

ATTACHMENT A — STATEMENT OF WORK/DESIGN CRITERIA PACKAGE
C-1 CANAL BASEFLOW TREATMENT PROJECT

This Statement of Work (also defined as “Design Criteria Package”) includes and incorporates all the requirements set forth in the Technical Specifications and drawings for this project prepared by the St. Johns River Water Management District (District) engineer.

1. PROJECT OVERVIEW

C-1 Canal was constructed in the 1920’s and drains portions of the historic Upper St. Johns River Basin (USJRB) to the Indian River Lagoon (IRL). The C-1 Canal is the receiving waterbody for Melbourne-Tillman Water Control District (MTWCD). MTWCD operates the MS-1 water control structure (MS-1 structure) to manage water level within C-1, which discharges into Turkey Creek, a tributary of the IRL. Both Turkey Creek and the IRL are impaired for nutrients and are not attaining state water quality standards for their designated uses (i.e., recreation, shellfish propagation). In 2009, the state of Florida established Total Maximum Daily Loads (TMDLs) for nutrients and dissolved oxygen (DO) within the IRL. The 2021 Central Indian River Lagoon Basin Management Action Plan (BMAP) focuses on Total Nitrogen (TN) and Total Phosphorus (TP) load reductions to meet the TMDLs.

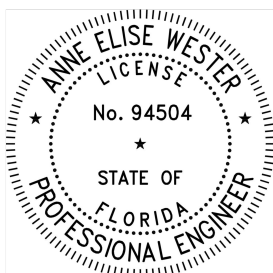
In support of the BMAP and core missions, the District restored a significant amount of flow back to the USJRB through completion and operation of the C-1/Sawgrass Lake Water Management Area Project, resulting in reduced nutrient loading to the IRL. Further load reductions and water quality improvements can be realized by treating base flows in the C-1 Canal which continue to discharge to Turkey Creek and the IRL.

The 2017 Indian River Lagoon Stormwater Capture and Treatment Feasibility Analysis (IRL Study) identified several project concepts that would have the greatest potential to reduce nutrient loads to the IRL. One of these project concepts would involve pumping raw baseflow from the C-1 Canal into a stormwater treatment system that includes a detention pond and engineered media for greater nutrient removal. Based on the IRL Study, that full-scale project would reduce nutrient loads to the IRL by an estimated 13,000 lbs Total Nitrogen (TN) and 1,200 lbs Total Phosphorus (TP) on an annual basis. This Design Criteria Package describes an innovative, scalable, media-based pilot project (the Project) for that full-scale project concept.

The District met with MTWCD staff and presented the concept for the Project to MTWCD’s Board of Directors in September 2021 and in July 2023. MTWCD provided support for the Project and approval to site the Project on their property near the MS-1 structure. An easement agreement between the District and MTWCD is in place to allow for joint use of the property.

The Project will demonstrate reduction of TN and TP from the C-1 Canal baseflow utilizing an innovative media-based treatment system. The Project will be sited adjacent to the MS-1 structure. In addition to design and construction, the Project includes operation, monitoring, and demobilization of the treatment system.

The purpose of this solicitation is to contract with a design-build firm to provide all labor, administration, design, equipment, materials, permitting, construction, and monitoring of an innovative media-based nutrient removal system.



This item has been digitally signed and sealed by Anne Elise Wester, PE, on 12/28/2023.

Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

The Project generally consists of, but is not limited to, the following elements:

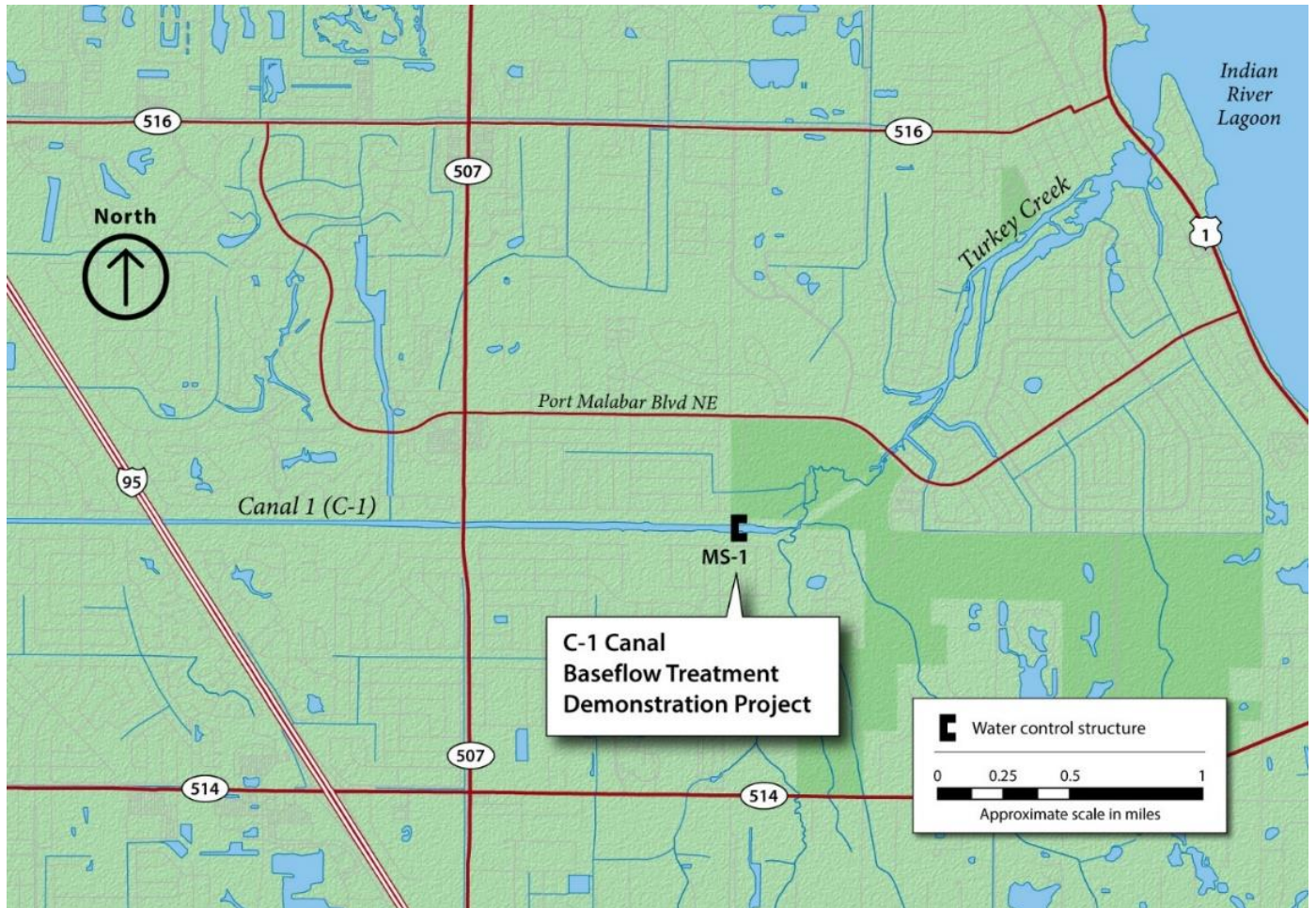
- (a) Design of the media-based nutrient removal system
- (b) Construction of system
- (c) Routine evaluation of performance
- (d) Demobilization of the system

Water will be pumped from the C-1 Canal and transported through pipes to the treatment system, where it will be treated and discharged back to the Canal. The treatment system must be media-based and fit on the available 2,000-3,000 square foot footprint (Appendix A). The media, which must be placed within temporary treatment systems within the footprint, must remove nitrogen and phosphorus and must not negatively impact the water quality in any way. The system must be able to pump a daily average of 0.1 cubic feet per second (cfs) over the two-year period.

1.1 Project Location

The Project will be sited at the downstream end of MTWCD's C-1 Canal adjacent to the MS-1 water control structure (Figure 1). The Project will be located on the north side of the Canal on the impervious surface. The Project must be completed within the bounds of the easement agreed upon by MTWCD. The survey and legal description of the easement are provided in Appendix B.

Figure 1. Location of the C-1 Baseflow Treatment Demonstration Project at the MS-1 Water Control Structure



1.2 Objectives

The District's objectives for delivery of the Project are described below:

- (a) Consultant must identify all necessary permits or authorizations and prepare all applications and supporting documentation.
 - (1) Permit applications must be submitted within 30 days once the District approves the 60% design plans.
- (b) Consultant must develop a hurricane plan and follow storm event standards and wind codes.
- (c) Consultant must design an innovative, scalable, media-based pilot project (the Project) with the capacity to treat 0.1 cfs of surface water from the C-1 Canal and the efficiency to remove at least 135 pounds of Total Nitrogen (TN) and 15 pounds of Total Phosphorus (TP) over a two-year period but be scalable to achieve an estimated 13,000 pounds TN and 1,200 pounds TP on an annual basis.
 - (1) Consultant must prepare 30%, 60%, and 100% site or civil plans (i.e., design plans) and process flow drawings. The plans and specifications must be signed and sealed by a Florida Registered Professional Engineer as referenced in 62-330.021, F.A.C.
- (d) Consultant is responsible for the construction of the treatment system in conformance with the approved plans.
- (e) Consultant must operate the treatment system in accordance with the Design Criteria Package, including accounting for the variances in water level in the C-1 Canal (details on the drawdown period between March and May are provided in Conceptual Design Criteria portion of this package).
- (f) Consultant must prepare a written operation and maintenance plan for District approval.
- (g) All sampling and analyses performed under this Agreement must conform with the requirements set forth in Chapter 62-160, Florida Administrative Code, and the Quality Assurance Requirements for Department Agreements, attached as Appendix D.
- (h) Consultant must design and perform the monitoring activities for the Project. At a minimum, water quality samples of the source water influent and effluent will be evaluated, and system flow rates will be recorded.
 - (1) Consultant must evaluate TN and TP removal rates associated with media mix(s) and flow rate(s) before implementing operations (details of water quality discharge evaluation requirements are provided in the Performance-based Criteria section of this package).
- (i) Following review of the data collected during the two-year monitoring period, Consultant must provide a final report, which must include an opinion of probable construction costs for a full-scale system (treat approximately 20 cfs) along the C-1 Canal designed to achieve an estimated 13,000 lbs Total Nitrogen (TN) and 1,200 lbs Total Phosphorus (TP) on an annual basis.
 - (1) The final report should account for land requirements, intake pump and piping, treatment system, media replacement, and other construction and operational costs to demonstrate the system is feasible given ambient water quality and available land or infrastructure within the watershed.
 - a. Upon completion of operations and monitoring, Consultant must disassemble the Project and all components removed from the property. Site must be restored to the pre-existing conditions or better.

1.3 Performance-based criteria

The design must include all specifications required to be able to pump raw water from C-1 to the treatment site, treat onsite, and discharge effluent that meets the requirements specified below.

- (a) The treatment system must pump and treat a daily average of 0.1 cfs of raw canal water through a media-based nutrient removal system. The intake pump must be capable of running continuously. To ensure 24/7 continuous operation, a backup pump must be used to cover primary pump failure.
- (b) The treatment system must be designed to remove, on an annual basis, the Threshold Criteria of at least 135 lbs of TN and 15 lbs of TP over a two-year operational period, under the influent concentrations provided in Table 1. The Threshold Criteria is based on the pumping and treatment of a continuous flow of 0.1 cfs.

Table 1. Average Nutrient Concentrations at the C-1 Canal Station IRLTC7 from 1988-2011

Constituent	Average (mg/L)
NH4-D	0.045
NH4-T	0.138
NO _x -D	0.062
NO _x -T	0.094
PO ₄ -D	0.021
PO ₄ -T	0.027
TKN-T	0.720
TKN-D	0.765
TP-T	0.052
TSS	4.57
BOD	0.79
DO	6.30
TOC	12.91
Alkalinity	173.52
Constituent	Average (other)
Water Temp	23.48°C
Turbidity	4.80 ntu
pH	7.40
Conductivity	1027 umhos/cm

- (c) To ensure the treatment media meets Threshold Criteria prior to construction, bench tests must be performed to assess pollutant removal rates associated with different media mixes and/or flow rates before implementing operations. The results of these tests must be provided to the District prior to construction.
- (d) The treatment process must not alter water quality such that concentrations for any parameters are outside of historical concentrations for the Canal (apart from removal of TN and TP) and discharges must not violate any state water quality standards.
- (e) The scalability of the treatment system must be evaluated.
- (f) Monitoring and Performance
 - (1) Consultant is responsible for operating and monitoring treatment system for 24 consecutive months.
 - (2) Consultant must provide both influent and effluent flow measurements. The flow meters must be capable of instantaneous measurement and of providing daily flow totals. All flow data must be recorded and reported to the District on a quarterly basis.
 - (3) The TN and TP must be evaluated at least twice a month throughout the treatment period.
 - (4) Additional sampling (at least three samples per event) during and after large (greater than 1-yr, 24-hr) storm events (up to three events per quarter) is required to evaluate performance under changing

water quality conditions. If not feasible, consultant must promptly notify the District's Project Manager of the circumstances that prohibited the sampling.

- (5) To ensure the system does not produce toxic byproducts or would contribute to toxic conditions in the waterway, within 1 day of startup, again within 30 days of reaching full operational capacity, and bi-annually, the influent and discharge water quality must be sampled and evaluated for the constituents provided in Table 1, in addition to those required by regulatory discharge requirements, such as necessary for a NPDES permit.
- (6) If the proposed system causes undue harm to the existing process or facility, as determined by the District, the District may elect to cease operations. Consultant is responsible for all costs associated with facility repairs and regulatory issues caused by their processes and/or operations.

1.4 Material Quality Standards

The names of manufacturers and suppliers for the media and all equipment must be provided during 60% design 100% design for the treatment system, pump system, piping, storage, and equipment must be provided by Consultant. The project must be constructed in accordance with the latest edition of all applicable state, local and national codes, standards and regulations. USA produced materials should be used when possible.

Consultant must provide a 100% code-compliant design and construction. In no case will the strength, serviceability, or quality standards for materials and procedures be less than that required by the governing code(s). Additionally, Consultant must comply with all hurricane and storm event standards and plans. Consultant is responsible to develop a hurricane plan as part of its 60% design.

1.5 Conceptual Design Criteria

Water must be pumped from the Canal on the upstream side of the MS-1 structure and transported around the east side of the control building to the treatment system (Appendix A). Seasonal limitations as described below must be considered in the design. Treated water must discharge on the downstream side of MS-1 structure.

(a) Treatment System

- (1) The treatment system must be media-based, with volume and hydraulic retention time specifications, based on nutrient sorption and transformation rates. Performance must meet the requirements specified in the Performance-based Criteria section.
- (2) The footprint of the media-based system must require no more than 3,000 square feet of space, in the configuration shown in Appendix A.
- (3) Treatment structures must be temporary and easily removed.
- (4) The treatment media must not contain any toxic substances.
- (5) From March through May each year, the water levels within the C-1 Canal upstream of the MS-1 structure will be drawn down by others. The drawdown will be approximately 10 ft NGVD to 2 ft NGVD, which leaves approximately 4 feet of water depth. The design must accommodate this change in water level without affecting the total annual treatment. Any impacts to media and treatment associated with this constraint must be addressed in the Submittal and design.
- (6) At the completion of the Project, the removal and disposal of the media and other materials are the responsibility of Consultant. Materials must be disposed of according to applicable regulations.
- (7) All by-products of the proposed process must be identified prior to commencement. Consultant must provide composition and estimated quantities of any byproduct of the treatment process.
- (8) Consultant must also identify the end use or disposal location of any by-product. Consultant is responsible for all costs to dispose of by-products in accordance with applicable regulations.

(b) Intake, Piping, and Discharge

- (1) The sizing of the piping and pumping facilities must be determined by Consultant to meet the flow guidelines.
- (2) The generation of byproduct waste streams is prohibited.
- (3) Consultant must evaluate the need for installing of a vegetation and fish screen and other protective measures.
- (4) After treatment, the water must be discharged in the C-1 Canal downstream of the MS-1 structure.
- (5) The intake and discharge piping must not be greater than six inches (inside diameter), using HDPE pipe.

1.6 Site Development Requirements

(a) General Site Requirements

All activities related to design, construction, operation and maintenance, monitoring, and demobilization of the system must comply with all federal, local, and state requirements. Additionally, all activities must meet the requirements of the Design Criteria Package and the constraints of the MTWCD easement agreement.

- (1) Consultant must comply with all permitting requirements and authorizations.
- (2) Consultant must fully secure the area by fencing to restrict public access and take all actions necessary to mitigate the impacts to wetlands, surface waters, or protected species. Additionally, the operation of the treatment system must not exceed local noise criteria.
- (3) Removal of asphalt is not permitted. Activities and structures associated with this project should not impact MTWCD's existing infrastructure or impede their ability to operate.
- (4) There must be no trip hazards, as defined by the Occupational Safety and Health Administration.
- (5) The removeable treatment system units must be in temporary above-ground containment vessels.
- (6) Consultants must obtain necessary permits and authorizations for the Project. If exemptions are obtained, verification documentation must be provided to the District.
- (7) The site must be accessed over the existing paved entrance road and treatment system placement must be located in the existing parking lot.
- (8) The treatment systems must be no greater than 12 feet high.
- (9) Following demobilization, Consultant must return the property to its original condition and obtain approval of the repairs from the District and MTWCD.
- (10) The installation of the treatment system must not interfere with power lines or any overhead equipment, vegetation, or other facilities.
- (11) Consultant must provide pre- and post-construction inspections through drone imagery or ground level photography.

(b) Pumping and Piping System

- (1) Consultant must evaluate the installation of piping and the intake pump. Final placement must follow the approved design. Consultant must comply with all applicable federal, state, and local regulations and codes with the design and construction of treatment system infrastructure, including piping.
- (2) Consultant must coordinate with MTWCD to determine the best paths for the intake and discharge piping associated with the Project.

- (3) District and MTWCD vehicles must be able to have access to the grass area on the eastern side of the easement. Piping to and from the treatment system must be below ground or installed in such manner as to allow overland access, so long as the activity complies with federal, state, and local code and requirements.

1.7 Provisions for Project Utilities

Consultant must comply with all applicable permits and codes, in addition to coordination with MTWCD. Additional utility considerations can be addressed at the non-mandatory Pre-Submittal Conference.

- (a) Consultant must be responsible for evaluating and securing power needs for the Project; and coordinating same with MTWCD.
- (b) Unless all work is performed above-ground, underground utility precautions must be taken. The locations and specifications are generally listed in Appendix C. Additional necessary details must be obtained by Consultant.
- (c) The electric and other associated utility costs required by this project must be the responsibility of Consultant.
 - (1) Consultant may opt to use the existing MTWCD power supply and meter, if Consultant agrees to pay the full current monthly electric fees (not to exceed \$30) for the site, in addition to the power used by this Project.

1.8 Stormwater Retention and Disposal

Consultant must ensure that stormwater retention will not be affected based on presence of the temporary treatment structure. Consultant must be responsible for obtaining all permits.

1.9 Provisions for On-site Presence

- (a) Consultant must ensure that construction and other project activities do not interfere with or block access to the MS-1 structure or any MTWCD activities.
- (b) The project and related activities must not obstruct parking for MTWCD staff or associated personnel.
- (c) Consultant is responsible for providing their own sanitary facilities and potable water supply. Consultant must provide and maintain, in a neat and sanitary condition, such accommodations for the use of their employees as are necessary to comply with the requirements and regulations of the state and local boards of health.
- (d) Consultant is responsible for providing their own water supply and telephone accommodations.
- (e) Consultant may park in designated parking areas, within the MTWCD easement, as long as it does not interfere with MTWCD activities.
- (f) Consultant may locate a temporary office trailer (no more than 24' in length) onsite for the duration of this project. Power supply is the responsibility of Consultant, as specified in Provisions for Project Utilities section.

2. TASKS AND DELIVERABLES

2.1 Design and Permitting

Professional engineering will be performed in accordance with State law. The Consultant will complete the design of an innovative media-based nutrient removal system and obtain all necessary permits for

construction of the project. The Consultant will submit the following deliverables as documentation of preconstruction activities.

- (a) An electronic copy of the final design, including professional certification as applicable. Upon request, the Consultant will provide a paper copy of the final design submittal.
- (b) A list of all required permits identifying issue dates and issuing authorities submitted to the District. Upon request, the Consultant will provide copies of obtained permits or permit related correspondence or documentation.
- (c) Results of bench-test experiment and other pre-construction evaluations.
- (d) Submittal of Plans. Consultant shall provide copies of the 30%, 60% and 100% Plans of required review documents as listed below.
 - (1) PDF and CAD files (as applicable) for 30% and 60% plans
 - (2) Three sets of full-size plans
 - (3) Three sets of calculations
 - (4) Three copies of Technical Specifications (progress set with 60% plans; PDF and CAD files)
 - (5) Three copies of a cover letter that all comments have been addressed and a specific list of any unresolved issues.
 - (6) One pin/flash/thumb drive containing the above

2.2 Construction and pretreatment

Consultant will construct an innovative media-based nutrient removal system in accordance with the final design and required permits, as evidenced by the following deliverables.

- (a) Date-stamped color photographs of the construction site(s) prior to, during, and immediately following completion of the construction task.
- (b) Record drawings and final inspection report(s) for the project. Record Set documents shall be manually signed and sealed by the Design Professional Engineer registered in the state of Florida.
 - (1) Three sets of full-size plans
 - (2) Three sets of calculations
 - (3) Three copies of a post-construction survey
 - (4) Three copies of Technical Specifications
 - (5) Three copies of permits/environmental approval documents.
 - (6) Three copies of a cover letter, that addresses all comments and a specific list of any unresolved issues.
 - (7) One pin/flash/thumb drive containing the above
 - (8) Signed and sealed 100% plans will be delivered to the District's Project Manager a minimum of five working days prior to construction.
 - (9) Consultant shall be responsible for detailed plan checking as described in the RFQ-DB package, and in the Statement of Work/Design Criteria Package. Before construction activities can begin, signed and sealed design plans and calculations supporting the design must be reviewed by the District. Submittals shall be complete along with all the supporting information necessary for review. Upon approval by the District, the plans will be stamped "Released for Construction" and initialed and

dated by the Design Criteria Professional. Any construction initiated by Consultant prior to receiving signed and sealed plans stamped "Released for Construction" shall be at the sole risk of Consultant.

- (10) Consultant shall complete the Record Set as the Project is being constructed. The Record Set becomes the "as-built" at the end of the Project. All design changes shall be signed and sealed by the Engineer of Record. The Record Set shall reflect all changes initiated by Consultant or the District in the form of revisions. The Record Set shall be submitted on a final project pin/flash/thumb drive upon project completion along with one signed and sealed hard copy. The District shall review the Record Set prior to final acceptance of the Record Set.
- (c) Signed statement from a Florida Licensed Professional Engineer indicating construction has been completed in accordance with the design.
- (d) Application and Certification for Payment, which should include an itemized summary of the materials, labor, and/or services utilized during the period for which payment is being requested. The summary should identify the nature of the work performed; the amount expended for such work; the name of the person/entity providing the service or performing the work; proof of payment of the invoices; and evidence of all work conducted for which a request for payment is being made. Evidence may include references to any drafts or partially-complete designs, surveys, environmental documents and/or permit applications, drawings, and specifications (which must be made available upon request); and documentation demonstrating partial completion of construction activities.

2.3 Monitoring and testing

Consultant will operate and monitor the innovative media-based nutrient removal system under the guidelines described in this Design Criteria Package and Appendix D. Deliverables will include a summary of completed monitoring activities (dates completed, sampling conducted and any not conducted and why), monitoring results along with interpretation of those results (as expected or not as expected) submitted electronically, along with the draft or final (when submitting final request) laboratory report and sampling logs (must also have field and weather data) to the District. Upon request, the Consultant will provide a paper copy or copies to the District. These deliverables must be submitted 5 days prior to each payment request and may be submitted no more frequently than monthly.

2.4 Evaluation, demobilization, and final report

Consultant to prepare a Final Report summarizing the results of the project, including all tasks in the Design Criteria Package. An electronic copy of the draft Final Report in Word format submitted to the District for review prior to submission of the Final Report. Upon request, the Consultant will provide a paper copy of the draft Final Report. The Final Report must include at a minimum:

- (a) Project location and background, project description and timeline, award amount and anticipated benefits.
- (b) Financial summary of actual costs versus the budget, along with any changes required to the budget. Include any match or locally pledged contributions provided, along with other related project work performed outside of this Agreement to identify the overall project cost.
- (c) Discussion of project schedule versus actual completion, including changes required to the schedule, unexpected site conditions and adjustments, significant unexpected delays, and corrections, and/or other significant deviations from the original project plan.
- (d) Summary of activities completed as well as those not completed and why, as well as a brief summary of any additional phases yet to be completed.

- (e) Date-stamped photo documentation of work performed (before, during and after), appropriate figures (site location, site plan[s]. etc.), appropriate tables summarizing data/information relevant to Design Criteria Package tasks, and appropriate attachments relevant to the project.
- (f) Discussion of whether the anticipated benefits have been/will be realized (e.g., why a Best Management Practice (BMP) approach did or did not exceed the expected removal efficiency).
- (g) Summary of monitoring activities completed and any not completed and why, monitoring results, and an interpretation of data based on planned versus realized results.

3. DESIGN AND CONSTRUCTION SCHEDULES

3.1 Operation

- (a) Consultant must develop a plan for system operation and for temporary shutdown during major weather events and/or infrequent maintenance.
- (b) Consultant must perform construction activities during normal business hours except with prior approval by MTWCD and the District to operate outside these hours.

3.2 Project Timeline

The tasks must be completed by the corresponding task end date and all deliverables must be received by the designated due date (Table 2). The District will have two weeks upon receipt to review the 30%, 60%, and 100% design prior to Consultant initiating the next phase.

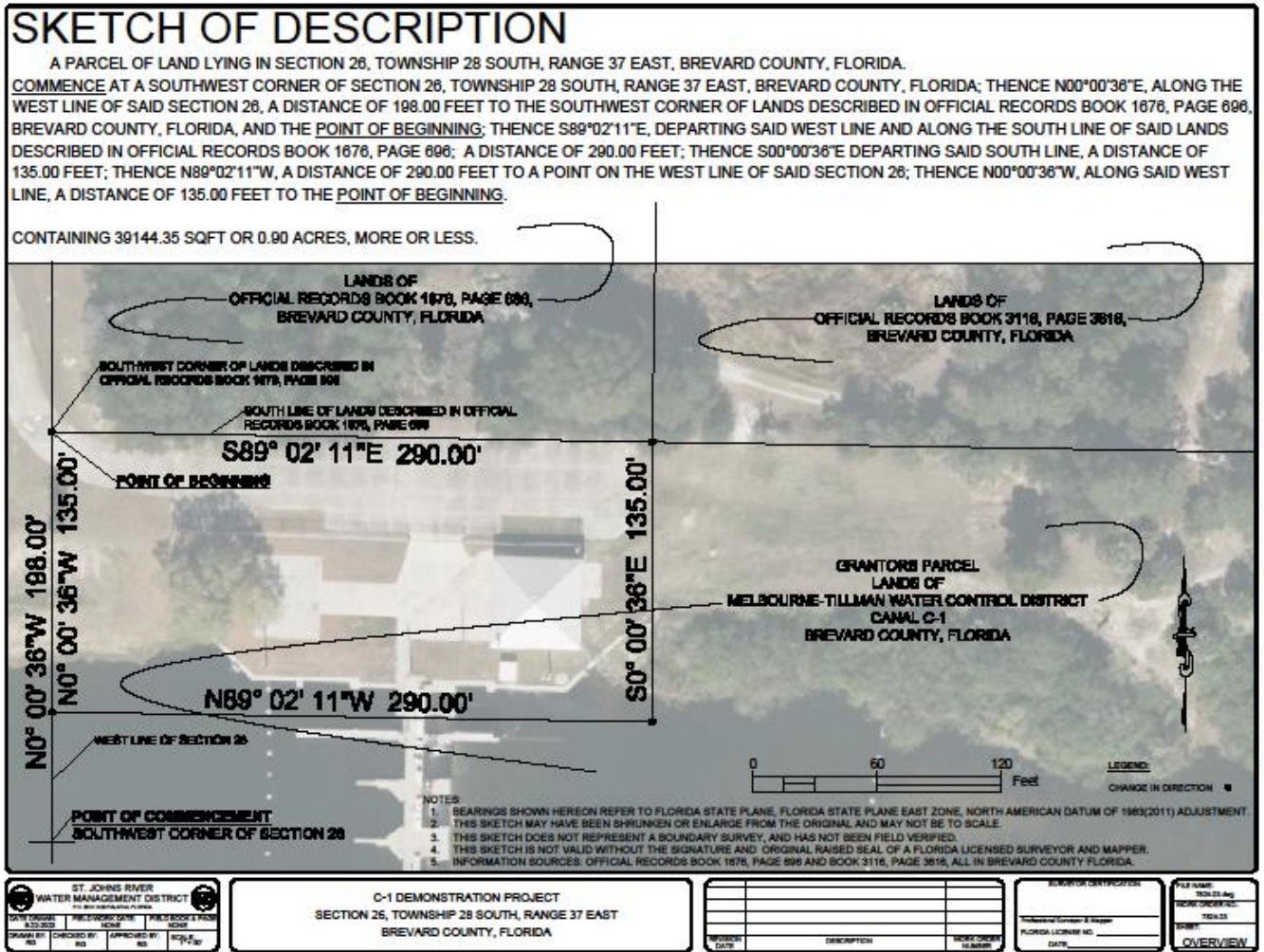
Table 2. Project Timeline

Task/Deliverable No.	Task or Deliverable Title	Task Start Date	Task End Date
1	Design and permitting	5/1/2024	12/31/2024
2	Construction and pretreatment	1/1/2025	04/31/2025
3	Monitoring and testing	5/1/2025	4/31/2027
4	Evaluation, demobilization, and final report	5/1/2027	9/30/2027

3.3 Project Budget

The estimated design-build budget is approximately \$1,500,000 and is dependent upon successful contract negotiations between the District and Respondent.

Appendix B. Survey and Legal Description

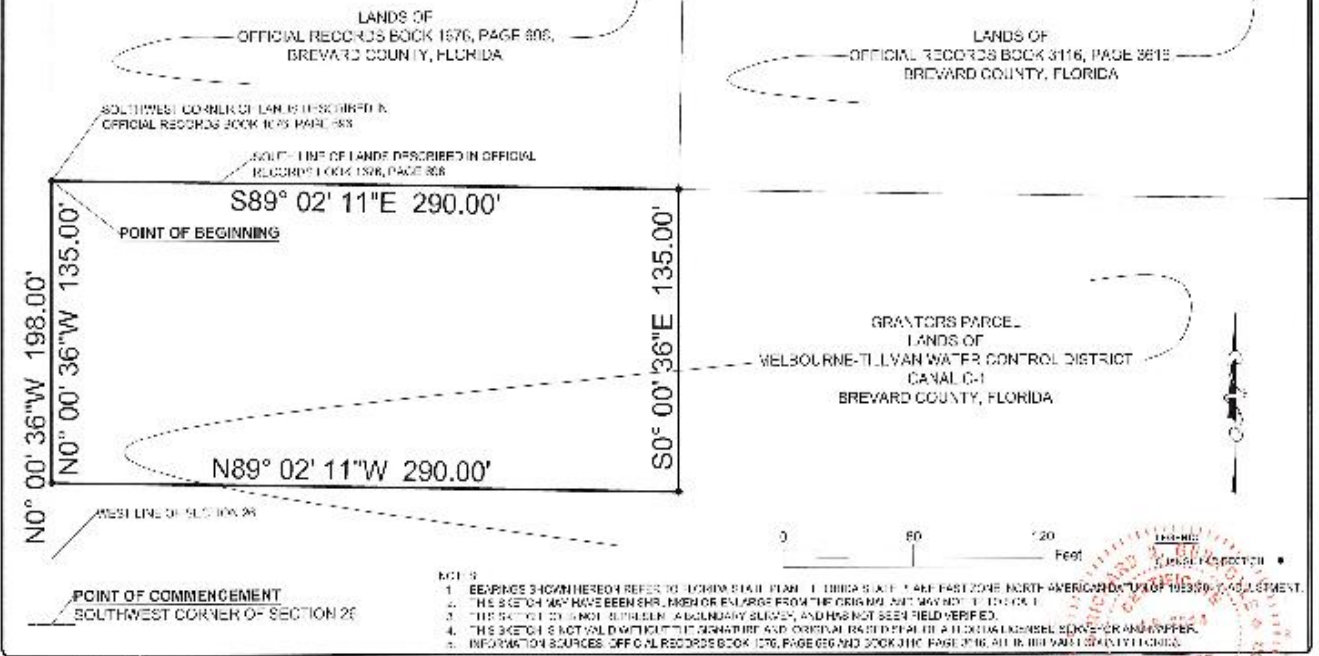


OVERVIEW ONLY - DO NOT RECORD

SKETCH OF DESCRIPTION

A PARCEL OF LAND LYING IN SECTION 26, TOWNSHIP 28 SOUTH, RANGE 37 EAST, BREVARD COUNTY, FLORIDA, COMMENCE AT A SOUTHWEST CORNER OF SECTION 26, TOWNSHIP 28 SOUTH, RANGE 37 EAST, BREVARD COUNTY, FLORIDA. THENCE N00°00'36"E, ALONG THE WEST LINE OF SAID SECTION 26, A DISTANCE OF 198.00 FEET TO THE SOUTHWEST CORNER OF LANDS DESCRIBED IN OFFICIAL RECORDS BOOK 1676, PAGE 696, BREVARD COUNTY, FLORIDA. AND THE POINT OF BEGINNING; THENCE S89°02'11"E, DEPARTING SAID WEST LINE AND ALONG THE SOUTH LINE OF SAID LANDS DESCRIBED IN OFFICIAL RECORDS BOOK 1676, PAGE 696; A DISTANCE OF 290.00 FEET; THENCE S00°00'36"E DEPARTING SAID SOUTH LINE, A DISTANCE OF 135.00 FEET; THENCE N89°02'11"W, A DISTANCE OF 290.00 FEET TO A POINT ON THE WEST LINE OF SAID SECTION 26; THENCE N30°00'38"W, ALONG SAID WEST LINE, A DISTANCE OF 135.00 FEET TO THE POINT OF BEGINNING.

CONTAINING 39144.35 SQFT OR 0.90 ACRES, MORE OR LESS.



- NOTES
1. BEARINGS SHOWN HEREON REFER TO HIGHWATER PLAN 1 (TIDAL GAUGE 1) ALL EAST ZONE NORTH AMERICAN DATA OF THE 2011 ADJUSTMENT.
 2. THIS SKETCH HAS BEEN SHRUNKEN OR ENLARGED FROM THE ORIGINAL AND MAY NOT BE 100% ACCURATE.
 3. THIS SKETCH IS NOT INTENDED AS A BOUNDARY SURVEY, AND HAS NOT BEEN FIELD VERIFIED.
 4. THIS SKETCH IS NOT VALID WITHOUT THE SIGNATURE AND ORIGINAL RATIONALE FILED IN A PUBLIC ACCESSIBLE SOURCE OR HANDWRITTEN.
 5. INFORMATION SOURCES: OFFICIAL RECORDS BOOK 1676, PAGE 696 AND BOOK 3116, PAGE 3616, 3117, 3118, 3119, 3120, 3121, 3122, 3123, 3124, 3125, 3126, 3127, 3128, 3129, 3130, 3131, 3132, 3133, 3134, 3135, 3136, 3137, 3138, 3139, 3140, 3141, 3142, 3143, 3144, 3145, 3146, 3147, 3148, 3149, 3150, 3151, 3152, 3153, 3154, 3155, 3156, 3157, 3158, 3159, 3160, 3161, 3162, 3163, 3164, 3165, 3166, 3167, 3168, 3169, 3170, 3171, 3172, 3173, 3174, 3175, 3176, 3177, 3178, 3179, 3180, 3181, 3182, 3183, 3184, 3185, 3186, 3187, 3188, 3189, 3190, 3191, 3192, 3193, 3194, 3195, 3196, 3197, 3198, 3199, 3200.

7824-23 C-1 DEMONSTRATION PROJECT
SECTION 26, TOWNSHIP 28 SOUTH, RANGE 37 EAST
BREVARD COUNTY, FLORIDA

DATE: 7/24/23

BY: [Signature]

SCALE: 1" = 60'

EXHIBIT "A"

7824-23 C-1 Demonstration Project – Legal Description- (updated 7-24-23)

-----Legal description begins below dashed line-----

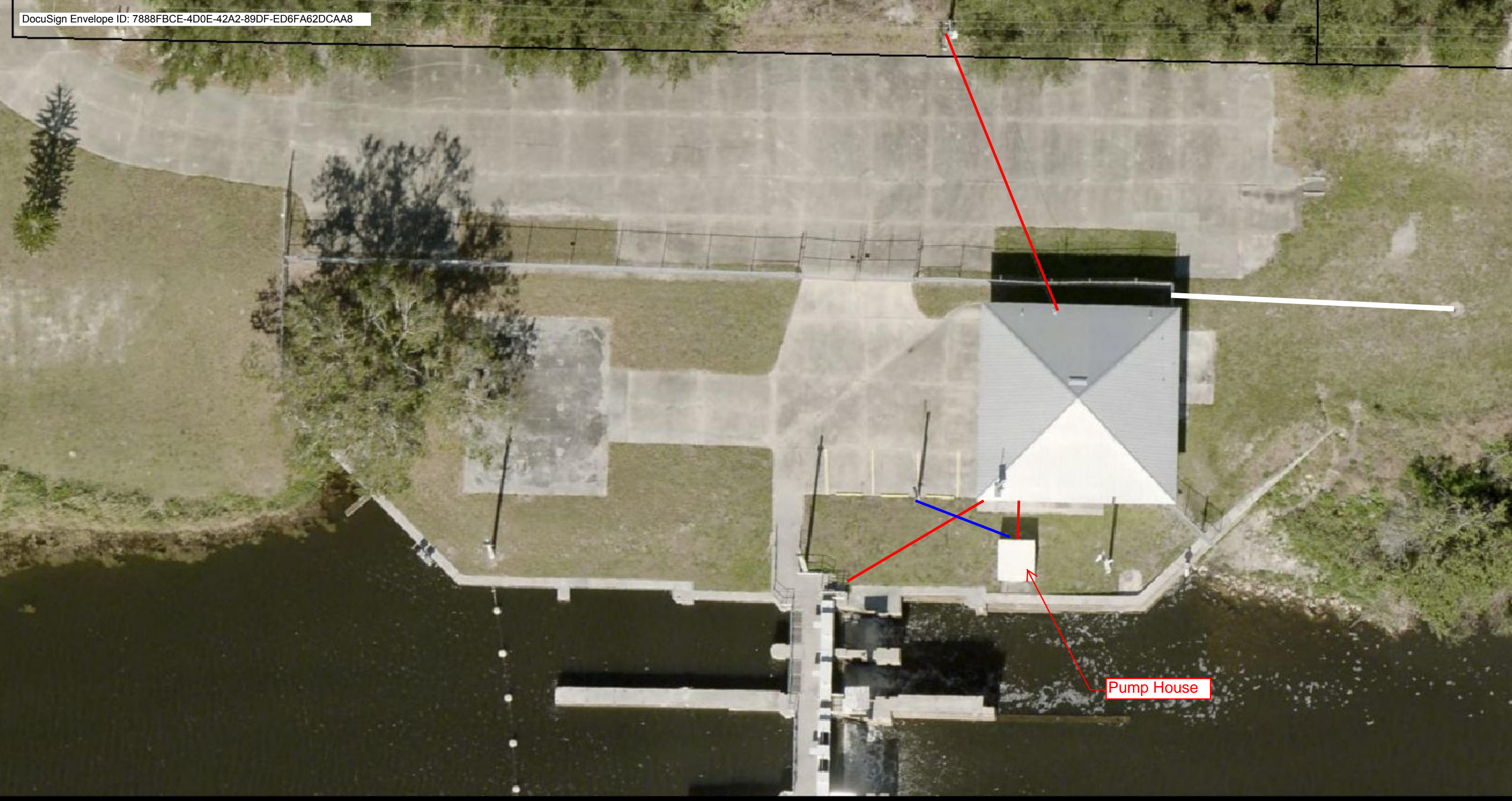
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COMMENCE AT A SOUTHWEST CORNER OF SECTION 26, TOWNSHIP 28 SOUTH, RANGE 37 EAST, BREVARD COUNTY, FLORIDA; THENCE N00°00'36"E, ALONG THE WEST LINE OF SAID SECTION 26, A DISTANCE OF 198.00 FEET TO THE SOUTHWEST CORNER OF LANDS DESCRIBED IN OFFICIAL RECORDS BOOK 1676, PAGE 696, BREVARD COUNTY, FLORIDA, AND THE POINT OF BEGINNING; THENCE S89°02'11"E, DEPARTING SAID WEST LINE AND ALONG THE SOUTH LINE OF SAID LANDS DESCRIBED IN OFFICIAL RECORDS BOOK 1676, PAGE 696; A DISTANCE OF 290.00 FEET; THENCE S00°00'36"E DEPARTING SAID SOUTH LINE, A DISTANCE OF 135.00 FEET; THENCE N89°02'11"W, A DISTANCE OF 290.00 FEET TO A POINT ON

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CONTAINING 39144.35 SQFT OR 0.90 ACRES, MORE OR LESS.

Appendix C. Utilities



Pump House

MTWCD MS-1 structure site utilities



Catwalk junction box for flow gates



Close up of junction box for flow gates



Pump hose and SW corner of building showing junction box for flow gates



Close up of flow gates junction box along southside of building

MTWCD MS-1 structure site utilities



Pump house power supply and water line feeder to discharge valve



Pump water riser and valve



Pump house and riser



Pump discharge point

MTWCD MS-1 structure site utilities



Electrical power service pole



Electrical power service



Weather head for power service to building



Weather head for power service on northside of building

MTWCD MS-1 structure site utilities



Stormdrain pipe to retention pond along northside of building

APPENDIX D

St. Johns River Water Management District: Request for Qualifications – Design-Build 39256 Statement of Work – Design Criteria Package

Exhibit D — Department of Environmental Protection Quality Assurance Requirements for Research Grants Research Field & Lab Services

1. **GENERAL REQUIREMENTS AND DEFINITIONS**

- a. As applicable to the Scope of Services (i.e., grant work plan) described in the grant, the research performed under this Grant shall conform to the requirements set forth in [Chapter 62-160, Florida Administrative Code \(F.A.C.\)](#).
- b. Hereinafter, “DEP” or “Department” refers to the Florida Department of Environmental Protection.
- c. “Grantee” shall refer to the grantee, subcontractors, subgrantees, or any entity procured to conduct work under the Grant.
- d. “Sample” and “sampling” refers to the collection of sample media (e.g., water, sediment, soils, chemical wastes) or biological organisms, and/or analysis, observation or measurement activities conducted in the field or in a laboratory that will be performed under the terms of the Grant.

2. **FIELD PROCEDURES AND TEST METHODS**

- a. The field Standard Operating Procedures (SOPs) and/or test methods to be used for contracted field research (including any written modifications thereof) shall be those approved by the Department, as described in the Grant Quality Assurance Plan (hereinafter, “QA Plan,” see Section 9, below). Any additional information applicable to the SOPs and/or test methods and/or other procured field activities shall also be described in or attached to the QA Plan.
- b. The Grantee shall specify the calibration and quality control (QC) requirements to be met for all procured field research (as applicable), and shall provide these requirements in the field SOPs and/or test methods and/or other information as described in 2.a. above.
- c. Additional quality control expectations:
 - (i) Field procedures and/or test methods shall provide results that meet all applicable Grant data quality objectives.
 - (ii) All field testing procedures shall follow the testing methods as approved for the Grant and described in 2.a., above.
 - (iii) The Grantee shall adhere to the quality control requirements specified in the field SOPs and/or test methods and associated documents described in 2.a., above, and as otherwise specified in these QA Requirements.
 - (iv) The Grantee shall calculate any applicable field sample results per the procedures specified in the field SOPs and/or test methods approved for the Grant, as described in 2.a., above.

3. **FIELD REPORTING, DOCUMENTATION AND RECORDS RETENTION**

- a. All field records as outlined in [Rule 62-160.240, F.A.C.](#), and applicable to the field research described in the Grant and associated QA Plan (see Section 9, below), any other records indicated in the Grant Scope of Services or QA Plan, and any other documentation and reports associated with work performed for the Grant, shall be retained by the Grantee for a minimum of five years after the generation or completion of the records; or, copies of all relevant records shall be provided to the Department Grant Manager for retention. Longer retention times as specified in the Grant, if applicable, shall supersede the above minimum retention requirement.
- b. The field records shall include relevant information for the procedures described in 2.a., above.
- c. All field data and supporting information shall be reported for the Grant according to applicable requirements in [Rule 62-160.240, F.A.C.](#)

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- d. Any documentation or reports specifically identified in the Grant as deliverable work products shall be retained as in 3.a., above.
 - e. All field records generated or retained by the Grantee that are associated with Grant work shall be linked per applicable sample or site identification, including sample collection and/or field measurement location and field event, and shall be organized so that any information can be quickly and easily retrieved for inspection, copying or distribution.
 - f. All reports shall be submitted to the DEP Grant Manager and shall include all report deliverables specified by the Grant, its exhibits, the QA Plan, and any information required by [Rule 62-160.240, F.A.C.](#), (as described in 3.a. and 3.c., above), where applicable to the field research conducted under the Grant.
 - g. The Department reserves the right to request some or all of the field information in an electronic format, and all reporting deliverables shall be submitted to the Department in the format(s) specified in the Grant and/or Scope of Services, and/or as described in the approved QA Plan (see Section 9).
 - h. Upon request by the Department Grant Manager, or as required by the Grant, copies of original reports or field records shall be submitted to the DEP Grant Manager, where applicable.
 - i. In addition to any field reports provided per Grant deliverable requirements and subsections c., d., f., g., and h., above, the Grantee shall submit any of the field information and/or records associated with the contracted field research as described in this section (Section 3) upon request by the DEP Grant Manager, including any of the following that are applicable to the Grant work:
 - Site name and location information
 - Field identification for each sample container and the associated analytes (test methods) for which the container was collected
 - Date and time of sample collection
 - Sample collection depth, if applicable
 - Sample collection method identified
 - Indication of filtered samples, when applicable
 - Field test measurement results:
 - Parameter name
 - Measurement method
 - Result
 - Result unit
 - Appropriate Data Qualifier Codes for specific sample results, per Table 1 of [Chapter 62-160, F.A.C.](#)
 - Narrative comments providing explanations, descriptions and/or discussions of: field conditions impacting quality control (QC) for sample collections, unacceptable field measurements, field-testing meter calibration verification failures, or other problems related to the sampling event, and corrective/preventive actions taken for the items noted (e.g., for blank contamination or meter calibration failure)
 - j. Unequivocal documentation links between each reported field QC measure (e.g., QC blanks, duplicates or replicates, calibration verification, other research QC measure) and the associated sample result(s) shall be maintained for all applicable measurements and/or other data.
4. **LABORATORY PROCEDURES AND TEST METHODS**
- a. The laboratory Standard Operating Procedures (SOPs) and/or test methods (including any modifications thereof) to be used for the contracted analytical research shall be those approved by the Department, as described in the QA Plan (Section 9, below). Any additional information

applicable to the SOPs and/or test methods shall also be described in or attached to the QA Plan.

- b. If applicable to the Grant Scope of Services, the laboratory shall report Practical Quantitation Limits (PQLs) and/or Method Detection Limits (MDLs), or other specified limits of detection and/or quantitation with the results of sample analyses for the Grant. MDLs and/or PQLs shall only be required for test methods that are technically amenable to the determination of MDLs and/or PQLs. For those test methods where the determination of MDLs and/or PQLs are not technically feasible, the laboratory shall report a value or increment representing the lower limit of the working range of the test method, however determined by the laboratory. The laboratory shall indicate whether the reported limit represents a limit of detection or quantitation, if applicable. In all cases, limits of detection and quantitation other than MDLs and PQLs shall be explicitly defined and evaluated by the laboratory. All limits shall be as listed in the applicable laboratory test method, SOP, Quality Manual or other Grant exhibit, or as listed in the QA Plan. The reported limits shall meet the data quality objectives for analytical sensitivity and quantitation applicable to the Grant work.
- c. When reporting limits of detection and/or quantitation are applicable to the Grant work, the laboratory shall report all sample results analyzed at or above the MDL or other defined limit, and shall qualify all results below the laboratory PQL or other defined limit, using the appropriate data qualifier codes in Table 1 in [Rule 62-160.700, F.A.C.](#)
- d. The laboratory shall specify the laboratory's calibration and quality control (QC) requirements to be met for all research analyses, and shall provide these requirements in the laboratory SOPs and/or test methods and/or other documents, as described in 4.a. above.
- e. Additional laboratory quality control expectations:
 - (i) The selected laboratory test methods shall provide results that meet applicable Grant data quality objectives.
 - (ii) All laboratory testing procedures shall follow the analytical methods as approved for the Grant and described in 4.a., above.
 - (iii) The laboratory shall adhere to the quality control requirements specified in the laboratory test methods and associated documents described in 4.a., above, and as otherwise specified in these QA Requirements.
 - (iv) The laboratory shall calculate all sample results according to the procedures specified in the analytical test methods approved for the Grant, as described in 4.a., above.

5. LABORATORY REPORTING, DOCUMENTATION AND RECORDS RETENTION

- a. All laboratory records as outlined in [Rule 62-160.340, F.A.C.](#), and applicable to the analytical research described in the Grant and QA Plan (see Section 9, below), any other records indicated in the Grant or its exhibits, and any other documentation and reports associated with work performed for the Grant, shall be retained by the laboratory for a minimum of five years after the generation or completion of the records; or, copies of all relevant records shall be provided to the Department Grant Manager for retention. Longer retention times as specified in the Grant, if applicable, shall supersede the above minimum retention requirement.
- b. The laboratory records shall include relevant information for the procedures described in 4.a., above.
- c. All laboratory data and supporting information shall be reported for this Grant according to applicable requirements in Subsection [62-160.340\(3\), F.A.C.](#), (except that the requirements to generate reports that comply with Rule 64E-1.005, F.A.C., and the NELAC Institute [TNI] Standards are waived), and applicable requirements in Subsections 62-160.340(5) – (8), F.A.C., (except that requirements in the TNI Standards for amended laboratory reports are waived; however, any amended laboratory reports resubmitted by the Grantee shall be prominently marked as amended or revised).

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- d. Any documentation or reports specifically identified in the Grant as deliverable work products shall be retained as in 5.a., above.
- e. All laboratory records retained by the laboratory that are associated with work performed under the Grant shall be organized so that any information can be quickly and easily retrieved for inspection, copying or distribution.
- f. All laboratory reports shall be submitted to the DEP Grant Manager and shall include all report deliverables specified by the Grant and/or its exhibits, the QA Plan, and any information required by [Rule 62-160.340](#), F.A.C., (as described in 5.a. and 5.c., above), where applicable to the analytical research conducted under this Grant.
- g. The Department reserves the right to request some or all laboratory information in an electronic format, and all reporting deliverables shall be submitted to the Department in the format(s) specified in the Grant and/or Scope of Services, and/or as described in the approved QA Plan (see Section 9).
- h. Upon request by the Department Grant Manager or as required by the Grant, copies of original laboratory reports shall be submitted to the Grant Manager, where applicable.
- i. In addition to any reports of sample results provided per Grant deliverable requirements and subsections c., f., g., and h., above, the Grantee shall submit any of the laboratory information and/or records associated with the contracted research as described in this section (Section 5) upon request by DEP, including any of the following:
 - ▶ Laboratory sample identification (ID) and associated Field ID
 - ▶ Analytical/test method
 - ▶ Parameter/analyte name
 - ▶ Analytical result (including dilution factor)
 - ▶ Result unit
 - ▶ Applicable DEP Data Qualifier Codes per [Table 1 in Rule 62-160.700, F.A.C.](#)
 - ▶ Result comment(s) to include corrective/preventive actions taken for any failed QC measure (e.g., QC sample result, calibration failure) or other problem related to the analysis of the samples
 - ▶ Date and time of sample preparation (if applicable)
 - ▶ Date and time of sample analysis
 - ▶ Results of laboratory verification of field preservation of received samples
 - ▶ Sample matrix
 - ▶ MDL, Limit of Detection (LOD) or other defined limit of detection or working range
 - ▶ PQL, Limit of Quantitation (LOQ) or other defined limit of quantification or working range
 - ▶ Field and laboratory QC blank results:
 - Laboratory QC blank analysis results as required by the test method or laboratory QC procedures (e.g., method blank)
 - Results for trip blanks, field blanks and equipment blanks, as applicable to the project and as specified in the Grant Scope of Services or other exhibits, or in the QA Plan (Note: The listed field-QC blanks are defined in DEP SOP FQ 1000)
 - ▶ Results for field duplicates (or replicates), as applicable to the project and as specified in the Grant, other Grant exhibits or in the QA Plan
 - ▶ Results for other QC and calibration verification results, as applicable to the specific test methods and laboratory QC procedures used for the contracted research, including, but not limited to:
 - Results of sample matrix spikes, laboratory duplicates or matrix spike duplicates
 - Results of surrogate spike analyses
 - Results of laboratory control samples (LCS)

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- Results of calibration verifications
 - Results of other research QC procedures and measures
 - Acceptance criteria used to evaluate each reported quality control measure
- j. Unequivocal documentation links between each reported laboratory quality control measure (e.g., QC blanks, matrix spikes, LCS, duplicates, calibration verification, other QC measure) and the associated sample result(s) shall be maintained for all contracted analyses.
6. **TECHNICAL AUDITS BY THE DEPARTMENT**
Pursuant to Rule 62-160.650, F.A.C., the Department may conduct audits of field and laboratory activities. In addition to allowing Department representatives to conduct onsite audits of contracted work in the field or at Grantee facilities, upon request by the Department, field and laboratory records pertinent to the contracted research as described above (see Sections 3 and 5, above) shall be provided by the Grantee. If an audit by the Department results in a determination that the reported data are not usable for the purpose(s) of the Grant, do not meet the data quality objectives specified by the Grant, do not meet other applicable Department criteria described in the Grant, its exhibits, the QA Plan (see Section 9, below) or these QA Requirements, do not meet applicable data validation criteria outlined in Rule 62-160.670, F.A.C., or are not otherwise suitable for the intended use of the data (however applicable), the DEP Grant Manager shall pursue remedies available to the Department pursuant to the terms of the Grant.
7. **QUALITY SYSTEMS AUDITS**
The Grantee shall ensure that any required field or laboratory quality system audits are performed per the Grantee's Quality Manual or other relevant internal quality assurance documents. The results of these audits shall be documented in the Grantee's records. Copies of the audit reports or results for the audits shall be provided to the DEP Grant Manager upon request.
8. **STATEMENTS OF USABILITY**
When reporting contracted field or analytical research results, the Grantee shall provide statements about data usability as necessary to address the topics in subsections a. – c., below, relative to the Grant data quality objectives and any data quality indicators that may be specified in the Grant, its exhibits, the QA Plan (see Section 9, below), or these QA Requirements.
- a. All applicable data quality acceptance and usability criteria for the Grant, as specified in the procedures, test methods, QA Plan, Quality Manual(s), other Grant exhibits, or these QA Requirements shall be met.
 - b. All quality control measures shall be evaluated according to the acceptance criteria listed in the applicable procedures, test methods, QA Plan, Quality Manual(s), other Grant exhibits or these QA Requirements.
 - c. All sample results shall be evaluated according to all applicable usability criteria specified in the procedures, test methods, QA Plan, Quality Manual(s), other Grant exhibits, or these QA Requirements.
9. **QA PLAN**
- a. The Grantee shall prepare a detailed project proposal or sampling and analysis plan (hereafter, QA Plan) that discusses the information contained in Rule 62-160.600, F.A.C., as summarized in the following list of topics (as applicable):
 - purpose and intended use of data;
 - description of work to be conducted;
 - data reporting and storage procedures;
 - training required to conduct work;
 - sampling sites, populations or organisms, analytes and schedules, as applicable to the research;
 - sampling and analytical methods;

- quality control activities;
 - evaluation of the research project design to meet Grant research objectives; and
 - statistical and/or other procedures and criteria for evaluation of experimental data.
- b. The Grantee shall prepare the QA Plan following the Research QA Plan Template provided by the Grant Manager. If the topics in 9.a. above are addressed in other documents such as study plans, journal articles, internal SOPs, or other technical literature, those documents may be referenced in the QA Plan, and then must be provided with the QA Plan to the Grant Manager. Electronic file copies or links for the documents are acceptable. The Department will not be responsible for the Grantee's cost of providing any copyrighted materials.
- c. The Grantee shall submit the QA Plan and any referenced documents to the DEP Grant Manager as specified in the Grant Scope of Services.
- d. Work may not begin for specific Grant tasks until approval (or conditional approval) has been received by the Grantee from the DEP Grant Manager. Sampling and analysis for the Grant may not begin until the Grant QA Plan has been approved (or conditionally approved).
- e. Once approved, the Grantee shall follow the procedures and methods described in the Grant QA Plan and any other relevant quality assurance documents applicable to these QA Requirements, including, but not limited to:
- ▶ Ensuring that all stated quality control measures are collected, analyzed and evaluated for acceptability;
 - ▶ Using only the methods and procedures approved in the QA Plan; and
 - ▶ Using only the equipment approved in the QA Plan.
- f. If any significant changes in the research project design, changes in the project analyte list, changes in procedures or test methods, changes in equipment, changes in Grantee organizations or changes in key personnel occur, the Grantee shall submit appropriate revisions of the QA Plan to the DEP Grant Manager for review, within timeframes specified in the Grant Scope of Services. The proposed revisions may not be implemented until they have been approved (or conditionally approved) by the DEP Grant Manager, as documented through written or electronic correspondence.