING PROJECT

The Respondent certifies that it will or will continue to provide a drug-free workplace by:

1. Publishing a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the Respondent's workplace and specifying the actions that will be taken against employees for violation of such prohibition.

2. Establishing an ongoing drug-free awareness program to inform employees about:
   2.1 The dangers of drug abuse in the workplace.
   2.2 The Respondent's policy of maintaining a drug-free workplace.
   2.3 Any available drug counseling, rehabilitation, and employee assistance programs.
   2.4 The penalties that may be imposed upon employees for drug abuse violations occurring in the workplace.

3. Making it a requirement that each employee to be engaged in the performance of the work be given a copy of the statement required by paragraph 1.

4. Notifying the employee in the statement required by paragraph 1 that, as a condition of employment under the proposal, the employee will:
   4.1 Abide by the terms of the statement.
   4.2 Notify the employer in writing of his or her conviction for a violation of a criminal drug statute occurring in the workplace no later than five calendar days after such conviction.

5. Notifying the District in writing, within ten calendar days after receiving notice under subparagraph 4.2 from an employee or otherwise receiving actual notice of such conviction. Employers of convicted employees must provide notice, including position title, to every Federal agency on whose activity the convicted employee was working, unless the Federal agency has designated a central point for the receipt of such notices. Notice shall include the identification number(s) of each affected grant.

6. Taking one of the following actions, within 30 calendar days of receiving notice under subparagraph 4.2, with respect to any employee who is so convicted:
   6.1 Taking appropriate personnel action against such an employee, up to and including termination, consistent with the requirements of the Rehabilitation Act of 1973, as amended.
   6.2 Requiring such employee to participate satisfactorily in a drug abuse assistance or rehabilitation program approved for such purposes by a Federal, State, or local health, law enforcement, or other appropriate agency.
7. Making a good faith effort to continue to maintain a drug-free workplace through implementation of paragraphs 1 through 6 above.

The Respondent may insert in the space provided below the site(s) for the performance of work done in connection with this specific proposal:

Place of Performance (Street address, city, county, state, zip code)

___________________________________________________________________

___________________________________________________________________

___________________________________________________________________

Company: _____________________________

By: ________________________________

Signature of Authorized Representative Date
Figure 1 – SEAGRASS ORTHOPHOTO PROJECT AREA

**SPRINGS COAST**
- 1,427 tiles
- 1,280 square miles

**SUNCOAST**
- 1,408 tiles
- 1,263 square miles
Figure 3 – ESTUARIES FOR COLOR BALANCING: SPRINGS COAST
Figure 4 – ESTUARIES FOR COLOR BALANCING: SUNCOAST