Request for Proposal
To Provide

Engineering Services
For

ECHOWATER PROJECT
CARBONACEOUS OXIDATION TANK CONVERSION
PROJECT

RFP No. 9064

Issue Date: July 22, 2020

Due Date & Time: August 28, 2020 by 3:00 PM

Sacramento Regional County Sanitation District
Request for Proposal
EchoWater Project
Carbonaceous Oxidation Tank Conversion Project

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I. PREAMBLE

The Sacramento Regional County Sanitation District (Regional San) seeks the services of a consulting engineering firm or team (consultant) for design and support during construction of the Carbonaceous Oxidation Tank Conversion Project (Project). This Request for Proposal (RFP) includes the information needed for proposal preparation and various attachments associated with proposal preparation and contractual requirements; including a Regional San sample agreement, sample labor hour matrix, draft Business Case Evaluation (BCE), and Technical Memoranda. The RFP and related attachments incorporated herein describe the scope requirements for the Project, and are posted on Regional San's Business Opportunities website under EchoWater Project Opportunities (http://www.regionalsan.com/echowater-project-opportunities).

II. PROGRAM AND PROJECT BACKGROUND

The Sacramento Regional Wastewater Treatment Plant (SRWTP) provides wastewater treatment to the Sacramento area and surrounding cities, serving approximately 1.3 million customers. The SRWTP is owned and operated by Regional San, a county sanitation district pursuant to and operating under the authority of the County Sanitation District Act, commencing at the California Health and Safety Code section 4700. The SRWTP currently uses a secondary treatment process consisting of bar screens, aerated grit removal, primary sedimentation tanks, carbonaceous oxidation tanks (CO tanks) using high purity oxygen, secondary sedimentation tanks, disinfection using liquid sodium hypochlorite, and de-chlorination using sodium bisulfite. The treated effluent is discharged into the Sacramento River near the town of Freeport. The treatment process has a permitted capacity of 181 million gallons per day (mgd) average dry weather flow (ADWF).

On December 9, 2010, the Central Valley Regional Water Quality Control Board (CVRWQCB) adopted a new permit for the SRWTP. As a result of new permit requirements adopted by the CVRWQCB in 2010 and amended in 2011, 2012, 2013 and 2014, Regional San is required to reduce total nitrogen and ammonia levels in its effluent substantially below existing concentrations. A Biological Nutrient Removal (BNR) facility is proposed for this purpose. Under these requirements, Regional San is also required to install tertiary filtration and disinfection treatment for pathogen removal consistent with recycled water requirements under Title 22, Division 4, Chapter 3 of the California Code of Regulations or equivalent. Full compliance with the adopted and amended permit (Order R5-2010-0114-02) is required by May 2021 for ammonia and nitrate removal and May 2023 for Title 22 or equivalent compliance.

The Carbonaceous Oxidation Tanks (CO Tanks) are part of the existing high purity oxygen secondary treatment process. This Project will repurpose the CO Tanks for beneficial usage as diurnal flow equalization for the current and future storage demands at SRWTP after BNR project facilities are functional. Regional San has developed a

Business Case Evaluation for the project and multiple memorandums attached to this proposal request.

III. PROJECT APPROACH

The EchoWater Project Program Management Office (PMO) has overall responsibility for management and coordination of all activities of the EchoWater Project, including oversight and management of the third party design consultants for all projects. In this role, the PMO manages various projects that comprise the EchoWater Project and provides review and input to the design documents, assesses design progress, confirms compatibility with basis of design, and coordinates activities between various design consultants. The CO Tank Conversion Project team will be composed of the members of Regional San Engineering, SRWTP Operations and Maintenance (O&M) staff, Operations Support staff, consultant staff, and the PMO.

The consultant shall review the following three attachments:

1) Attachment A – Draft Diurnal Flow Equalization Business Case Evaluation
2) Attachment B – Jacobs Memorandum – Carbonaceous Oxygen Tanks Conversion to Primary Effluent Equalization Preliminary Design Memo
3) Attachment C – District Leadership Memorandum – CO Tanks – Conversion to Primary Effluent Equalization

The consultant shall submit a proposal to provide engineering services for the completion of the Project. The successful proposal will demonstrate the approach and qualifications for the entire project.

These above listed BCE and memorandums identify multiple alternatives for this project, including a preferred alternative (Attachment A -Alternative 2) based on the information collected at the time of the writing of this RFP. The BCE identifies options to convert the CO Tanks for various storage capacities, as well as varying levels of decommissioning and re-purposing of the existing CO Tank area. The consultant shall review the attachments, schedule site visit(s), and meet with Regional San staff to validate the BCE recommendations, or identify the most preferred or beneficial alternative that is acceptable to Regional San. The selected consultant will prepare the predesign documents that reflect the preferred alternative in a timely manner.

All EchoWater Project projects are divided into the following six phases:

Phase 1 – Planning
Phase 2 – Design
Phase 3 – Bid and Award
Phase 4 – Construction
Phase 5 – Commissioning
Phase 6 – Closeout

The consultant will provide engineering services for all six project phases. During the design phase, the consultant and PMO will work to resolve design issues, leading to the production of contract documents. During the construction phase (under a future contract or amendment), the consultant will assist the PMO and Regional San with requests for information (RFIs) and submittal reviews from the contractor, and will provide other construction support services relating to the installation of the facilities. The consultant will also participate as necessary during the commissioning and closeout phases of the Project.

Close coordination with the Biological Nutrient Removal Facility (BNR) projects and existing daily plant operations is required by the consultant to complete this Project successfully.

IV. PROJECT DESCRIPTION

The principal elements of this Project are listed below and are described in more detail in Attachments A, B and C.

Repurposing of Existing Carbonaceous Oxidation Tanks

- Close outlets for the CO Tanks (Remove the necessary outlet gates and fill with concrete).
- Confirm the elevation and need for installation of a new fixed overflow weir in each of the OI North and South channels behind the large butterfly gates to allow flow control to the CO Tanks, per recommendation of Attachment B. The fixed crest weir length to divert 34 mgd to the CO tanks is believed to be 15 feet – but will be confirmed by the consultant.
- Design and add level transmitters to CO Tanks 1-8 and13
- Add Level Probes
- Design and add actuators to tank drain gates
- Provide Control strategy of tank flows that agrees with Primary Effluent Pumping Station Control Strategies
- Provide decommissioning and demolition design for existing equipment no longer required in the facility
- Provide analysis of drain system constraints when the CO Tanks and SST's are drained to Sump 404 at the same time
- Provide alternatives and design a flushing system for CO Tanks
- Provide alternatives for rerouting Sump 401 Discharge Pipe to Sump 404

Site Work

Elements of site work for this project include:

- Coordination with design consultants on other EchoWater Projects;
- Coordination with SRWTP O&M staff regarding existing facilities;
- Earthwork;
- Utility relocation (an allowance for potholing will be established as part of the Consultant fee proposal);
- Yard piping and utility distribution (shall be coordinated with SRWTP O&M staff to minimize impact to current O&M procedures);
- Structure and equipment access for O&M.
- Decommissioning, demolition and removal of obsolete equipment.

Electrical Power

Electrical power will be obtained from existing 480V substations at SRWTP, extended to the site and distributed. Electrical ductbanks from the existing substations to the points on the site will be a combination of existing and new (provided by this contract). Electrical power elements include:

- Installation of cables in existing ductbanks;
- Installations of new ductbanks and conduits
- Electrical equipment (switchgear, motor control centers, transformers);
- Site and building/structure power distribution including wiring, ductbanks and conduit;
- Site and structure/building lighting and devices;
- Connection to the substation or MCC to provide power;
- Connection to the existing CO Tanks and any new equipment provided under the project.
- Decommissioning, demolition and removal of obsolete equipment.

Instrumentation and Control

The SRWTP Computer Control System (PCCS) is being expanded as part of the EchoWater Project. The new PCCS components consist of the Emerson Ovation distributed control system (DCS) controllers, operator workstations, and operator interface terminals, and Allen-Bradley programmable logic controllers (PLCs) and PLC I/O modules for hardwired and networked input/output communications with field device. The Emerson Ovation controller functions will be limited to supervisory control logic and HMI functions. All direct monitoring of process instrumentation and control of process equipment will be

programmed in PLCs (area and vendor package system PLCs). All panel-mounted operator interface terminals and operator workstations shall run the Emerson Ovation HMI software.

The PLC I/O fieldbus network will be Profibus. New PLC fieldbus interface modules, instruments, and electronic valve actuators will support Profibus communications and will connect to the PLC over Profibus network connections. New VFDs, motor starters, power quality monitors, and vibration monitors will connect to the PLC Ethernet network communicating over Ethernet/IP or Open Modbus TCP. The PLC network data will be segregated into virtual local area networks (VLANs).

Instrumentation and control elements of the Project are:

- Primary elements and instruments for control and monitoring;
- Instrument wiring, conduit, signal ductbanks and site distribution;
- Vendor-supplied (in appropriate packages) and Consultant-designed control panels;
- PCCS and auxiliary communications equipment and cabling to connect to existing plant-wide networks;
- Process control strategies and control narratives; and
- Coordination with Regional San programming team that will perform PCCS programming for all program projects.
- Decommissioning, demolition and removal of obsolete equipment.

V. PROJECT SCHEDULE

Time is of the essence for this Project and the EchoWater Project. Consultant shall prepare a project schedule as part of proposal and comment upon the following milestone dates:

Major Milestone	Date based on an NTP of 12/7/2020
Notice to proceed (NTP) – Phase 1	12/7/2020
Phase 1 - Confirm Basis of Design and develop PDR	12/7/2020 – 1/29/2021
Phase 2	
Submit Preliminary Design Report	1/29/2021
Submit Design Submittal #2	4/8/2021
Engineering Review/Response of DS2	4/8/2021 – 4/29/2021
Submit Design Submittal #3	6/10/2021
Phase 3	
Deliver Bid Documents	8/10/2021
Bid Opening	9/16/2021
Phase 4 - Construction (tentative)	10/25/2021 – 10/24/2022
Phase 5 - Commissioning (tentative)	10/25/2022 – 11/28/2022
Phase 6 - Close out (tentative)	11/29/2022 – 2/21/2023

The above schedule takes into account Regional San review periods for each Project submittal. The consultant's schedule included with their proposal must include all the major milestones listed above as well as Regional San review periods for major submittals and workshops. Key workshops will be listed in the Consultant's schedule as well. A minimum review period of 15 working days from submittal of documents to return of comments is required for each submittal (draft PDR, design submittals, bid documents). The consultant is not permitted to start work on a subsequent design submittal until directed by Regional San.

VI. SCOPE OF SERVICES

This section describes the nature and scope of engineering services to be provided for the completion of the Project for the SRWTP. The successful proposal will demonstrate the approach and qualifications for the **entire project** (Project Phases 1-6).

Regional San has prepared a scope of services necessary for completion of the Project. This scope of services, divided into the six phases of the project, is provided below. This scope of services must be used as a basis for preparation of the proposal. Additional tasks or modifications to the scope of services that the consultant feels will produce a more cost-effective project should be included in the proposal. The scope of services is supplemented by detailed requirements contained in the attachments to this RFP.

In general, Regional San requires that all design documents use similar format, symbols, and conventions on all projects under the EchoWater Project, and provide at a minimum, the level of detail as defined in Attachment L -Design Contract Requirements for EchoWater Project, Attachment N - Regional San CAD/BIM Standards, and Attachment E – Design Guidelines. However, there are instances where more design detail is required.

The consultant is required to use Regional San's Program Management Information System (PMIS) for various functions. The PMIS is a web-based program called PMWeb. PMWeb description and functions are defined in Attachment F – Design Consultant Project Management Requirements.

PHASE 1 PLANNING

Phase 1 – Planning consists of three main tasks:

- Task 1.1 – Project Management (All Phases)
- Task 1.2 – BCE and Technical Memo Review and Confirmation
- Task 1.3 – Coordination with Other Projects

This phase includes tasks related to project management, and BCE and technical memo confirmation performed during the planning phase of the Project.

The consultant shall maintain up-to-date comments, responses, and decision logs in electronic format on the PMWeb system for all Regional San comments received as a result of each submittal review and project meetings. Regional San comments shall be incorporated into the next submittal, as appropriate.

Task 1.1 Project Management (All Phases)

Consultant shall be responsible for tasks related to the project in terms of staffing, budget, schedule and scope; promote communication within the project team including the PMO,

and document key decisions and risks. This task will continue through all phases of the project.

Items covered under this task include, but are not limited to:

- Kickoff meeting for planning and preliminary design phases.
- Weekly progress meetings at the PMO. Produce and provide meeting agendas and minutes. Identify, assign, and track action items identified during meetings.
- Support Regional San's Project Manager (PM) and attend any project milestone related meetings. Consultant to assist in preparing presentation material, pre-meeting handouts, meeting minutes, and action items identified during meetings.
- Other meetings. In addition to specific types of meetings described in the RFP and attachments, Consultant should anticipate participation in management briefings, specialty meetings, and workshops, throughout the duration of the project.
- Scope, budget and schedule management and updates.
- Interface with PMWeb, the program management information system deployed for the program.
- Assist the PMO PM in updating the risk register and the Risk Management Plan as needed. Assist the PMO PM in identifying, tracking, managing and mitigating project risks that are shared by Regional San and Consultant. Identify, manage and mitigate Consultant's project risks.
- Management and coordination of subconsultants.
- Management and coordination of consultant staff.
- Monthly invoicing and schedule updates.
- Monthly earned value analyses and progress reports.
- Project management plan.
- Consultant Project Safety Plan - Prepare and submit a project-specific safety plan consistent with consultant's company policy. The plan must incorporate Regional San's safety requirements and be consistent with the safety plan developed by the PMO. The plan must meet the requirements of an OSHA Injury and Illness Prevention Plan.
- Design submittal contents. Prepare a document summarizing the proposed deliverables at each design milestone and a narrative description of the level of completion of each item. Review this with the PMO Project Manager (PM) to establish common expectations.

Additional detail regarding project management requirements is provided in Attachment F – Design Consultant Project Management Requirements.

Task 1.2 BCE and Technical Memo Review and Confirmation

Consultant shall perform evaluations and analyses to confirm the major project design elements outlined in the draft BCE and technical memorandums including key technical design assumptions such as flows and loads, process type and sizing, general site layout, and connection/interface with other projects. This task will include a review of the BCE and supporting documentation (e.g., TMs, BCEs, etc.), and preparation of any comments and recommended changes that would affect the proposed scope of design for the Project. In addition, consultant is expected to offer ideas and approaches that improve functionality, flexibility and/or cost-effectiveness of the Project for consideration by Regional San. A review of the overall project schedule should be included.

The consultant shall submit comments to the BCE via PMWeb for Regional San review and response. The comments may include a technical memorandum if desired. The Consultant's budget should include a meeting to discuss the BCE and tech memos attached as part of this RFP.

Task 1.3 Coordination with Other Projects (All Phases)

The Project shall be a complete and fully functional facility that is integrated with existing facilities and coordinated with other projects under the EchoWater Project. A site plan showing all of the projects within the program is contained in Attachment A – Draft Diurnal Flow Equalization Business Case Evaluation.

The Project consultant must work closely with the PMO to coordinate the following:

- Physical points of connection between the projects.
- Hydraulic profile points at the interface between the Project and the components of the existing plant. Consultant will coordinate with the PMO to finalize the complete plant hydraulic profile. The hydraulic profile should consider the summer and winter month filtration and bypass scenarios.
- Process control and instrumentation. Coordinate the logic control with the PEPS pumps.
- Testing and commissioning plans, requirements and schedules.
- Temporary bypasses, structures, piping and pumping to route water during testing and commissioning.
- Electrical power supply and distribution.
- Building space for O&M staff.
- Ancillary process support systems.
- Contractor access, office trailers and laydown areas.
- Site earthwork, grading, paving, storm drainage and utilities.

- Site access, traffic flow and parking.
- Demolition, facility abandonment, and utility relocation.

This task also shall include the Consultant's efforts to coordinate the Project with all active onsite Regional San and EchoWater Projects.

PHASE 2 DESIGN

Phase 2 – Design consists of three main tasks:

- Task 2.1 – Preliminary Design Report (PDR)
- Task 2.2 – Design Submittal 2
- Task 2.3 – Design Submittal 3 and Bid Documents

The consultant shall provide engineering services to prepare the PDR and subsequently produce a complete package of biddable plans, technical specifications, and other contract documents as required based on the design concepts and criteria developed during the PDR task.

The consultant shall maintain up-to-date comments and responses and decision logs in electronic format on the PMWeb system for all Regional San comments received as a result of each submittal review. All Regional San comments and any others shall be incorporated into the next submittal, as appropriate.

Task 2.1 Preliminary Design Report

Consultant will define the project in sufficient detail to establish a clear direction for the subsequent design phases, complete preliminary site layout to a level of detail that will establish overall space requirements/allocation, estimate construction cost for comparison to Regional San's project budget, and establish a preliminary construction schedule. The consultant will prepare a draft and final PDR. As part of the proposal, consultant may propose changes to and/or consolidation of this process listed in the tasks below. For the listed BCE's and technical documents, the consultant may propose changes to and/or consolidation of these items. The PDR shall include a summary of all technical documents, accompanied with drawings showing the proposed improvements.

The PDR is an extension of the work done in the draft BCE and the technical memorandums found in the Attachments section of this RFP.

Task 2.1.01 Project Management (PDR Phase)

The project management task encompasses overall project management, coordination with other projects, and Project permitting support.

Task 2.1.01.2 Permitting Assistance

For all applicable project elements of this Scope of Services, the Consultant shall provide contract documents, which ensure that facility features and performance and construction procedures comply with all conditions of existing permits and permits required to construct this project. Construction drawings, specifications and supplemental drawings shall be prepared, as necessary, in the format required to obtain all permits.

The final Environmental Impact Report (EIR) was certified at the September 24, 2014 Regional San Board Meeting. The Consultant will verify the bid documents meet the mitigation measures described in the EIR. Regional San applied for Clean Water State Revolving Fund (CWSRF) financing. The Consultant shall provide contract documents, which ensure that the design complies with all CWSRF requirements. Plan on at least one 2-hour meeting as part of the CWSRF requirements.

The consultant shall assist Regional San in obtaining the permits listed below.
This shall include assistance with completing application forms provided by Regional San, preparing supporting documentation for the permit applications as required by the issuing agency, furnishing the required number of copies of all construction drawings, and exhibits and attending meetings with permitting agencies at the request of Regional San. Consultant shall also allow time for a meeting with the CEQA Consultant.

Regional San staff will execute all applications. All permit fees will be paid directly by Regional San and will not be part of the consultant's fee. The consultant shall submit all supporting documentation in a timely fashion for all permits required for this project which include, but are not limited to, the following:

- Permit to construct from the Sacramento Metropolitan AQMD
- Permit to operate from the Sacramento Metropolitan AQMD
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Task 2.1.01.3 Risk Management Plan

The Consultant shall participate in the development of a risk management plan. This participation shall include preparation and attendance of one Risk Management Workshop during the preliminary design phase of work to assist Regional San in identifying and developing mitigation measures for potential risks to the Project during final design. This workshop is anticipated to last up to 2 hours. The Consultant should agree that incorporating risk mitigation measures into the Project documents is part of the normal scope of a design project and, therefore, is not to be budgeted under this task. This task is limited to the Consultant's participation in development and updating of the Risk Management Plan. Consultant's staff may be designated as a "Risk Owner."

Task 2.1.02 Quality Assurance/Quality Control Management (PDR Phase)

The Consultant will implement a quality assurance and quality control (QA/QC) program during the course of executing the scope of work for the Project including, at a minimum, the following:

1. Identify the qualified professional assigned the responsibility and accountability for administering the QA/QC program for the duration of the Project. This person shall lead the quality assurance activities and provide evidence of compliance to Regional San.

2. Provide a structured program for quality control activities including independent reviews by a senior professional of all work products, technical assumptions, and directives. Perform reviews to verify that project deliverables and supporting documentation are complete, understandable, and conform to applicable and reasonable standards relative to their intended purpose, and meet the requirements of each design submittal.

3. The structured program for quality assurance (QA) activities shall include the planned and systematic actions that provide adequate confidence that an activity or service consistently fulfills the requirements for its intended purpose.

4. Prepare a project-specific QA/QC plan within 20 working days of contract award. The project-specific QA/QC plan shall identify the individuals assigned to perform QC reviews. The QC reviewers shall possess qualifications necessary to perform the review and shall be independent of the Project team and the individuals originally providing the services to be reviewed. The Consultant shall coordinate with the QA/QC guidelines developed by the PMO, see Attachment F – Design Consultant Project Management Requirements. The Consultant's QA/QC Plan shall be reviewed and accepted by Regional San's PM and shall include or reference all the controls necessary for implementation. Major elements of the QA/QC Plan shall include the following at a minimum:

    - The Consultant and all subconsultants shall be responsible for the technical adequacy and quality control of this work.
    - QC will include discipline QC of all design work, coordination of work between disciplines, coordination between drawings and specifications, asset data management, and BIM clash detection. All submittals are to be made clash free.
    - Consultant controls shall ensure that planning and design inputs are correctly translated into planning and design documents such as drawings, procedures, specifications, reports and calculations.

- The Consultant shall be responsible for the physical control, security and distribution of controlled documents required for performance of the Scope of Work in paper and electronic format.
- All submittals shall be accompanied by a transmittal letter signed by Consultant's Principal-in-Charge or Project Manager stating that the submitted documents have been checked, and identifying the reviewers' names. All submittals shall be checked with a goal of assuring accuracy and consistency. Consultant QC staff shall sign an affidavit stating that the QC has been completed.

The Consultant shall include labor-hours for all QA/QC activities related to preliminary design as part of this task, including the development of the QA/QC Plan and review of deliverables either by the Consultant, or by the Consultant in conjunction with Regional San staff in meetings and workshops. These labor-hours and associated costs shall be budgeted and tracked separately in the Consultant's invoice as determined at the beginning of the Project.

Task 2.1.03 Construction Cost Estimate

Consultant shall prepare a planning level construction cost estimate to be included as part of the draft PDR submittal. Refer to Attachment G – Design Consultant Cost Estimating Guidelines for details regarding construction cost estimating requirements. After review and when accepted by Regional San, this estimate will be the baseline estimate for the project as defined by the PDR. Unless there is a Regional San-approved change in Project scope establishing a new baseline, the PDR baseline will not be changed. All future estimates will be compared to the baseline estimate by the Consultant. If future estimates vary from the baseline estimate, the Consultant shall identify the specific reasons for variations and identify corrective actions to align the newest estimate with the baseline. The Consultant shall particularly note the change in contingency percentages at various stages of design. Submit 2 hard copies, and electronic files.

Task 2.1.04 Preliminary Construction Schedule

The Consultant shall prepare a preliminary construction schedule using the latest version of Oracle Primavera P6. The initial construction schedule shall be submitted shortly following the PDR and updated with each subsequent design submittal as the design becomes more refined. The schedule shall include the milestones presented in Section V of this RFP. It shall include a construction sequencing plan and include all major construction, testing and commissioning activities necessary to establish the project critical path and milestone durations. This schedule shall be broken down into major work packages and areas. It must be detailed enough to identify the major sequencing of work and coordination of interface to other areas of work. A basic startup, commissioning and testing schedule must be included.

The level of detail in the schedule submittals should be consistent with that of the 3D model and the construction estimate. The activity descriptions in the schedule should be consistent with the line items in the construction estimate breakdown and with the object descriptions in the 3D model.

The Consultant is expected to apply work production estimating techniques to determine activity durations to assure there is validity to the proposed schedule durations. They should also include seasonal weather considerations and any needed shutdowns or blackout periods in developing the schedule durations.

A schedule narrative should be delivered with each schedule submittal describing the sequencing, constraints and any critical sections of work. Any long-lead procurements shall also be identified at this stage. Regional San will provide required schedule layouts. Submit an electronic copy of the P6 file, and a PDF copy of the construction schedule.

Task 2.1.05 Field Survey

Regional San prepared topographic mapping of the site based on aerial photography obtained in Spring 2012 (topographic survey is available on request) which has been updated based on some construction activities. It is anticipated that some level of additional, project-specific topographic survey will be required to support the Project. The Consultant shall identify additional design-level survey requirements and include the required scope for this effort in the proposal.

A survey of the CO Tanks Decks and area shall be performed to accurately determine all necessary project elements.

Task 2.1.06 Geotechnical Services

It is not anticipated that the consultant will be required to procure a new geotechnical survey for the site, considering the location of the existing CO Tanks. If necessary, the Consultant may, upon request, be granted access to all known soils and inspection reports that are on file at Regional San.

Task 2.1.08 TM-1 Design Criteria

TM-1 will focus on the basis of design and design criteria. The key elements of the draft BCE and technical memorandums, modified under Task 1.2 by Consultant comments and Regional San responses, shall be incorporated into TM-1. The TM shall include any exceptions being proposed to Regional San design standards. The TM will also include a list of major equipment and their individual sizing criteria. A general outline for the TM is as follows:

TM-1	Design Criteria
• Flow conditions	
• Process overview	
• Discipline design criteria as needed	
	Civil
	Architecture
	Structural
	Process
	Corrosion
	Noise
	Mechanical (HVAC, plumbing)
	Electrical
	Process and instrumentation
• Process flow diagrams	
• Hydraulic profiles	
• Naming and numbering plan for facilities and equipment, including asset tagging	
• Preliminary drawing list	
• CAD/BIM execution plan	

Key elements of TM-1 shall include the following:

1. For the basis of design and general design criteria, extract and compile information from relevant BCEs and technical memorandum recommendations and include development of any supplemental information. Evaluate process design criteria and propose any modifications to the conclusions of the BCE and technical memorandums.
2. Evaluate and analyze system operation for extended periods at equalized maximum day flow and determine any special design requirements and considerations.
3. Augment the discipline design criteria found in the BCE and Regional San design guidelines with design criteria specific to individual design discipline elements.
4. Update the process flow diagrams for the design condition at 181 mgd ADWF and for the startup condition. Flow diagrams shall include flow conditions to and from each unit process.
5. Start development of the Master Equipment List (MEL) and decommissioning list of existing equipment locations and asset numbers. This will include the list of major equipment, develop equipment names and begin to assign tag numbers based on Regional San's conventions and guidance.
6. Develop a preliminary drawing list.

7. Review Regional San design guidelines and identify any exceptions.
8. Submit the CAD/BIM Execution Plan including hardware, software, configuration, responsibilities, and methodologies in accordance with Attachment N - Regional San CAD/BIM Standards.

Task 2.1.09 TM-2 Project Elements

TM-2 will focus on the preliminary design of each project element. The Consultant may divide the project elements into separate TMs, but the final deliverable for TM-2 must include all components associated with the Project under one cover. Project Elements to be included in the TMs are as follows:

TM-2	Project Elements
• Outlet Gate Closures	
• Fixed overflow weir height and length in OI channel	
• Level Probes, Level Transmitters, and Tank Drain Gate Actuators	
• Control Strategy of Tank Flows	
• Decommissioning/Demolition of Obsolete Equipment	
• Constrains when concurrently draining CO Tanks and SST's	
• CO Tank Flushing System	
• Sump 401 Discharge Reroute to Sump 404	

Key elements of TM-2 and guidance for evaluation of each project element in terms of topics, content and level of detail are listed below:

General

For each project element, present the following:

1. Unit process number, capacity, orientation.
2. Equipment number, size, orientation, features.
3. Process and equipment redundancy.
4. Arrangement to allow future expansion to build out capacity.
5. Utility requirements.
6. Operating philosophies and general control descriptions.
7. Process flow diagrams.
8. Process and Instrumentation Diagrams
9. Models of unit processes and buildings.

10. Use BCEs to compare process alternatives and major equipment types. See Attachment H – BCE Guidance.
11. Identify any areas that may have operational challenges and require input early on in the project.

Task 2.1.10 TM-3 Site Development and Layout

TM-3 will focus on the site. Because the CO Tank site is located in the active SRWTP process area, as well as shared by other contiguous projects, the Consultant will consider development of the Project site as a whole when preparing this TM. In addition, the Consultant will work with the PMO to develop assumptions and constraints relative to parts of the site to be occupied by other projects.

In addition to project area topography (Task 2.1.05), Regional San will provide any available master site utility and process pipeline drawings of the project area in AutoCAD Civil 3D. The drawings show known buried lines and ductbanks and the proposed utilities, including those installed under other EchoWater projects in recent years. These drawings indicate the accuracy of location information (i.e., whether the location of a line is based on survey, or record drawings or design documents). The Consultant shall review these drawings and perform additional surveying, and all other research, to produce complete drawings of existing conditions for design and construction. The TM should include recommendations for potholing.

The TM shall include the locations of treatment processes on the site plan, interconnections between the unit processes, hydraulic profile, site development plans, and utility information as follows:

TM-3	**Site Development and Layout**
• Demolition and relocation requirements	
• Site plans o Site plan o Grading plan and site sections o Site paving plan including site gravel and erosion control o Stormwater handling requirements o Site Utility Plan (water, gas, drains, etc.)	
• Channels and conveyance piping between unit processes, other EchoWater Projects and existing Regional San facilities	
• Flow distribution and connection	
• Coordination with other projects	
• Utility coordination and requirements	
• Corrosion assessment and means of protection for buried utilities	

Key elements of TM-3 shall include the following:

1. Evaluate site plans, unit process locations, and coordinate with other projects.
2. Develop interconnecting channels and piping systems between unit processes and other projects.
3. Determine hydraulic conditions at year at estimated startup 2022 (including low diurnal flow), the design dry and peak flows, and buildout peak flow.
4. Assess relocation of any existing utilities that conflict with construction.
5. Evaluate utility demands and coordinate with the PMO to assess existing utility capacity and need for the extension of utilities.
6. Show contractor laydown areas and portion of site that will be under the contractor's control. (Coordinate with PMO and Regional San Operations.)
7. Confirm and show areas for contractor trailers and construction support facilities, construction management (CM) facilities.

Task 2.1.11 TM-4 Electrical and Instrumentation

TM-4 will focus on electrical and instrumentation. The TM shall include electrical and instrumentation design information as well as an initial P&ID for each type of equipment on the project. A general outline for the TM is as follows:

TM-4	**Electrical and Instrumentation**
• Site power and distribution schematic	
• Electrical site plan and duct bank routing	
• Single-line diagrams	
• Network and communication block diagrams	
• Control system overview schematic diagrams	
• Communication systems overview diagrams	
• Preliminary control strategies and control narratives	

Key elements of TM-4 shall include the following:

1. Locate, size, and develop the electrical requirements and equipment to support the Project and buildout conditions.
2. Evaluate power distribution options and the location and size for each electrical building and MCC where necessary. Prepare preliminary load calculations.
3. Determine corridors for routing for power and signal ductbanks and coordinate with site piping and other potential conflicts.
4. Prepare the network and communication block diagram.
5. Develop overall control strategies for each unit process, major equipment, and instruments and coordinate with related projects.

Task 2.1.12 TM-5 Implementation Plan

TM-5 will focus on construction, testing and commissioning. A general outline for the TM is as follows:

TM-5	Implementation Plan
• Constructability issues	
• Construction sequencing narrative and drawings	
• Permit requirements	
• Preliminary construction schedule	
• Preliminary construction cost estimate	
• Coordination with other projects	
• Testing/commissioning planning	

Key elements of TM-5 shall include the following:

1. Evaluate construction sequencing in coordination with other projects.
2. Identify potential constructability issues and develop strategies for mitigating the impacts.
3. Incorporate preliminary construction schedule and cost estimate developed under other tasks.
4. Coordinate implementation plan with other projects associated with this program.
5. Develop operational testing, reliability testing and commissioning procedures and coordinate with related projects.

Task 2.1.13 TM-6 Physical and/or CFD Modeling

The TM (or series of TMs) will document the results of physical and/or CFD modeling recommended by the Consultant, which may include the following:

1. Physical and/or CFD modeling to confirm the flow split hydraulics from the CO Tanks and return to the process.

Modeling efforts will consider proposed and build out flow conditions. To account for approach conditions, the Consultant may propose combining modeling efforts into fewer models. TM-6 may be broken into individual TMs for each individual CFD and physical modeling effort.

Task 2.1.13 PDR – Draft

The draft TMs prepared under the previous tasks will be submitted individually for review as they are completed. Final TMs will be integrated into the draft PDR that includes all of the drawings associated with the PDR.

Documents that must accompany the PDR include the following:

- PDR in PDF format with 8-1/2" x 11" documents in Volume 1 and 11"x17" (half size) drawings in Volume 2. Ten hard copies plus PDF electronic files.
- BIM and CAD files per Attachment N– Regional San CAD/BIM Standards.
- QA/QC documentation.
- Verification that all comments have been responded to in PMWeb.
- Verification that the decision log is up to date in PMWeb.
- Verification that all meeting and workshop notes are up to date in PMWeb.
- Equipment catalog and correspondence with suppliers and vendors.
- Native data files as needed for review.
- Other research, materials, and construction cost documentation.

Task 2.1.14 PDR Review Workshop

Conduct PDR submittal workshop with Regional San and PMO staff. Consultant shall attend and participate in the PDR Design Workshop at completion of the Draft PDR. Consultant shall assist Regional San's PM in preparing presentation material and pre-meeting handouts for meetings, including briefing on outcome of PDR phase, updates to project schedule and budget, risk management matrix, updated schedule, and updates to project team. Refer to Attachment F- Design Consultant Project Management Requirements.

Task 2.1.15 PDR – Final

Following incorporation of responses to all comments, Consultant will submit the following:

- PDR in PDF format with 8-1/2"x11" documents in Volume 1 and 11"x17" drawings in Volume 2. Eight hard copies plus PDF electronic files formatted to print 11"x17" drawings.
- Written responses to comments in PMWeb.
- Updated decision log in PMWeb.

Task 2.2 Design Submittal 2

Design Submittal 2 (DS2) combines the processes of a traditional DS1 and DS2 submittal. This includes preparation of the project design specifications, drawings, and construction cost estimate, building on the work performed during the preliminary design phase. For this submittal, the focus is finalizing major equipment sizing, P&IDs, overall facility layouts, and utility corridors. The major design elements are well established and supplementary/auxiliary design elements are in progress. Drawings for all disciplines shall be complete or nearly complete relative to basic design elements. Auxiliary equipment,

details, and schedules may still be missing. The submittal shall include the location and arrangement of all significant existing and proposed structures and equipment, all existing utilities adjacent to or within the construction area, drawing index, legend, etc. Specifications are substantially complete and detailed enough for meaningful review and comment by Regional San.

The electrical calculations (Regional San uses Paladin Design Base 5 – see design guidelines) and other discipline calculations, databases, construction costs estimates, schedule and other Project Support Documentation shall be updated to reflect the status of the Drawings and Detailed Specifications and shall support the DS2 workshops.

Task 2.2.02 Quality Assurance/Quality Control (DS2 Phase)

This task includes labor-hours for all QA/QC activities related to DS2, including the review of deliverables either by the Consultant, or by the Consultant in conjunction with Regional San staff in meetings and workshops, and preparation of the Submittal Outcome Report, as described in Attachment F - Design Consultant Project Management Requirements. These labor-hours and associated costs shall be tracked separately in the Consultant's invoice as determined at the beginning of the project.

Task 2.2.03 Construction Cost Estimate

Consultant shall prepare the design level construction cost estimate and include it as part of the DS2 submittal. Refer to Attachment G – Cost Estimating Guidelines for details regarding construction cost estimating requirements.

Consultant will compare the construction cost estimate to the estimate prepared for PDR. If the current estimate exceeds the latest baseline estimate, the Consultant shall identify the specific reasons for variations and identify corrective actions to align the newest estimate with the baseline. The Consultant shall particularly note the change in contingency percentages at various stages of design. Unless there is a Regional San-approved change in Project scope establishing a new baseline, the baseline estimate will not be changed. Submit 2 hard copies and electronic files.

Task 2.2.04 Construction Schedule

The Consultant shall contact the PMO scheduler to go over the format for the schedule. Consultant shall incorporate any comments to the PDR construction schedule made by the PMO, update the construction schedule to reflect any changes to the PDR, and submit it with the DS2 submittal package. This schedule submittal shall be utilized for the constructability review (Task 2.2.11), and the Consultant should be prepared to discuss the proposed method of construction. The DS2 construction schedule should provide additional detail consistent with the further design definition update the durations, sequencing, tie-ins, and milestones based on the further development of the project design. A detailed startup, commissioning and testing plan must be included. The 3D model detail

shall be expanded as needed for consistency with the expanded DS2 construction schedule and estimate, and the terminology in the 3D model, construction schedule and estimate must remain consistent. The schedule narrative also shall be updated and expanded with a clear explanation of the construction plan, noting critical sections of work, coordination with other projects and Regional San shutdown or tie-in requirements. The updated schedule shall be submitted as part of the DS2 submittal package. Submit the updated electronic schedule file (P6 .xer and a PDF file).

Task 2.2.06 Drawings and Design Development

The Consultant shall prepare DS2 submittal including hard copy drawings, electronic files, BIM model and clash detection reports in accordance with Attachment L - Design Contract Requirements for EchoWater Projects and Attachment N –Regional San CAD/BIM Standards. Historical 2D drawings will be made available; however, the Consultant shall determine the best method for creating the BIM model for this project. The Consultant shall identify any issues foreseen with recreating the Carbonaceous Oxidation Facility in BIM. Consultant's work breakdown structure and budget for the drawing preparation effort shall include subtasks for tracking of progress and costs. Breakdown shall be by process and then discipline or by discipline and then process.

Task 2.2.07 Specifications

The Consultant shall prepare a full list of anticipated specifications using the Construction Specifications Institute Master Format 50-Division numbering system. Identify specification sections that will be sourced from Regional San's guide specifications, as well as those that will be prepared by the Consultant. (Final content and format of all project specification sections, including those sourced from Regional San guide specifications shall be the responsibility of the Consultant.) Note that source of Division 00 and most of 01 contract specifications will be Regional San guide specifications, with the exception that the Consultant shall provide project-specific information such as the bid schedule, work constraints, and time of completion.

Task 2.2.08 Design Related Documents

Under this task, the Consultant shall develop all parts of the DS2 submittal, which are not specifically identified under other DS2 tasks including, but not limited to, the documents described in Attachment L - Design Contract Requirements for EchoWater Projects. Minimum expected level of design development at the time of DS2 submittal includes:

- Draft project commissioning and test plans.
- A Project Design Manual shall be prepared, and include updates of information contained in the PDR to conform to the DS2 submittal, and any other DS2 level documentation that is not specifically included in Tasks 2.2.01 through 2.2.11 above.
- Equipment numbering system and related asset management database shall be developed for the project. Database shall include:

    - Master equipment list
    - Equipment maintenance summary spreadsheets
    - Major equipment inventory control list
    - Copy of manufacturer's catalog information for acceptable equipment
- Draft databases (hard copy and electronic files) shall be submitted for:
    - Master equipment list (MEL shall be substantially complete and tag numbers verified at the completion of DS-2.)
    - Equipment maintenance summary spreadsheets
    - Major equipment inventory control list
    - Catalog information from acceptable manufacturers.
- Calculations in accordance with Attachment L – Design Contract Requirements for EchoWater Projects.

Task 2.2.09 DS2 Submittal and Design Review Workshops

DS2 work products shall consist of:

- Contract drawings, compiled into sets on 11" x17" (half size) paper – 8 hard copies and PDF files formatted to print 11" x 17" drawings.
- Complete technical specifications printed on 8-1/2" x 11" paper– 8 hard copies and PDF files.
- BIM and CAD files per Attachment N – Regional San CAD/BIM Standards.
- Clash detection report –electronic file.
- Draft Commissioning Plan –PDF files.
- Project Design Report with calculations – 10 hard copies and PDF files.
- Equipment databases – 1 hard copy and MS Excel or Access files, and PDF files.
- Construction schedule (see specific task).
- Construction cost estimate (see specific task).

Conduct design submittal review workshop during Regional San's review of DS2.

Task 2.2.10 Responses to Review Comments, Validation Workshop

Respond to all review comments from Regional San and PMO in PMWeb. Conduct a design submittal validation workshop to confirm responses to comments and resolve any issues. Refer to Attachment F – Design Consultant Project Management Requirements.

Task 2.2.11 Constructability Review

A constructability review shall be held immediately following DS2 in accordance with the Attachment F - Design Consultant Project Management Requirements. The PMO will

assemble a constructability review team. The Consultant is responsible for preparing the documents for the constructability review, presenting the project to the review team, meetings with the review team, responding to review comments, and incorporating the results of review into the design documents. Consultant shall include adequate time in project schedule to allow for Constructability Review (CR), response to CR team recommendations, and Regional San's disposition of CR recommendations, prior to commencing work on DS3.

Task 2.3 Design Submittal 3 and Bid Documents

This task includes preparation of the third design submittal and bid documents.

Task 2.3.02 Quality Assurance/Quality Control (DS3 Phase)

This task includes labor-hours for all QA/QC activities related to DS3, including the final review of all design phase deliverables either by the Consultant, or by the Consultant in conjunction with Regional San staff in meetings and workshops. Refer to Attachment F – Design Consultant Project Management Requirements for guidance. These labor-hours and associated costs shall be tracked separately in the Consultant's invoice as determined at the beginning of the Project.

Task 2.3.03 Construction Cost Estimate

Consultant shall update the design level construction cost estimate and include it as part of the DS3 submittal. This will be the final estimate prior to issuing the contract documents for bid. Refer to Attachment G – Design Consultant Cost Estimating Guidelines for details regarding construction cost estimating requirements. Consultant will compare the construction cost estimate to the estimate prepared for DS2. If the current estimate exceeds the latest baseline estimate, the Consultant shall identify the reasons for differences and identify corrective actions to align the newest estimate with the baseline. The Consultant shall particularly note the change in contingency percentages at various stages of design. Unless there is a Regional San-approved change in Project scope establishing a new baseline, the baseline estimate will not be changed. Submit electronic files.

Task 2.3.04 Construction Schedule

The Consultant shall provide a final DS3 construction schedule based on the bid documents. This schedule shall be the basis for the contract durations and milestones. The Consultant shall incorporate any comments to the DS2 construction schedule made by the PMO and update the construction schedule to reflect any changes since the DS2 submittal. This schedule submittal shall also incorporate any comments from the constructability review. Similar to the DS2 schedule submittal, the DS3 construction schedule should provide additional detail consistent with the further design definition and update the durations, sequencing, tie-ins, and milestones based on the further development of the project design. A detailed startup, commissioning and testing plan should be included. The

3D model detail should be expanded for consistency with the expanded DS3 construction schedule and estimate. The schedule narrative shall also be updated and expanded with a clear explanation of the construction plan, noting critical sections of work, coordination with other projects and Regional San shutdown or tie-in requirements. The updated schedule shall be submitted as part of the DS3 submittal package. Submit the updated electronic file P6 .xer and a PDF file.

The final construction schedule will be made available to bidders in pdf format during the bid period.

Task 2.3.06 Drawings and Design Development

The Consultant shall prepare DS3 submittal in accordance with Attachment L - Design Contract Requirements for EchoWater Projects and Attachment N - CAD/BIM Standards. CAD/BIM models must be used to generate plan and sections for printing. Consultant's work breakdown structure and budget for the drawing preparation effort shall include subtasks for tracking of progress and costs. Breakdown shall be by process and then discipline or by discipline and then process.

DS3 shall be delivered when the drawings and specifications are 100 percent complete, fully checked by the Consultant, and assembled into printed packages, as they will be distributed to bidders. No new drawings and/or specification sections by the Consultant shall be expected after this stage. All Regional San comments on the previous submittal shall have been resolved, addressed and/or incorporated in this submittal. The only additional effort is Regional San final review of the documents after comments are incorporated.

The check performed by the Consultant shall include a review of all deliverables at the discipline level and a comprehensive inter-discipline review of all deliverables to ensure that every document is consistent with all other documents. The Consultant shall incorporate corrections into the project deliverables prior to DS3.

A copy of the comprehensive inter-discipline review comments with the Consultant's detailed responses written next to each respective checker's comments shall be submitted to Regional San along with DS3. A typical mechanical process and electrical/ instrumentation/control cross-check shall compare the P&IDs, singe-line diagrams, elementary diagrams, input/output (I/O) schedules or lists, control system and communications schematic, communications plan, control strategy, plans, schedules, and specifications so that each instance of a loop tag number will be consistent between documents, motor horsepower match, and all equipment is identified in each location.

The electrical calculations and other discipline calculations and databases, construction cost estimates, schedules, and other project support documentation shall reflect the status of the final drawings and detailed specifications and shall support the DS3 workshops.

Task 2.3.07 Specifications

The Consultant shall incorporate Regional San comments on the draft specifications into a final set of project specifications. Finalize and review the list of approved equipment within the specifications.

Task 2.3.08 Design Related Documents

Under this task, the Consultant shall develop all parts of the DS3/Bid Document submittal which are not specifically identified under other DS3/Bid Document tasks including, but not limited to, the documents described in the Design Contract Requirements. Minimum expected level of design development at the time of DS3/Bid Document submittal includes:

- Project Commissioning and Test Plans in accordance with Attachment I – Commissioning Plan Preparation Guide.
- The Project Design Manual shall be finalized to conform with the DS3/Bid Document submittal.
- Complete and final equipment databases (hard copy and electronic files) shall be submitted for:
    - Master equipment list of both new and decommissioned assets (submitted with all tag numbers for verification by the District at least one month prior to DS3 submittal)
    - Equipment maintenance and spare parts summary spreadsheets
    - Major equipment inventory control list
    - All catalog information from manufacturers listed in the specifications.

Task 2.3.09 DS3 Submittal and Design Review Workshops

DS3 work products shall consist of the following:

- Contract drawings, compiled into sets on 11” x17” (half size) paper – 8 hard copies and PDF files formatted to print 11” x 17” drawings.
- Complete specifications including front-end, technical sections and appendices printed on 8-1/2” x 11” paper – 8 hard copies and PDF files.
- BIM and CAD files per Attachment N – Regional San CAD/BIM Standards.
- Clash detection report–electronic file.
- Project test plans –PDF files.
- Project Design Report – 8 hard copies and PDF files.
- Equipment databases – MS Excel or Access files, and PDF files.
- Construction schedule (see specific task).
- Construction cost estimate (see specific task).

- All design phase calculations, assembled, logged, and QC'd. Stamped final calculations and computer output – five hard copies and PDF files. Refer to Attachment L – Design Contract Requirements for EchoWater Projects.

Conduct design submittal review workshop during Regional San's review of DS3.

Task 2.3.10 Responses to Review Comments and Validation Workshop

Consultant shall respond to all review comments from Regional San and PMO in PMWeb. Conduct a design submittal validation workshop to review responses to comments and resolve any issues. Refer to Attachment F – Design Consultant Project Management Requirements.

Task 2.3.11 Bid Set Submittal

The Consultant shall prepare a check set of the bid documents for final review by Regional San and confirmation that all comments have been addressed satisfactorily. After review of the check set and response to any final comments, the Consultant shall furnish the bid documents for advertising. Regional San will advertise for bids and distribute the bid documents.

Final Check Set

Once all revisions have been made to DS3 documents, three complete printed copies of these documents shall be submitted to Regional San PM for a final review. The final check set shall include finished, checked and complete drawings and specifications and other documents that incorporate all Regional San comments from previous submittals, workshops and the constructability review as appropriate.

Prior to submittal of the final check set, the Consultant shall have performed an interdisciplinary cross-check and clash detection of the design changes made after DS3 and corrected the related discrepancies. The Consultant shall not add any new drawings or make any changes to the plans or specifications that are not a result of comments received from Regional San or the final in-house QC check, or to resolve a problem needing correction that was not previously known. Any such changes shall be identified so that Regional San can review them. The Consultant shall document in-house changes and submit them to Regional San along with the final check set.

Models are to be clash free. All plans and sections shown on drawings must be generated from the models. The models will be made available to the selected contractor for use after award. The models will be provided to bidders during the bid phase with the appropriate use limitations (the models are not for bidding purposes).

All contract documents shall be stamped and signed by a licensed engineer in the State of California.

The final check set of the contract documents shall be in the exact form as intended to be sent to bidders for preparation of bids. Hard copies shall be half size (11" x 17") and the specifications, test plans, and other documents in shall be printed on 8-1/2" x 11" paper. Electronic files shall be PDF. The PM will review the final Check Set documents and notify the Consultant within 5 working days of any comments.

Consultant shall attend and participate in the Design Workshop (final design acceptance) at completion of the design phase, and shall assist Regional San's PM in preparing presentation material and pre-meeting handouts for this meeting, including briefing on outcome of design phase, updates to project schedule and budget, Risk Management matrix, and updates to project team. Refer to Attachment F- Design Consultant Project Management Requirements. The Consultant shall include adequate time in the project schedule to resolve any issues discussed in this Workshop before the final design is scheduled for approval to bid by the Regional San Board of Directors (Board).

Bid Documents

The selected Consultant shall respond to and resolve any final comments from Regional San and update the contract documents accordingly. The Board will authorize advertising for bids. The final bid documents shall be complete and ready in electronic form a minimum of 7 calendar days prior to the Board meeting. Five working days prior to the day bids are advertised to the public, the following documents shall be delivered:

- Stamped and signed bid sets of drawings and specifications – five hard copies with half-size drawings.
- Final construction schedule – electronic copy
- Final construction cost estimate – electronic copy
- Equipment databases – One hard copy.
- Electronic files of all deliverables (including models). Consultant shall coordinate with Regional San's PM regarding format and layout electronic media prior to submittal.

PHASE 3 BID AND AWARD

Phase 3 – Bid and Award consists of four main tasks:

- Task 3.1 – Respond to Bidders' Questions
- Task 3.2 – Attend Pre-Bid Meeting
- Task 3.3 – Prepare Addenda
- Task 3.4 – Prepare Conformed Documents

The Consultant shall assist Regional San during the bid and award phase of the Project. The Consultant shall provide the following bid period services:

Task 3.2 Respond to Bidders' Questions

PMO will take the lead in responding to bidders' questions. Consultant shall provide responses to bidders' questions delegated by the PMO. Consultant shall also participate in the evaluation of the submitted bids, furnish consultation and advice to PMO staff and assist with all the related equipment, cost, and other analyses as required to finalize the award decision. Consultant shall lead the review of the Contractor's requests for substitution in collaboration with the PMO.

Task 3.3 Attend Pre-Bid Meeting

The PMO will lead the pre-bid meeting and the Consultant will participate by contributing materials and information for the presentation, contributing to the site walk, responding to certain questions and preparing information materials for attendees. Consultant shall prepare the meeting minutes.

Task 3.4 Prepare Addenda

During the bid period, the Consultant shall prepare addenda to provide clarification and resolve errors and omissions identified prior to bid opening. Consultant shall update estimate of probable construction cost to account for addenda changes. Each addendum shall include:

- Narrative description of changes
- Revised or new drawings as needed
- Revised or new specification sections as needed

Addenda deliverables shall consist of five hard copies and PDF files.

Task 3.5 Prepare Conformed Documents

The bid set of contract documents shall be updated by incorporating all addenda items issued during the bid period. No other changes to the contract documents shall be made.

Within 15 working days after the bid opening date, all addenda shall be incorporated, and one complete set of conformed contract documents in PDF format shall be submitted to the PM for a final review. The set shall be in the exact form as intended to be sent to the printers for reproduction of the conformed sets. The PM will notify the Consultant within 5 working days of any comments.

Submit the following:

- Conformed contract documents – 12 hard copies (half-size drawings), one full-size set of drawings, MS Word, Excel and Access files, and PDF files formatted to print 11" x 17" drawings.
- BIM and CAD files per Attachment N – Regional San CAD/BIM Standards.
- Any final calculations that have been modified subsequent to the DS3 submittal shall be resubmitted as stamped final calculations and computer output – five hard copies and PDF files. Refer to Attachment L – Design Contract Requirements for EchoWater Projects.

PHASE 4 CONSTRUCTION (FUTURE TASK)

Construction phase services including on-site support will be scoped and included by future contract amendment once Phase 2 – Design is complete.

Regional San will administer and provide field inspection for construction contracts. Construction support services shall be provided by the Consultant as requested by Regional San.

For purposes of the proposal, the Consultant shall identify the staff that will participate during the construction phase. It is anticipated that the Consultant shall assign at least one person familiar with the design to be co-located with the PMO onsite for the duration of construction.

PHASE 5 COMMISSIONING (FUTURE TASK)

Commissioning services will be scoped and included by future contract amendment once Phase 2 – Design is complete.

The Consultant shall provide commissioning services as requested by Regional San and assign a commissioning leader.

PHASE 6 CLOSEOUT (FUTURE TASK)

The Consultant shall provide assistance during the closeout phase to support project acceptance and financial closeout. This task will be scoped and included by future contract amendment once Phase 2 – Design is complete.

PHASE S SPECIAL SERVICES

Phase S includes optional services or tasks that may be required for the project. There are no special services identified for this scope at this time.

VII. ORGANIZATION AND CONTENT OF THE PROPOSAL

Table VII-1 lists the contents of the proposal by section. Sections 2 through 8 of the proposal shall not exceed 30 pages in length and the cover letter shall not exceed two pages. Use 12-point Times New Roman font for main body text. Other sections have no page limitations and must be limited to the contents listed. Up to six 11" x 17" pages within Sections 2 through 8 will be counted as single pages when used to display figures and tables that do not fit on a standard page; additional 11" x 17" pages will be counted as two pages each.

Table VII-1 Proposal Contents

Section	Contents
Cover Letter	Transmittal
1	Identification of Proposer
2	Project Overview
3	Project Approach
4	Management Approach
5	Capabilities, Tools, and Processes
6	Staffing and Production Capabilities
7	Staff Qualifications
8	Related Project Experience
9	Project Schedule
10	Conflicts of Interest
11	Proprietary Information
12	Indemnification
13	Insurance
14	Employment Practices
15	Fee Estimate[a]
16	Exceptions to Contract Terms and Conditions
A	Resumes of Key Staff
B	Description of Project Deliverables

[a]The fee estimate shall be provided in a separate envelope.

SECTION 1 IDENTIFICATION OF PROPOSER

The proposal shall include the names, offices, addresses, and phone numbers of key Consultant and key subconsultant staff that are proposed to be involved in the Project. The proposer shall identify in which office(s) the production will occur.

SECTION 2 PROJECT OVERVIEW

The proposal shall include a description of the Consultant's understanding of the Project including the Project's background, purpose, main issues, and interrelationship with other Regional San projects. The Consultant also shall demonstrate an understanding of Regional San's goals and objectives as related to the Project. The proposal shall include a statement acknowledging the Scope of Work, including Consultant's recommended enhancements to the scope, consistent with the Consultant's project approach (Section 3). To demonstrate an understanding of the Scope of Work, the Consultant shall develop an outline description of project deliverables and include it as an appendix to the proposal. As a minimum, this outline should include proposed technical memoranda, report deliverables, and a preliminary list of drawings. The lists of deliverables and drawings are to be appended to the proposal and will not be counted in the page limit.

SECTION 3 PROJECT APPROACH

Consultant/Proposer will provide a detailed description of the proposed approach to the Project. The description shall include details to implement the tasks described in the Scope of Work and any recommended revisions or additions to the list of tasks. The Consultant is encouraged to provide comments and enhancements to the scope provided in the RFP. As an example, many BCEs and modeling efforts were described in the scope. In developing the approach, the Consultant/Proposer will likely recommend additional BCEs and alternatives along with the value added by these BCEs. Conversely, the Consultant/Proposer may recommend value in eliminating some of the BCEs and modeling efforts described in the RFP.

The proposal shall describe the Project's technical challenges and the Consultant's approach to handling said issues. The Consultant shall explain how technical memoranda, workshops, and/or design review meetings will be used, working with the framework of the Scope of Work, to achieve consensus in design details while incorporating Regional San's design guidelines into the Project. Emphasis should be placed on how the Consultant's technical approach will promote the Project's success, cost containment, coordination, and schedule compliance. The Consultant's approach to construction support services should be included in this section.

SECTION 4 MANAGEMENT APPROACH

The proposal shall present the Consultant's management approach, including management organization, coordination and monitoring of project schedule, cost, risk, scope,

communications, quality, resources, and other management issues that the Consultant feels should be addressed. Emphasis should be placed on how the Consultant's management approach will promote the Project's success and schedule compliance.

The proposal shall describe the Consultant's approach to managing the design review meetings, organizing the constructability workshop, and involving stakeholders in focus meetings and workshops. The Consultant's approach to quality control and assurance in the preparation of construction documents shall be clearly described in this section.

Finally, describe the Consultant's approach for successful collaboration and coordination with Regional San, PMO and other design consultants.

SECTION 5 RESOURCES, TOOLS, AND PROCESSES

The Consultant shall highlight resources, tools, and processes that will be used to obtain and manage resources, partner with Regional San and PMO staff, meet BIM requirements, conduct design engineering, and produce drawings and specifications on schedule and on budget. Tools may include capabilities for coordination, communication, automatic checking, and design drawing management. Proposers should highlight items that may have been developed on other projects as well as items to be developed specifically for the Project.

SECTION 6 STAFFING

The proposal shall include a Team Member Organizational Chart clearly identifying the key individuals assigned to the project and each person's proposed position, responsibility, availability and location. The proposal also shall also clearly indicate who will be in responsible charge of the Project.

The proposal shall include an estimate of labor-hours to conduct and complete each task of the Scope of Work through Phase 3 – Bid and Award, broken out by each Consultant labor classification that will be assigned to the Project. A matrix format showing hours per personnel classification (management, engineering, technical, drafting, and support personnel) for each task shall be used. A Sample Labor Hour Matrix is provided in Attachment J. Consultant may use its own matrix providing it includes all of the requested information. A list of drawings is required and may be included as an appendix.

SECTION 7 STAFF QUALIFICATIONS

The proposal shall include a biography of key individuals proposed to be assigned to the project including, but not limited to, management staff and discipline leaders. Special emphasis shall be provided on the individual's background, qualifications, certifications, experience on related and/or similar projects, and the location from where each person's work will be performed.

At least three client references, including name, description of past working relationship, and current contact information, shall be listed for each key individual who is proposed in the organizational chart. Identify proposed key staff who will be assigned to the Project for construction support, to be negotiated at a later date.

Firm affiliation and professional engineering licenses, including discipline and state of licensure, shall be designated for each individual. Full resumes, sorted first by firm, then by last name, shall be included as an appendix to the proposal.

SECTION 8 RELATED PROJECT EXPERIENCE

The proposal shall include profiles of similar projects for which the firm(s) and proposed team members have completed design in the last 10 years including project name, date, description and capacity of project, location, design and construction cost, and client reference including phone number. The firm's role in the project (prime consultant, subconsultant, etc.) should also be described together with the general scope of services (preliminary design, design, construction management, etc.). For each project, indicate which proposed team members worked on the project and describe the role/work they performed and their level of involvement.

SECTION 9 PROJECT SCHEDULE

The Consultant shall confirm that the work can be done within the schedule planned by Regional San using the resources proposed by the Consultant, as well as describe how the proposed staff will meet the resource requirements of the project. The Consultant shall prepare a schedule showing all major project tasks (integrated with Regional San's WBS) and milestones required to complete all work through Phase 6 (i.e., from Final BODR through closeout). Regional San's project WBS is listed in Attachment J - Sample Labor Hour Matrix. Consultant also shall be prepared to present a resource-loaded schedule during the interview. Consultant may use Primavera, Microsoft Project, or other software of choice for presentation in the proposal and for the interview. However, the selected Consultant shall make all progress submittals to the PMO in Primavera P6 format.

SECTION 10 CONFLICTS OF INTEREST

Consultant and Consultant's officers and employees shall not have a financial interest, or acquire any financial interest, direct or indirect, in any business, property or source of income which could be financially affected by or otherwise conflict in any manner or degree with the performance of services required under this Agreement. If a firm has no conflicts of interest, a statement to that effect shall be included in the proposal (complete the Conflict of Interest Non-Collusion Affidavit Form-Attachment N).

SECTION 11 PROPRIETARY INFORMATION

Any information submitted in a proposal to this RFP which the proposer considers proprietary must be identified as such and must include the description of the legal basis for a claim of confidentiality. Regional San will not assert the confidentiality of such information unless the proposer executes and submits a written agreement prepared by Regional San to defend and indemnify Regional San for any liability, costs and expenses incurred in asserting such confidentiality as part of the proposal. The final determination as to whether or not Regional San will assert the claim of confidentiality on behalf of the proposer is in the sole discretion of Regional San.

SECTION 13 INSURANCE

Provide a summary of each Consultant firm's present and proposed insurance coverage, including commercial general liability, automobile liability, workers' compensation, property damage, employer's liability, and professional liability or errors and omissions liability for the duration of the project showing compliance with the insurance requirements identified in Attachment K -Regional San Sample Agreement.

SECTION 14 EMPLOYMENT PRACTICES

Provide a summary of your firm's employment policies and procedures, including any equal employment opportunity and affirmative action policies. Also, include a brief summary outlining the present composition of your work force.

SECTION 15 COST PROPOSAL

A cost proposal for the project shall be provided in a separate sealed envelope. The envelope for the selected firm will be opened for the purpose of negotiating a contract through bid phase services. The envelopes for the firms not selected will be returned unopened after contract negotiations are complete.

Compensation will be on a time-and-materials basis, with not to exceed the authorized amount. Include the following information:

- Hourly rates for those staff to be billed to the project.
- Estimated labor hours and fee by task.
- Types and estimated amount of direct (non-labor) costs to be billed to the project.
- Adjustments in rates predicted to occur during the project. For budgeting purposes, a maximum direct salary escalation rate of 3 percent per year should be assumed and will be discussed during fee negotiations.
- Direct labor multiplier. A maximum 3.0 multiplier on base direct salary is permitted. For high salaried employees, a cap will be applied by Regional San.

- Subconsultant costs. A maximum markup of 5 percent is permitted.
- Other direct costs (ODCs) except as noted below.
- Regional San understands some staff may need to relocate permanently to the Sacramento area. Regional San will offset temporarily the relocation costs of up to two key staff only. Key staff is considered to be the Project Manager and the Design Manager. The cost offset period will be a maximum of 3 months to allow these staff to find permanent housing. Lodging, meals, and travel during this 3-month period shall be reimbursed as follows:
    - Per Diem for lodging (equal to the federal standard CONUS per diem rate for Sacramento County at the time of contract negotiation) will be reimbursed for each work night, up to five (5) nights per week.
    - Per Diem for meals and incidentals (equal to the federal standard CONUS per diem rate for Sacramento County at the time of contract negotiation) will be reimbursed for each work day, up to five (5) days per week.
    - Airfare and local and home transportation costs will be reimbursed at cost. Monthly lease or rental car rates for key staff shall not exceed $750 per month.
    - Mileage will be reimbursed at the current IRS rate which can be accessed by clicking the following link: https://www.irs.gov/newsroom/irs-issues-standard-mileage-rates-for-2020

The Consultant shall identify key staff requiring relocation as part of his proposal.

SECTION 16 DEPARTMENT OF INDUSTRIAL RELATIONS COMPLIANCE

Consultants must note within their proposal, valid Department of Industrial Relations (DIR) registration numbers for consultant's personnel and sub-consultants performing public works tasks.

- If applicable to work contemplated under the proposed Agreement, no contractor or subcontractor may be listed on a bid proposal for a public works project (submitted on or after March 1, 2015) unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5 [with limited exceptions from this requirement for bid purposes only under Labor Code section 1771.1(a)].

- If applicable to work contemplated under the proposed Agreement, no contractor or subcontractor may be awarded a contract for public work on a public works project (awarded on or after April 1, 2015) unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5.

- If applicable to work contemplated under the proposed Agreement, this project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.

- Labor Compliance Program: The County of Sacramento received final approval from the Director of California Department of Industrial Relations as a Labor Compliance Program effective March 15, 1994. All questions regarding this Labor Compliance Program and prevailing wage requirements should be directed to the Labor Compliance Section at (916) 875-2711. In accordance with Section 1771.5 of the California Labor Code, the payment of the general prevailing rate of per diem wages or the general prevailing rate of per diem wages for holiday and overtime is not required for any public works project of twenty-five thousand dollars ($25,000) or less when the project is for construction work, or for any public works project of fifteen thousand dollars ($15,000) or less when the project is for alteration, demolition, repair, or maintenance work.

- This is a contracting services project in accordance with Section 1771.5 of the California Labor Code.

- Pursuant to California Labor Code Section 1720 and following, and Section 1770 and following, the CONTRACTOR shall pay not less than the prevailing rate of per diem wages as determined by the Director of the California Department of Industrial Relations. Copies of the prevailing wage determinations are on file at the office of the County of Sacramento Labor Compliance Program, 9700 Goethe Road, Suite D, Sacramento, CA 95827, and are also available on the internet at http://www.dir.ca.gov/DLSR/PWD.

SECTION 17 EXCEPTIONS TO CONTRACT TERMS AND CONDITIONS.

Provide a list of any exceptions to contract terms and conditions (see Attachment K – Regional San Sample Agreement) which the Consultant will seek from the contract language.

VIII. PROCUREMENT SCHEDULE

Regional San has established the following tentative schedule for the selection process:

Advertise Request for Proposal	July 22, 2020
Pre-Proposal Meeting (Individual pre-proposal meetings with consultants)	August 5-7, 2020
Deadline to Submit Questions	August 14, 2020
Deadline to Submit Proposals	August 28, 2020
Shortlist	September 3, 2020
Interviews Dates Reserved (If Needed)	September 17-18, 2020
Selection Notification	September 21, 2020
Complete Contract Negotiations	October 7, 2020
Board Approval of Agreement	November 18, 2020
Notice to Proceed (NTP)	December 7, 2020

IX. PRE-PROPOSAL MEETINGS

Prospective consultants or consultant teams may request one private meeting with Regional San after the RFP is issued and prior to the proposal due date. Meetings may be scheduled from August 5-7, 2020 for up to one hour. Contact Scott Mueller, PMO project manager, at 916-876-6399 or muellers@sacsewer.com. Regional San's selection committee will attend the meeting with the exception of any outside-agency member(s).

Generally, any information and/or questions raised during these individual meetings will be kept private; however, Regional San may determine that some information be summarized and shared with all proposers.

X. SUBMITTAL INSTRUCTIONS

Please submit six (6) hardcopies and one PDF on CD or Flash Drive as follows:

Due Date: ***August 28, 2020*** **by 3:00 p.m.**
Deliver to: EchoWater Project
SRWTP Administration Building
8521 Laguna Station Road
Elk Grove, CA 95758
Attn: Scott Mueller, PMO Project Manager

XI. EVALUATION AND SELECTION CRITERIA

A technical review panel composed of Regional San staff and outside representative(s) will evaluate and rate each proposal on the following criteria:

Criteria	Weight	Scores[a]	Weighted Scores[b]
Project approach	30%		
Management approach	15%		
Resources, tools, and processes	10%		
Staffing, staff qualifications, and related project experience	20%		
Interview[c]	25%		

[a] Each criterion will be assigned a score of 1 to 100.
[b] Scores will be multiplied by the weights and totaled to yield the total points on the proposal and interview. Maximum total points is 100.
[c] If no interviews are conducted, the total score would be on a scale of 1 to 75 instead of 1 to 100.

Interview invitations may be sent to a short-list of firms. Presentations at the oral interviews shall be made by those individuals who will actually be assigned to the project. Regional San may also elect not to perform interviews if it determines they are not necessary to make a consultant selection.

A final recommendation will be made by the selection panel based on the technical review and evaluation of the proposal and interview (if required). Final negotiations as to scope and cost through bid phase will take place after selection of the firm. The selection of the Consultant and the negotiated contract will be presented to Regional San Board of Directors for approval.

An award of contract will be made to the consultant who provides the best overall response to the requirements of this RFP. Regional San may select whichever proposal it determines will best serve its interests. The successful Consultant will be selected in accordance with the proposal evaluation criteria identified above. Selection will be made approximately on September 21, 2020, subject to final approval by Regional San Board of Directors. Written notification of the outcome of the selection process will be mailed to all Consultants who submit a proposal.

<u>Proposals submitted without required documents, or late, may be considered nonresponsive and rejected.</u>

Regional San is prohibited from awarding this Contract to any person, entity or business that is on the Federal Exclusion List (https://www.sam.gov/). If you or your firm is on this list, and/or debarred, suspended, or otherwise excluded from or ineligible for participation in federal, State or county government contracts, Regional San cannot award this contract to you and you should not respond to this RFP. In addition, Consultant certifies that it shall not contract with a subcontractor that is so debarred or suspended.

Regional San reserves the right:

- **To reject any or all Proposals, or any part thereof; and**
- **To select more than one consultant; and**
- **To waive any informality in the Proposal; and**
- **To accept the Proposal that is in the best interest of the Regional San.**

Regional San's decision will be final.

XII. SOLICITATION OF SUBCONSULTANTS, SUBCONTRACTORS, OTHER SERVICE PROVIDERS AND SUPPLIERS

If the prime Consultant intends to solicit sub-proposals and/or quotes for certain tasks on this project from qualified subconsultants, subcontractors, other service providers and suppliers, the prime Consultant shall not illegally discriminate in the solicitation process. Substitution of any subconsultants, subcontractors, other service providers and suppliers identified in the agreement shall not be made without the written consent of Regional San.

XIII. TERMS AND CONDITIONS

A. QUESTIONS REGARDING THE RFP

Proposers are responsible for reviewing all portions of this RFP and attachments. Proposers are encouraged to submit questions regarding the scope and requirements of the RFP. All requests for information concerning the RFP must be in writing and directed to Scott Mueller, PMO Project Manager (muellers@sacsewer.com) on or before 3:00 PM on August 14, 2020. All inquiries should include the name of the RFP. Modifications and clarifications will be made by addenda as specified in this RFP. Regional San is not obligated to issue addenda in response to any request submitted after the deadline.

If any new or substantive information is provided in response to questions, addenda will be issued and posted on Regional San's website at http://www.regionalsan.com/echowater-project-opportunities.

B. INTERPRETATION AND ADDENDA

The Proposer will be responsible for ensuring that its proposal reflects any and all addenda posted by Regional San prior to the proposal due date regardless of when the proposal is

submitted. Regional San recommends that the Proposer check Regional San's web page before submitting its proposal to determine if the Proposer has read all posted addenda. Regional San will not be responsible for any other explanation or interpretation.

C. REVISION OF PROPOSAL

A Proposer may withdraw or revise a proposal on the Proposer's own initiative at any time before the deadline for submission of proposals. The Proposer must submit the revised proposal in the same manner as the original proposal. A revised proposal must be received on or before the proposal due date. In no case will a statement of intent to submit a revised proposal extend the proposal due date for any Proposer. At any time during the proposal evaluation process, Regional San may require a Proposer to provide oral or written clarification of its proposal.

D. ERRORS AND OMISSIONS IN PROPOSAL

Failure by Regional San to object to an error, omission, or deviation in the proposal will in no way modify the RFP or excuse the Proposer from full compliance with the specifications of the RFP or any Agreement awarded pursuant to the RFP.

E. OBJECTIONS TO RFP TERMS

Should a Proposer object on any ground to any provision or legal requirement set forth in this RFP, the Proposer must, not more than 10 calendar days after the RFP is issued, provide written notice to Regional San setting forth with specificity the grounds for the objection. The failure of a Proposer to object in the manner set forth in this paragraph will constitute a complete and irrevocable waiver of any such objection.

IRAN CONTRACTING ACT DISCLOSURE

Pursuant to the Iran Contract Act of 2010 (California Public Contract Code, Sections 2202-2208), consultants are ineligible to submit a proposal for projects with a public entity for goods or services of one million dollars ($1,000,000) or more if the consultant engages in investment activities in Iran.

The top ranked consultant must provide the attached disclosure form as a mandatory submittal for all projects in excess of $1,000,000. The Iran Contracting Act Disclosure Form, incorporated into this RFP package as Attachment O, shall be completed and submitted by the top ranked candidate upon notice of Regional San's notice of intent to award.

XV. ATTACHMENTS

A. Draft Diurnal Flow Equalization Business Case Evaluation
B. Jacobs Memorandum – Carbonaceous Oxygen Tanks Conversion to Primary Effluent Equalization Preliminary Design Memo
C. District Leadership Memorandum – CO Tanks – Conversion to Primary Effluent Equalization
D. Regional San Project CAD/BIM Standards
E. Design Guidelines
F. Design Consultant Project Management Requirements
G. Design Consultant Cost Estimating Guidelines
H. BCE Guidance
I. Commissioning Plan Preparation Guide
J. Sample Labor Hour Matrix
K. Sample Agreement
L. Design Contract Requirements for EchoWater Project
M. Exhibit of CAA Piping to be Decommissioned in the Tunnels
N. Conflict of Interest and Non-Collusion Affidavit
O. Iran Contracting Act Disclosure Form

Other information available on request.

- South and North CO Tank Condition Assessment information (performed in 2007, 2009 Respectively)