007-21 Appendix A
Statement of Work (SOW)

Project Description

This list is intended to capture the various items, but not limited, that requires to be addressed and improved at Monterey WWTF.

1. **Influent Screening/Pump Station**
   1.1. Demolish existing Influent Screening/Pump Station.
   1.2. Construct a new influent Screening/Pump Station.
   1.3. Replace mechanical bar screen with screen that requires no backwash.
2. **Sequence Batch Reactor (SBR)**
   2.1. Drain, clean and inspect each reactor. Repair concrete.
   2.2. Replace SBR equipment no. 1 through 3 with 316 SST equipment
   2.3. Replace process valves with actuators (PROFINET and each drop with isolator)
   2.4. Replace US Filter Jet-Tech Panel
   2.5. Replace the blower at each reactor
   2.6. Replace the blower/pump canopy
   2.7. Provide standby blower and associated support equipment to allow for use by all SBRs/Digester.
   2.8. Replace effluent valves at each reactor
   2.9. Replace instrumentation on each SBR
   2.10. Replace magnetic meter and control display
   2.11. Improve tank drain system to avoid clogging
   2.12. Replace piping and valving
   2.13. Replace WAS pump
   2.14. Install containment/drain system around all SBR/Digester pads
3. **SBR No. 4/Aerobic Sludge Digester**
   3.1. Drain, clean and inspect each reactor. Repair concrete
   3.2. Convert SBR 4/Digester into aerobic digester. Engineer to make recommendation on portioning the existing tank.
4. **Sludge Holding, Dewatering and Truck Loading**
   4.1. Modify centrifuge discharge chute and install truck loading platforms
   4.2. Remove existing awning and replace with new built to current codes to keep the rain water out of the truck as the truck fills
   4.3. Provide a new sludge storage tank and associated recirculating/mixing system
   4.4. Provide flow meter and pump system
5. **Effluent Pump Station**
   5.1. Recondition effluent pump base/grouting
   5.2. Evaluate piping and support equipment for replacement/preservation.
6. **Effluent Equalization Tank**
   6.1. Drain, clean and inspect. Repair concrete. Paint/preserve as needed
   6.2. Install pumping system to provide onsite Reuse water. Modify EQ tank level control to provide water volume to supply system.
7. **Electrical and Storage Building**
   7.1. Replace 480 Volt Unit Substation equipped with spare 480V Rackout Breakers and self-breaker testing capability.
   7.2. Demo/remove obsolete MCC in rear of electrical room. Transfer existing loads to MCC 1, 2, or 3.
   7.3. All Electrical control equipment (VFD, SS, Starter, Flowmeter, Actuator, Analytical Device, Skid, etc.) shall be controlled by PROFINET (preference) with passive Isolator and/or Profibus with surge suppressor.
   7.4. All PLC replacement shall be based on S7-1500R SIPLUS and Hot Swappable Backplane.
   7.5. Under-voltage and Phase Differential relay protection to be added to Switch board, MCC 1, 2, & 3 and install Power analyzer PAC 4200 with PROFINET.
   7.6. Upgrade the lighting to LED
   7.7. Upgrade plumbing and fixtures if needed

8. **Emergency Electrical Generator/Fuel Tank**
   8.1. Replace 700kW emergency electrical generator and upgrade the load capacity of the unit for current equipment.
9. **Abandoned Odor Control System**
   9.1. Demolish and remove the entire system include all accessories
10. **Operation Buildings**
   10.1. Improve central control console (HMI)
   10.2. Upgrade the lighting to LED
   10.3. Upgrade windows to impact rated windows
   10.4. Upgrade plumbing and fixtures if needed
11. **Site Improvements**
   11.1. Yard Piping
      11.1.1. Replace EQ Tank/Pump Station River effluent bypass/isolation valves
      11.1.2. Replace flow meters
   11.2. Construct improvements to improve storm water management.
   11.3. Construct improvements to prevent and contain waste/washwater from exiting the facility.
   11.4. Upgrade Lighting Systems – Replacement with full-cutoff LED lighting throughout the site.
   11.5. Provide Lightning Protection System
   11.6. Check Grounding and Underground Systems
12. **Resiliency requirements**
   12.1. Review: Resiliency Surge Flood, Resiliency Electrical, Resiliency On-site Containment and Resiliency Influent Pump Station documents
   12.2. Summarized and implement resiliency requirements as economically feasible. Present recommendations in the 30% project design report (PDR)
13. **Security**
   13.1. Provide the infrastructure to accommodate and install security equipment.
   13.2. Provide and designate a space to accommodate and install securities panels

Project Milestone and Goals

This list is intended to summarize what issues and goals the EOR needs to address and achieved for each of the milestone required for the design of the improvements.

MILESTONE 1 – SCHEMATIC DESIGN DOCUMENT (SDD) – 10% SUBMITTAL

1. General
   1.1. Prepare construction cost estimate with explanation of any adjustments to prior estimate.
   1.2. Develop list of anticipated regulatory agency approvals and permits.
   1.3. Prepare and submit Schematic Design Document
2. Mechanical Equipment Concepts
   2.1. Review existing plant equipment for continued use and service.
   2.2. Select major equipment and quantities.
   2.3. Determine JEA's requirements for blowers, pumps, valves, and other mechanical components.
   2.4. Summarize unit process design criteria for selected processes.
3. Civil
   3.1. Pipeline
      3.1.1. Develop placement of pipeline along route
      3.1.2. Determine requirements for crossings to avoid other utilities
   3.2. Site Survey
      3.2.1. Conduct site survey
   3.3. Project Base map
      3.3.1. Survey in and characterize top of structures and edge of pavement (EOP) driveway or sidewalk, trees, areas requiring clearing for implementing resiliency improvements like

containment areas or storm water management facilities and spot elevation to improve overall drainage.

3.4. Site Development Constraints

3.4.1. Begin zoning modifications (if needed) and establish local site development requirements.

3.4.2. Confirm limits of flood plain and evaluate project impacts.

3.5. Conceptual Site Plan

3.5.1. Develop conceptual site plan.

4. Architectural (if required)

4.1. Functional Space Analysis

4.1.1. In conjunction with JEA, define the basic architectural concept; develop alternative concepts, if required.

4.1.2. Establish preliminary routes for access and egress.

4.1.3. Establish non-process building requirements.

4.2. Schematic Plans

4.2.1. Establish preliminary routes for access and egress.

4.2.2. Establish non-process building requirements.

5. Concepts and Systems

5.1. Clearly describe the architectural concept and related major aesthetic and functional considerations.

5.2. Outline major or special materials (e.g., roofing system, wall construction, doors, windows, furnishings, corrosion resistance, and sustainable materials).

6. Electrical

6.1. Power Supply and Distribution

6.1.1. Establish standards for voltages.

6.1.2. Establish type of stand-by power source.

6.1.3. Establish standards for local control/local disconnect requirements.

6.1.4. Document overall electrical concepts and design criteria

7. Geotechnical

7.1. Site Data Research

7.1.1. Conduct a search of existing geotechnical information for the project site.

7.1.2. Determine site conditions from site history, previous borings, and laboratory testing information.

7.1.3. Determine site groundwater characteristics.

7.1.4. Document any geotechnical concerns or known constraints.

8. HVAC Systems

8.1. Determine JEA's requirements for heating, ventilation, and air conditioning (HVAC) features.

8.2. Prepare written preliminary design criteria.

9. I&C Systems

9.1. Process Control Philosophy

9.1.1. Determine JEA's preference for process control system philosophy, including level of operator attention.

9.2. Communication and Security

9.2.1. Security, CCTV

9.2.2. Use of instrument and Field Bus technologies

9.2.3. Network concepts

9.2.4. Document overall control philosophy and basic design criteria and considerations.

10. Plumbing and Fire Protection

10.1. Determine overall requirements for sprinklers and fire protection water.

10.2. Identify JEA's equipment supplier and plumbing piping requirements.

10.3. Document sprinkler and fire protection design criteria and water needs.

11. Structural Systems
    11.1. Select structural systems for treatment process structures.
    11.2. Coordinate with the architect on the selection of structural systems.
    11.3. Define geotechnical information required.

MILESTONE 2 – CONCEPT DESIGN DOCUMENT (CDC) – 30% SUBMITTAL

1. General Requirements
    1.1. Prepare construction cost and cash flow estimate and provide explanation for any cost adjustments.
    1.2. Update project design milestone schedule and provide a timeline for construction.
    1.3. Provide status report on real estate acquisitions.
    1.4. Prepare list of specification sections.
    1.5. Preliminary floor plan and structural elevations.
    1.6. Submit Conceptual Design Documents.
2. Process Mechanical
    2.1. Process Design Summary
    2.2. Hydraulic Profile
        2.2.1. Prepare and submit hydraulic profiles calculations and profiles that demonstrate the new piping improvements fit within the hydraulic profile of the facility. EOR will utilize the Ch2&Hill hydraulic profile as a basis.
    2.3. Treatment Unit Process Schematic Design
        2.3.1. Description of the existing unit process and equipment, if applicable
        2.3.2. Design Flow Rates or Water Production Rates
        2.3.3. Influent or Raw Water Characteristics
        2.3.4. Effluent or Finished Water Design Criteria
        2.3.5. Process Design Calculations, Summary and Parameters
        2.3.6. Overall Treatment Plant Description
        2.3.7. Alternatives Considered and Selected Plan
        2.3.8. Process Control Parameters for Unit Processes
3. Chemical Storage and Feed Systems
4. General Mechanical Requirements
    4.1. Equipment layout and access requirements
    4.2. Piping layout requirements
    4.3. Valve layout requirements
    4.4. Meter layout requirements
    4.5. Piping design criteria
    4.6. Piping design values
5. Valve Selection Criteria
6. Materials Selection and Corrosion Control
7. Preliminary Piping Schedule
8. Results of Pilot or Field Tests
9. Plant-Wide Process Flow Diagrams
10. Mass Balance
11. Site/Civil
    11.1. Site Survey
        11.1.1. Coordinate with the surveyor during execution of the work, as necessary.
    11.2. Project Base map
        11.2.1. Establish a site base map in CADD system; confirm the site coordinate system. Provide sufficient spot elevations on pavements (driveway/sidewalk), base of structures to develop contours and have enough data to regrade the site efficiently.
        11.2.2. Map to have all the top structurer elevations for the hydraulic profile of the plant.
        11.2.3. Modify mapping to include site utilities and piping taken from record drawings or field investigations.
        11.2.4. Delineate a tree survey (if required) for the areas to be cleared for implementing resiliency improvements like containment areas or storm water management facilities.

11.3. Site Development Constraints
11.3.1. Determine zoning and site development requirements.
11.3.2. Obtain the limits of flood plain and evaluate project impacts.
11.3.3. Determine stormwater management and erosion control requirements and the need for onsite ponds.
11.3.4. Determine the adequacy of downstream receiving channels
11.4. Vehicular Access Requirements
11.4.1. Determine truck traffic generation, access routes, and maneuvering requirements for project design vehicles and emergency vehicles.
11.4.2. Determine the size and location of parking lots for employees and visitors to the facility (if required).
11.5. Storm water and Erosion Control
11.5.1. Develop an overall master drainage concept plan to improve storm water management.
11.5.2. Determine the preliminary size and location of permanent storm water management ponds and facilities; show on site plan.
11.5.3. Develop a conceptual layout for proposed improvement taking in consideration existing buildings, structures, roads, utility corridors including any improvement or modifications to the elements listed here.
11.5.4. Develop project site plan.

12. Architectural (if required)
12.1. Functional Space Analysis
12.1.1. In conjunction with JEA, define the basic architectural concept; develop alternative concepts, if required.
12.1.2. Establish preliminary routes for access and egress.
12.1.3. Establish non-process building requirements.
12.2. Building Code Analysis
12.2.1. Identify applicable life safety issues.
12.2.2. Review locally adopted building and fire codes for appropriate occupancy and construction type. Identify critical code requirements. Develop a plan to bring existing buildings into compliance.
12.2.3. Meet with the local building official and fire marshal to review requirements or variances for renovated building space.
12.3. Schematic Plans
12.3.1. Prepare preliminary building plans, including major equipment and furnishings, interior materials, openings, and dimensions. Clearly define the architectural concept.
12.4. Building Elevations
12.4.1. Prepare preliminary building elevations, including exterior materials, openings, and dimensions. Clearly define the architectural concept.
12.5. Building Code Analysis
12.5.1. Clearly describe the architectural concept and related major aesthetic and functional considerations.
12.5.2. Outline major or special materials (e.g., roofing system, wall construction, doors, windows, furnishings, corrosion resistance, and sustainable materials).
12.5.3. Include room data sheets and gross area analysis if required.
12.5.4. Include documentation of building code analysis.
12.5.5. Include architectural floor plan sketches.
12.5.6. Include architectural building elevation sketches.

13. Electrical
13.1. Power Supply and Distribution
13.1.1. Determine the number of electrical feeds to be provided to the facility. Coordinate with the local power utility to determine the locations of power feeds, voltage, billing details (peak usage rates), requirements for reduced voltage starters, and substation requirements.
13.1.2. Establish preferred voltages for power distribution and utilization equipment.
13.1.3. Determine the need for onsite standby and/or emergency power; determine preliminary size.
13.1.4. Determine redundancy requirements for power supplies and power distribution.
13.2. Electrical Code Review

13.2.1. Identify the authority having jurisdiction for electrical and fire alarm systems.
13.2.2. Perform an electrical code review of existing facilities that require rehabilitation to identify areas where the facilities do not meet current codes. Develop a plan to bring existing facilities into code compliance when necessary.

13.3. Power and Lighting Concepts
13.3.1. Size Equipment Motors
13.3.2. Prepare preliminary load calculations.
13.3.3. Determine the number of motor control centers (MCCs) to be provided, location of MCCs, and equipment to be powered out of each MCC.
13.3.4. Determine the space required for electrical equipment. Establish reasonable, but conservative, preliminary electrical equipment room sizes.
13.3.5. Determine whether air-conditioned electrical rooms need improvements.
13.3.6. Coordinate with the utility and JEA to determine modes of generator operation. Define utility interconnection requirements and load shedding.
13.3.7. Identify JEA's electrical equipment requirements.
13.3.8. Define hazardous locations (NFPA 820) and document

13.4. Schematic One-Line Diagram
13.4.1. Prepare a preliminary overall one-line diagram for the proposed facilities.

13.5. Report
13.5.1. Provide major electrical equipment list.
13.5.2. Document building- and room-specific design criteria.
13.5.3. Develop the concepts for special systems that include as a minimum the following system.
13.5.3.1. Coordinate the I&C for integration and additional design criteria
13.5.3.2. Telephone (e.g., incoming service location, scope of supply, etc.)
13.5.3.3. Data highway (e.g., control system)
13.5.3.4. Data highway (e.g., LAN, office automation)
13.5.3.5. Fire alarm system
13.5.3.6. Security system
13.5.3.7. Closed-circuit television (TV) system
13.5.3.8. Power monitoring system
13.5.3.9. Structured Cabling System

14. Geotechnical
14.1. Prepare geotechnical investigation plan, minimum soil boring, and laboratory testing plan.
14.2. Subsurface Investigation
14.2.1. Conduct subsurface geotechnical investigation and laboratory testing of soils at the project site.
14.2.2. Develop preliminary foundation recommendations.

15. HVAC Systems
15.1. Building Code Review
15.1.1. Perform a ventilation code review of existing facilities that require rehabilitation to identify areas where the facilities do not meet current codes. Develop a plan to bring existing facilities into code compliance when necessary.

15.2. HVAC Concepts
15.2.1. Select type of ventilation system to be used in process buildings (e.g., inlet air tempered with both inlet and outlet fans or simple exhaust fan system).
15.2.2. Select type of heating system to be used; hot water boiler, hot air furnace, space heaters.
15.2.3. Select type of HVAC equipment.
15.2.4. Select type of air conditioning system to be used in personnel spaces; variable air volume system, zoned constant air volume system.

15.3. Report
15.3.1. Document HVAC concepts and design criteria by building and room.
15.3.2. Prepare HVAC equipment list.

16. I&C Systems
16.1. Diagrams
16.1.1. Prepare a process flow drawing for each treatment process.
16.1.2. Prepare Process & Instrumentation Diagrams (P&ID) for each process

16.2. Process Control Philosophy
16.2.1. Develop control system block diagram.
16.2.2. Select control system configuration (local control panels, PLC-based controls, or DCS-based controls) based on input from JEA, process and mechanical engineers, and DM.
16.3. Communications and Networking
16.3.1. The following list the some of the key design functions that may require some resolution:
16.3.1.1. Communications Design Criteria
16.3.1.2. Network topologies for both Control and Business network that includes both Campus and building networks
16.3.1.3. Wireless networks
16.3.1.4. Separate/combined business and process control networks
16.3.1.5. Reliability & redundancy
16.3.1.6. Security
16.3.1.7. Communications rooms (XLV)
16.3.1.8. Emergency power requirements
16.3.1.9. Integration with high speed internet
16.3.1.10. Firewall design and configuration
16.4. Report
16.4.1. Define or recommend control system procurement methods and software development.
16.4.2. Document JEA's control system and other information needs (e.g., reports needed, integration with lab data, O&M).
16.4.3. Develop and publish control system block diagram.
17. Plumbing and Fire Protection
17.1. Evaluate Existing Systems
17.1.1. Coordinate with JEA on water availability (quantity, pressure).
17.1.2. Coordinate with JEA on storm and sanitary sewer availability.
17.2. Building Code Review
17.2.1. Identify fire codes and applicable regulations.
17.2.2. Determine type of fire protection to be provided.
17.2.3. Determine hazard ratings, light, ordinary, etc., for all areas to be protected and show on drawings.
17.2.4. Estimate required water quantities/rates for sprinklers and fire protection.
17.3. Water Flow/Storage/Containment/Drainage Requirements
17.3.1. Calculate water requirements and sanitary sewer flows.
17.4. 4.0 Report
17.4.1. Document plumbing and fire protection concepts and building- and room-specific design criteria.
18. Structural
18.1. Structural Design Criteria
18.1.1. Define codes and standards applicable to the project.
18.1.2. Provide structural building design concepts.
18.1.3. Define design loads and deflection limits for the various functions of buildings and structures.
18.1.4. Define specifications for materials of construction.
18.1.5. Determine foundation requirements.
18.2. Report
18.2.1. Document structural information in a memorandum.

MILESTONE 3 – FINAL DESIGN DOCUMENTS (FDD) – 100% SUBMITTAL

1. Prepare final construction cost estimate.
2. Document completion of internal Quality Control reviews.
3. Submit electronic drawing files and camera- ready specifications to JEA.
4. Confirm closings or resolution of real estate acquisitions.
5. Project/Design Management
5.1. Construction Document

5.2. Prepare and/or coordinate the legal and Division 1 specifications with JEA.
5.3. Project Permitting
5.4. Prepare documents, reports, and permit applications, as required.
5.5. Address comments and requests for additional information from regulatory agencies.

6. Process Mechanical
   6.1. Piping Layout
      6.1.1. Prepare any remaining small yard piping with site/civil disciplines to coordinate location.
      6.1.2. Show pipe and duct sizes and elevations (centerline or invert).
   6.2. Sections and Details
      6.2.1. Prepare standard details.
   6.3. Specifications
      6.3.1. Finalize equipment specifications and schedules.
   6.4. Project Permitting
      6.4.1. Address all process comments received from permitting agencies.
7. Site/ Civil
   7.1. Site/Civil Plans
      7.1.1. Finalize site layout, including road layout, building locations, and overall grading.
      7.1.2. Provide coordinates or layout dimensions for new facilities.
      7.1.3. Finalize roadway geometrics and horizontal and vertical alignments.
      7.1.4. Finalize fencing, gates, security, and access control.
      7.1.5. Finalize roadway pavement design, sections, and details.
      7.1.6. Locate sidewalks and door pads.
      7.1.7. Finalize grading and add spot elevations.
   7.2. Site Utility Plans
      7.2.1. Finalize horizontal alignment of utility systems.
      7.2.2. Develop vertical alignment of utility systems.
      7.2.3. Finalize storm drainage system based on final grading plan and prepare manhole and inlet schedule.
   7.3. Site Demolition Plans
      7.3.1. Prepare site demolition plans.
   7.4. Site/Civil Details
      7.4.1. Prepare project-specific and standard details.
   7.5. Specifications
      7.5.1. Finalize specifications and schedules.
8. Architectural
   8.1. Architectural Floor Plans
   8.2. Roof Plan
   8.3. Reflected Ceiling Plan
   8.4. Building Elevations
   8.5. Sections and Details
   8.6. Architectural Schedules
      8.6.1. Door and hardware schedule
      8.6.2. Window schedule
      8.6.3. Finish schedules
      8.6.4. Color schedule
      8.6.5. Louver schedule
   8.7. Final Specifications
9. Structural
   9.1. Structural Framing

9.1.1. Complete roof framing plans.
9.1.2. Complete framing plans for each floor or level in the structure.
9.2. Columns and Walls
9.2.1. Complete column and wall designs and sections.
9.3. Foundations
9.3.1. Complete foundation plan.
9.4. Sections and Details
9.4.1. Prepare details unique to the project.
9.5. Specifications
9.5.1. Finalize structural specifications and schedules.

10. Electrical
10.1. One-Line Diagrams
10.1.1. Finalize control diagram drawings.
10.1.2. Finalize one-line diagrams.
10.2. Electrical Plans
10.2.1. Develop electrical process and facility plans.
10.2.2. Finalize duct bank routing and locate manholes and handholes.
10.3. Lighting Plans
10.3.1. Provide site lighting plan for the required functions.
10.3.2. Prepare lighting/power panel schedules.
10.4. Sections, Details, and Schedules
10.4.1. Prepare motor control diagrams.
10.4.2. Prepare standard details.
10.5. Specifications
10.5.1. Develop specifications.

11. Geotechnical
11.1. Design Calculations
11.1.1. Prepare geotechnical data and information for inclusion in the contract documents.
11.2. Specifications
11.2.1. Finalize specifications, including excavation support and dewatering requirements.

12. HVAC Systems
12.1. Duct Layout
12.1.1. Finalize HVAC layout/corridors.
12.2. Sections and Details
12.2.1. Prepare HVAC standard details.
12.2.2. Prepare HVAC equipment schedules.
12.3. Specifications
12.3.1. Finalize HVAC specifications and schedules.

13. I&C Systems
13.1. I&C Design
13.1.1. Finalize P&IDs.
13.1.2. Finalize control/loop diagrams.
13.1.3. Prepare installation details.
13.1.4. Prepare any other miscellaneous I&C drawings.
13.1.4.1. Communications and Network diagrams
13.1.4.2. Control system block diagrams
13.1.4.3. Typical drawings & details
13.1.4.4. Control panel drawings
13.2. Specifications

13.2.1. Finalize instrument lists, panel schedules, and loop specifications.

14. Plumbing and Fire Protection
    14.1. Floor Plans
        14.1.1. Finalize potable and non-potable water supply, fuel gas supply and storm and sanitary drainage system plans.
        14.1.2. Finalize plumbing and fire protection system plans.
        14.1.3. Show locations of fire sprinkler flow switch(es), alarm bell(s), post indicator valve, isolation valves, fire department connection and location of test and drain pipe discharge(s) on building plans.
        14.1.4. Determine locations and show fire sprinkler zone control valves on drawings where required.
    14.2. Sections and Details
        14.2.1. Prepare riser diagrams (plumbing, fire, fuel gas).
        14.2.2. Prepare standard details.
        14.2.3. Detail fire protection water supply into building showing pipe penetrations, flow switch locations, and connection of fire department connection to sprinkler supply piping.
    14.3. Specifications
        14.3.1. Finalize plumbing, fire protection, piping, and valve specifications.

SOW (Tasks 1 through 11)

TASK 1 – PROJECT MANAGEMENT

1. Prepare scope of service and a work plan with timeline (work schedule).
2. Prepare monthly invoices and submit project progress update
3. Attend progress project meetings and final review meeting including agenda and meeting minutes with action items.
    3.1. Kick-off meeting, EOR will review the scope, finalize schedule requirements, and submit the data request memorandum.
    3.2. Conduct site visit (**TASK 2**)
    3.3. Conduct Progress Meeting No. 2 (**TASK 4**) to review project design report (PDR)
    3.4. Conduct Progress Meeting No. 3 (**TASK 5**) to review 60% design documents
    3.5. Conduct Progress Meeting No. 4 (**TASK 6**) to review 90% design documents

TASK 2 – DATA COLLECTION, ASSESSMENT AND EVALUATION

JEA will assist EOR in collecting and gathering all the information listed within this Task 2.

1. Submit the data request memorandum.
2. Collect and review available record drawings.
3. Conduct site visit.
    3.1. Record existing conditions.
4. Review record plans and identify the flows used to create the hydraulic profile presented in the record plans.
5. Define design flows:
    5.1. Use the flows listed in the Ch2&Hill record plans

TASK 3 – 10% CONCEPT DESIGN DOCUMENTS (CDC)

1. Prepare and submit CDC that meets all the goals listed under the Milestone 1.
    1.1. Instrumentation and Control procedure and protocol memorandum

2. JEA is to provide written comments to the EOR.

TASK 4 – 30% DESIGN DOCUMENTS AND PROJECT DESIGN REPORT (PDR)

3. Prepare and submit PDR (30% submittal) that meets all the goals listed under the Milestone 2. Incorporate JEA's CDC (10% submittal) comments.
4. Prepare and submit AACE Class 3 opinion of cost. List the quantities. Indicate construction timeline.
5. Prepare cost variance from the original overall project budget (OPB).
6. Conduct 30% submittal review meeting. JEA is to provide written comments and drawing markups to the EOR.
7. Prepare and submit meeting minutes. Minutes shall include review comments and responses.

TASK 5 – 60% DESIGN DOCUMENTS

1. Prepare and submit 60% Submittal of the Contract Bid Documents that meets all the goals listed under Milestone 3. Incorporate JEA's PDR (30% submittal) comments. 60% Submittal should also include:
    1.1. Demolition phasing and construction sequencing including a paragraph in the Summary of Work specification outlining the construction bypassing approach.
    1.2. Schedules (i.e. piping, fitting, valves, gates, pumps, blowers, any other equipment)
    1.3. Bid form. Define what items should be bid as unit price items. Create measurement and payment descriptions for those items not covered in JEA's W/WW Standards Manual.
2. Review and edit JEA's Division 0 (front-end) specifications as required to accommodate the Contract Bid Documents. Integrate the bid form into Division 0.
3. Prepare and submit AACE Class 2 opinion of cost. List the quantities. Indicate construction timeline.
4. Prepare cost variance from the original overall project budget (OPB).
5. Conduct 60% submittal review meeting. JEA is to provide written comments and drawing markups to the EOR.
6. Prepare and submit meeting minutes. Minutes shall include review comments and responses.

TASK 6 – 90% DESIGN DOCUMENTS

1. Prepare and submit 90% Submittal of the Contract Bid Documents. Incorporate JEA's 60% submittal comments.
2. Draft and submit the Bid Form in accordance with JEA's Front End Document and Water & Wastewater Standards Manual.
3. Prepare and submit AACE Class 1 estimate. List the quantities. Refine construction timeline.
4. Prepare cost variance from the original overall project budget (OPB).
5. Create and submit Equipment Attribute Table (EAM). (Note: this is supplemented by the requested schedules in Task 5.1.2)
6. Conduct 90% submittal review meeting. JEA is to provide written comments and drawing markups to the EOR.
7. Prepare and submit meeting minutes. Minutes shall include review comments and responses.

TASK 7 – 100% DESIGN DOCUMENTS AND BID DOCUMENTS

1. Prepare and submit 100 Percent Final Design Document the following:
    1.1. Update and submit the PDR
    1.2. Final updated contract documents
    1.3. Final opinion of probable construction cost, Class 1. List quantities
    1.4. Final Cost Variance tables in OWNER's template and format

1.5. Final bid form (OPCC, EAM, bid form shall compliment/supplement each other). The EOR submit a populated bid form.
1.6. Final SUE investigation report and survey
1.7. Final design calculations
1.7.1. Final hydraulic profile
1.8. Final permits as available

2. Prepare Issued for Bid Contract Documents in electronic form for OWNER procurement following the completion of the 100 Percent Final Design Document submittal. Incorporate supplemental permitting comments received from the permitting agencies.

TASK 8 – PERMITTING (LIMITED AMOUNT NOT-TO EXCEED)

1. Submit permit determination request using the PDR. Conduct permits determination with the following agencies:
   1.1. Florida Department of Environmental Protection
2. Prepare permit application packages.
   2.1. FDPE Facility Permit if required
3. Respond for Additional Information (RAI): Consultant is responsible for securing permits and responding to the agencies' RAIs.

TASK 9 – BID PHASE SERVICES

1. Attend the pre-bid conference.
2. Prepare and submit addenda to JEA.
3. Revise contract bid documents per addenda.
4. Prepare and issue Conformed Construction Documents.

TASK 10 – POST DESIGN SERVICES (LIMITED AMOUNT NOT-TO EXCEED) *<- JEA to draft and negotiate after the bid.*

1. Pre-Construction Meeting
   1.1. Project Manager will attend on-site pre-construction meeting.
   1.2. Draft and submit meeting minutes for review.
   1.3. Submit final meeting minutes.
2. Construction Progress Meetings
   2.1. Project Manager will attend on-site construction progress meetings if requested by JEA. Not to exceed X progress meetings.
3. Review Shop Drawings
   3.1. Receive, review, evaluate, and distribute shop drawings within 21 calendar business days of receipt of the shop drawings. Expected number of shop drawings XX.
4. O&M Manuals
   4.1. Receive, review, evaluate, and distribute O&M manuals within 21 calendar business days of receipt of the shop drawings. Expected number of manuals XX.
5. Requests for Information (RFI)
   5.1. Receive, review, and evaluate RFIs. Submit RFI response to JEA Construction Administrator. Expected number of RFIs XX.
6. Change Order
   6.1. Review Contractor's change order request if required by JEA. Expected number of Change Orders is X.
7. On Site Start-up and Performance Testing (if requested by JEA)

7.1. Review the submitted test plans and test reports from the suppliers for the equipment testing, and review the certified performance testing results submittals. EOR provide a test plan for the plant.
7.2. The Project Manager or Project Engineer will attend the performance testing. If necessary, the process/mechanical or electrical/instrumentation engineer will be contacted by phone.

8. Substantial Completion Walk-Through if required by JEA
   8.1. Project Manager to conduct a walk through to visually assess the project completion
   8.2. Instrumentation and Electrical engineers of record to conduct a walk through to assess the project completion
   8.3. Create a punch list.
9. Final Walk-Through if required by JEA
   9.1. Project Manager will conduct the final walk through to confirm and verify the completion of the punch list.
   9.2. Instrumentation and Electrical engineers of record will conduct the final walk through to confirm and verify the completion of the punch list.
10. Construction Record Drawings
   10.1. Review the Contractor's as built and record drawings at the end of construction.
   10.2. Produce and submit construction record drawings electronically for JEA review.
   10.3. Incorporate JEA review comments and submit final construction record drawings.
11. Asset Management
   11.1. At the end of the construction, review and approve the contractor's asset management table for JEA review.
12. Project Certification
   12.1. FDEP

TASK 11 – UPDATE O&M FACILITY MANUAL (ADDITIONAL SERVICES – LIMITED AMOUNT NOT-TO EXCEED)

1. Provide an overall facility's O&M Manual.
   1.1. Supplemental Figures – develop selected renderings comprising the information from engineering drawings and other modified data to provide a more complete picture of a particular technical component of the project. Provide means for the operators to quickly locate and identify details without having to review non-essential information. Figures shall be either letter (8.5 inches by 11 inches) oriented in landscape or portrait layout or tabloid landscape (11 inches high by 17 inches wide).
   1.2. Informational Photographs – include color photographs in the operations manual update for clarifying the operation for the bar screen, clarifiers and magnetic meter. Photographs and text in the manual will use letter size paper (8.5 inches by 11 inches).
2. Draft Operations Manual Update – submit the first draft of the operations manual supplement in format prior to the Contractor's project Substantial Completion milestone for JEA review and comments.
3. Field Verifications of Draft Operations Manual Update – revise the Draft Operations Manual Update to include applicable JEA comments and submit to JEA within approximately 60 calendar days after project Substantial Completion.
   3.1. Field verify as built conditions prior to finalizing the operations manual update.
   3.2. Update figures and photographs to account for the Contractor's completed work.
4. Final Operations Manual Update – incorporate comments from the Field Verified Operations Manual Update and issue the Final Operations Manual Update to JEA.

TASK 12 – SUBCONTRACTORS (LIMITED AMOUNT NOT-TO EXCEED)

1. Survey/SUE
2. Site/Civil

Deliverables

1. Draft and final PDR in electronic format (PDF and MS WORD and EXCEL).
2. Drawings: One (1) half size (11" x 17") hard copy to scale and in PDF format for 60%, 90% and 100%
3. Supplemental Specifications: One (1) hard copy and in PDF and WORD format for 60%, 90% and 100%
4. Conformed Construction Documents: Scale drawings, three (3) half size (11" x 17") and two (2) full size (22" x 34") hard copies signed and sealed and in PDF format. Technical specifications, three (3) signed and sealed hard copies and in PDF format
5. Opinion of Probable Construction Cost and VC (PDF and EXCEL Format) for 30%, 60%, 90% and 100% submittal
6. Construction Record Drawings: One (1) signed and sealed full size (22"x 34") and in PDF and ACAD *.dwg format

Schedule

The scope of services as defined will begin within five business days after a written notice-to-proceed from the JEA. The anticipated duration of the Project is 12 months for design, 3 months for bid/award (closed bid), 15 months for construction and 1 month for project closing.