Request for Proposal
To Provide
Engineering Services
For
ECHOWATER PROJECT
NITRIFYING SIDESTREAM TREATMENT

December 2013
Sacramento Regional County Sanitation District  
Request for Proposal  
EchoWater Project  
Nitrifying Sidestream Treatment Project  

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I. PREAMBLE

The Sacramento Regional County Sanitation District (District or SRCSD) seeks the services of a consulting engineering firm or team (Consultant) for design and support during construction of the Nitrifying Sidestream Treatment (NST) Project (Project). This Request for Proposal (RFP) includes the information needed for proposal preparation and includes various attachments associated with proposal preparation and contractual requirements, including a District sample Agreement, sample Labor Hour Matrix, and draft Basis of Design Report (BODR). The RFP and all attachments describing the scope requirements for the Project are also posted on the District’s website (http://www.srcsd.com/business-opportunities.php).

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 the District, a County District created under and operating pursuant to the California Health & Safety Code. 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 gaseous chlorine, and dechlorination using sulfur dioxide gas. 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).

The Central Valley Regional Water Quality Control Board (RWQCB, Regional Board) adopted new waste discharge requirements for the SRWTP on December 9, 2010. These new discharge requirements are included in Order No. R5-2010-0114, National Pollutant Discharge Elimination System (NPDES) Permit No. CA0077682 (as amended by Order R5-2011-0083 in December 2011 and State Water Resources Control Board Order WQ 2012-0013 in December 2012). While the new permit does not increase permitted treatment capacity, it incorporates stricter discharge requirements that the existing processes are not capable of meeting.

The District has created the Program Management Office (PMO) which is comprised of District and program management consultant staffs that will plan, organize, and manage the EchoWater Project to comply with the new NPDES permit requirements. The PMO has developed the draft Nitrifying Sidestream Treatment (NST) Project Basis of Design Report (BODR), and updated District standards for design and construction.

The NST is one of the required projects within the EchoWater Project. The NST project will include the construction of an influent pumping station and diversion structure, sequencing batch reactor tanks, equalization basin, effluent pumping station, electrical building, and lime storage and feed facilities. Construction of additional facilities
including the settling tank, screens, and Ferric Chloride Storage and Feed Facilities is to be determined by the selected designer during preliminary design.

III. PROJECT APPROACH

The PMO will manage the various projects that comprise the program and provide review and input to the design documents, assess design progress, confirm compatibility with basis of design, and coordinate activities between various design consultants. The NST Project Team will be composed of the Consultant, members of District Engineering, SRWTP Operations and Maintenance (O&M), and the PMO.

All EchoWater 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 shall provide engineering services for all six project phases; however, the scope of this RFP only covers Phase 1 through Phase 3 services. Phases 4 through 6 will be covered under a future contract or amendment. During the construction phase, the Consultant will review and respond to requests for information (RFIs), review shop drawings and submittals, assist the PMO with review of change orders, and provide other construction support services to be defined as part of the future amendment. This amendment will also specify the services to be provided by the Consultant during the commissioning and closeout phases of the Project.

The project elements for the NST Facility must be coordinated with treatment processes being developed by other designers. In particular, the other projects relevant to NST facilities include the biological nutrient removal (BNR), primary effluent pumping station (PEPS), site preparation (SP), disinfection chemical storage (DCS) and flow equalization (FEQ) projects.

IV. PROJECT DESCRIPTION

The principal elements of the Project are listed below. An overall plan of all program projects, a site plan of the NST Facility, and all unit processes and equipment are described in more detail in Attachment A – NST Facility Draft BODR

**Structures and Buildings**

- Lime Storage and Feed
- Influent Diversion Structure and Pumping Station
• Settling Tank and Settled Sludge Pumping (Preliminary Design only)
• Fine Screening (Preliminary Design only)
• Nitrifying Sequencing Batch Reactor Basins
• Aeration Blowers
• Equalization Basins
• Effluent Pumping Station
• Electrical Building and Transformer Yard
• Ferric Chloride Storage and Feed (Preliminary Design only)
• Structure/Building HVAC and Plumbing

**Electrical Power**

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

• Coordination with Main Electrical Substation Expansion project
• Electrical equipment (switchgear, motor control centers, transformers)
• Site and building/structure power distribution including wiring, ductbanks and conduit
• Electrical building and transformer yard
• Site and structure/building lighting and devices

**Instrumentation and Control**

The existing PCCS consists of 10 Emerson Ovation redundant distributed control units (DCUs) geographically dispersed throughout the plant. The PCCS controls multiple processes, and has several servers, engineering and administration workstations, and operations and programming workstations. The plant-wide fiber optic networks will be extended from ACC-12 fiber optic patch panels to fiber optic patch panels located at the NST CS Room in the Electrical Building. The PCCS implemented for monitoring and controlling the NST equipment and processes will include an Emerson Ovation control system for HMI and supervisory control functions and Allen-Bradley ControlLogix PLCs for equipment control functions (referred to as regulatory control). No field I/O will be connected directly to the Ovation controllers; it will all be connected to PLCs.

There are four physically separate networks: redundant PCCS network for Emerson Ovation traffic, redundant Maintenance networks for PLC and maintenance (power quality monitoring) traffic, non-redundant MIS network, and non-redundant for the plant-wide PA system. The redundant PLC fiber-optic networks will be installed to connect all of the PLCs (Area PLCs as well as Subsystem (vendor supplied PLCs) together into an
integrated plant-wide PLC network. Process control data is routed between the PCCS and PLC networks at the NST Control System (CS) Room.

The NST CS Room will be sized to contain a network rack with all network switches for NST communications, the Emerson Ovation control panel, all Area PLC control panels (and non-skid mounted subsystem PLC panels), access control system control panel, and any backup or local CCTV equipment. The NST CS Room shall be a secure area (accessible with access card reader and controlled by the access control system) and physically separated from the electrical room and the Area Control Center (ACC).

Communications between the Emerson Ovation controller and the Allen-Bradley PLC requires two or more Emerson Ovation Ethernet Link Control (ELC) modules located in the Emerson control panel. The Ovation ELC module translates between the ODVA Ethernet/IP protocol and the Emerson Ovation proprietary protocol.

There will be two Emerson Ovation operator workstations in the NST ACC and NST processes will be operated primarily by operators located in the NST ACC and in the existing Plant Control Center (PCC) in the Influent-Effluent Building. The Consultant shall coordinate with the PEPS design engineer, the Disinfection Chemical Storage design engineer, and the District to coordinate control strategies among the three projects.

Fieldbus networks will be used wherever possible. Equipment fieldbus networks among the MCCs, VFDs, and PLCs shall communicate using EtherNet/IP protocol as the preferred protocol and using Open Modbus/TCP protocol where EtherNet/IP is not supported. Instrument fieldbus networks will communicate over Profibus networks and will include communication to all instruments and controlled motorized valve actuators. Hardwired 4-20 mA/HART protocol instruments shall be allowed where no Profibus interface is supported for that type of instrument.

All field devices will interface with the NST redundant PLCs in the CS Room located in the Electrical Building. Instrumentation and control devices of the Project include:

- Primary elements and instruments for control and monitoring
- Instrument wiring, conduit, signal ductbanks and site distribution
- Subsystem control panels (vendor-supplied packages) and Consultant-designed control panels
- Auxiliary systems
- Network communications equipment and cabling
- Process control strategies and control narratives
- Coordination with electrical power distribution and UPS requirements
- Coordination with the District Programming Team that will perform PCCS programming for all program projects
Site Work

Some modification and preparation of the site will be performed prior to commencement of Project construction by SP project and possibly the FEQ project. Elements of site work for this Project include:

- Coordination with SP Project design consultant and District staff
- Earthwork
- Grading and site work
- Paving and striping
- Fence, gates and fence relocation
- Utility relocation
- Yard piping and utility distribution
- Process Piping
- Storm drainage

V. PROJECT SCHEDULE

Time is of the essence for the Project and the Program. The Consultant shall adhere to the dates shown in bold in the following schedule for Phase 1 through Phase 3. The other dates are preferred, but may vary based on the Consultants proposed approach. The Consultant is also encouraged to investigate approaches to expedite the schedule for Phase 3. The PMO will review the approach and schedule. If discrepancies are found, the concerns will be noted and appropriate changes will be required by the Consultant.

<table>
<thead>
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<tr>
<td>Notice to proceed (NTP) – Phases 1-3</td>
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<tr>
<td>Phase 1 - Provide comments on Draft BODR and resolve any issues with District</td>
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<tr>
<th>Duration (Working Days)</th>
<th>Date based on a NTP of 04/02/2014</th>
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<td>03/27/2014</td>
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<td>05/08/2014</td>
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<td>01/08/2015</td>
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<tr>
<td>Major Milestone</td>
<td>Duration (Working Days)</td>
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</tr>
<tr>
<td>Submit Design Submittal #2</td>
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</tr>
<tr>
<td>Submit Design Submittal #3</td>
<td>65</td>
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<tr>
<td>Deliver Bid Documents</td>
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<tr>
<td>Bid Opening</td>
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**Phases 4-6**

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<th>Duration (Working Days)</th>
<th>Date based on a NTP of 04/02/2014</th>
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<td>Phase 4 – Construction Complete (tentative)</td>
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<td>09/06/2017</td>
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<tr>
<td>Phase 5 - Commissioning Complete (tentative)</td>
<td>100</td>
<td>01/24/2018</td>
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<tr>
<td>Phase 6 - Close out (tentative)</td>
<td>30</td>
<td>03/07/2018</td>
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The above schedule takes into account the District review period for each Project submittal. The Consultant’s schedule in the Proposal must include all the major milestones listed above as well as District review periods for major submittals and workshops. Key workshops will be listed in the Consultant’s schedule as well. A review period of 15 working days from submittal of documents to return of comments is required for technical memoranda and 20 days are required for draft PDR and design submittals.

**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); however, only services through the bid and award period (Phases 1-3) will be negotiated at this time. Upon completion of the bid period, the construction, commissioning, and closeout phase services will be negotiated.

The District 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 shall 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 various attachments to this RFP.

In general, the District 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 B - Design Contract Requirements for EchoWater Project, Attachment C - District Project CAD/BIM Standards, and
Attachment D – Design Guidelines. However, there are instances where more design detail is required.

The Consultant is required to use the District’s Program Management Information System for various functions. The system is a web-based program called PMWeb. PMWeb description and functions are defined in Attachment E – Design Consultant Project Management Requirements.

PHASE 1 – PLANNING

This task includes Project Management and BODR confirmation tasks performed during the planning phase of the Project.

Task 1.1 – Project Management (Planning Phase)

Consultant shall control 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.

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

- Project Management Plan.
- Consultant Project Safety Plan. Prepare and submit a project-specific safety plan consistent with Consultant company policy. The plan must incorporate District’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 (PMO PM) to establish common expectations.
- Kickoff meeting for planning and preliminary design phases.
- Progress meetings at the PMO during this phase.
- Support the PMO PM and attend the BODR Gate 2 meeting.
- Other meetings. In addition to specific types of meetings described in the RFP and attachments, Consultant should anticipate participation in management briefings, and other meetings, including coordination meetings with other designers referenced to above, throughout the duration of the Project. Consultant’s proposal should state their assumptions for various meetings based on their management approach.
- Scope, budget and schedule management.
- 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 the District and Consultant. Identify, manage and mitigate Consultant’s project risks.
- CAD/BIM execution plan.
- Management and coordination of subconsultants.
- Management and coordination of Consultant staff.
- Monthly invoicing.
- Monthly earned value analyses and progress reports.

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

**Task 1.2–BODR Review and Confirmation**

Consultant shall perform evaluations and analyses to confirm the major Project design elements outlined in the draft BODR including process type and sizing, general site layout, and connection/interface with other projects. This task will include a review of the BODR and supporting documentation (e.g., technical memoranda [TM}s, etc.) and preparation of BCEs as appropriate, and preparation of any comments and recommended changes that would affect the proposed 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 the District. The Consultant shall validate the BODR as part of the PDR documentation.

Proof of concept study was completed by the District to verify that sidestream can be nitrified at worst case conditions. Monitoring data was also collected for the sidestream to help characterize the waste stream that will be treated. The results of this study and monitoring data are included as an attachment to the BODR. As part of its proposed approach, the Consultant shall comment whether the information provided is sufficient to design the NST facilities or additional testing or studies are warranted for design.

The Consultant shall submit comments to the BODR via PMWeb for District review and response. The comments may include a TM if desired. The Consultant’s budget should include two meetings/workshops to review their comments on the BODR.

The PMO team will finalize the BODR in a close-out memo based on the resolution of Consultant’s comments and suggestions. The Consultant will participate in the Gate 2 workshop when the BODR is completed and shall assist the PMO PM in preparing
presentation material and pre-meeting handouts. The end result of this task will be acceptance of full responsibility for the Project’s design by the Consultant.

Task 1.3 – Reliability Centered Design Workshop 1

Consultant will participate in Reliability Centered Design (RCD) Workshop 1 together with District and PMO staff and District’s RCD Facilitation Consultant. Workshop identifies the process systems and primary system functions requiring RCD. Refer to Attachment F - Reliability Centered Design Implementation Guide.

PHASE 2 – DESIGN

Phase 2 – Design consists of four main tasks:

- Task 2.1 – Preliminary Design Report (PDR)
- Task 2.2 – Design Submittal 1
- Task 2.3 – Design Submittal 2
- Task 2.4 – Design Submittal 3/Bid Documents

The Consultant shall provide engineering services to prepare the PDR and subsequently to develop the design to 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 an up-to-date Comments and Responses Log in electronic format on the PMWeb system for all District comments received as a result of each submittal review. District comments shall be incorporated into the next submittal, as appropriate.

Task 2.1 – Preliminary Design Report

Consultant will define the Project sufficiently to establish clear direction for the subsequent design phases, to estimate construction cost for comparison to District’s Project Budget, and to establish a Preliminary Construction Schedule. The Consultant will prepare a series of TMs culminating in the preparation of a draft and final PDR. As part of the Proposal, Consultant may propose changes to and/or consolidation of TM topics listed in the tasks below. The PDR shall include a summary of the TMs, BCEs, and drawings showing the proposed improvements.

The PDR is an extension of the work done on Attachment A– Nitrifying Sidestream Treatment Project Draft Basis of Design Report.
**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 2.1.01.1 – Project Management**

Consultant shall continue to ensure control of the Project in terms of staffing, budget, schedule and scope, promote communication within the Project Team, and document key decisions and risks.

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

- Bi-weekly (once every two weeks) progress meetings at the PMO.
- Project workshops and focused meetings.
- Other meetings. In addition to specific types of meetings described in the RFP and attachments, Consultant should anticipate participation in management briefings, and other meetings, including coordination meetings with other designers referenced to above, throughout the duration of the Project. Consultant’s proposal should state their assumptions for various meetings based on their management approach.
- Scope, budget and schedule management.
- Interface with PMWeb.
- 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 the District and Consultant. Identify, manage and mitigate Consultant’s Project risks.
- Management and coordination of subconsultants.
- Management and coordination of Consultant staff.
- Monthly invoicing.
- Monthly earned value analyses and progress reports.

Additional detail regarding Project Management requirements is provided in Attachment E – Design Consultant Project Management Requirements.

**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 District is preparing the necessary California Environmental Quality Act (CEQA) documentation for the Program. At the time of this RFP, the CEQA Consultant is preparing the Environmental Impact Report (EIR), with certification of the EIR anticipated in fall 2014.

The Consultant shall assist the District in obtaining permits listed below. This shall include assistance with completing application forms provided by the District, 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 the District. Assume up to four (4) permitting meetings will be required as part of the project with each meeting lasting two (2) hours. Consultant shall also allow time for meetings with the CEQA Consultant.

District staff will execute all applications. All permit fees will be paid directly by the District 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:

- Cosumnes Fire Department

**Task 2.1.01.3 - Risk Management Plan – Design Phase**

The Consultant shall participate in the development of a Risk Management Plan. This participation shall include attendance at one risk management workshop during the preliminary design phase of work to assist the District in identifying and developing mitigations for potential risks to the Project during final design. This workshop is anticipated to last up to four (4) hours. The Consultant should assume 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.

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

The Consultant shall implement a Quality Assurance and Quality Control (QA/QC) Program during the course of executing the scope of work for the NST Project including, at a minimum, the following:

1. Identify the qualified professional person 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 the District.

2. Provide a structured program for quality control (QC) 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 E – Design Consultant Project Management Requirements. The Consultant’s QA/QC Plan will be reviewed and accepted by the PMO 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 their work.
- QC will include discipline QC of all design work, coordination of work between disciplines, coordination between drawings and specifications, and Building Information Modeling (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 reviewer’s names. All submittals shall be checked with a goal of assuring accuracy and consistency.
On a periodic basis, the District may conduct an audit of the Consultant’s work to ensure conformance with the QA/QC Plan. The District will notify the Consultant when these audits will occur. For this Project, an audit will be done before the PDR submittal and after the Design Submittal 2 (DS2) submittal is received. The Consultant shall respond to any District comments made during the audit within two (2) weeks. If comments are extensive, the District will schedule a follow-up audit approximately 60 days after the comments are received.

The District may also make periodic visits to the Consultant’s offices to review the progress of the technical work. These visits may include talking to the Consultant’s personnel, reviewing drawings (both hardcopy and electronic), discussing QA/QC techniques that will be employed by the District in reviewing drawings, and assisting the Consultant’s staff with understanding the Project.

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 District 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 the District, this estimate will be the baseline estimate for the Project as defined by the PDR. Unless there is a District-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 exceed 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. Submit ten (10) hard copies and electronic files.

**Task 2.1.04 – Preliminary Construction Schedule**

The Consultant shall prepare a Preliminary Construction Schedule using Primavera Project Planner (P6) to be submitted with the PDR. The schedule shall be consistent with the milestones presented in Section V. The schedule shall identify a construction sequencing plan, including major construction, testing and commissioning activities. The schedule shall be coordinated with and align with the latest version of the BNR Project schedule. This schedule should be broken down into major work packages and areas. It should be detailed enough to identify major sequencing of work and coordination of points of connection to other areas of work. It should also verify the overall duration and
establish interim milestones. A preliminary schedule narrative should be delivered with this schedule describing the sequencing, constraints and any critical sections of work. Any long-lead procurements shall also be identified at this stage. Submit ten (10) hard copies and native electronic and PDF files.

**Task 2.1.05 – Field Survey**

The District prepared topographic mapping of the site based on aerial photography obtained in spring 2012 (topographic survey is available on request). 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.

**Task 2.1.06 – Geotechnical Services**

Consultant will hire a geotechnical engineer of record for the Project who shall prepare a complete and thorough design-level geotechnical investigation and report. A Preliminary Geotechnical Information Report was prepared for the PMO and is attached to this RFP for information (see Attachment H–Preliminary Geotechnical Information). The following tasks are anticipated as part of this effort.

*Task 2.1.06.1 – Review of Existing Data – Preliminary Geotechnical Report*

The Consultant shall review all known soils and inspection reports. Attachment H – Preliminary Geotechnical Information contains a list of prior geotechnical reports that are on file at the District. Consultant shall submit a Preliminary Geotechnical Report, based on the existing data review. The report shall cover soil classifications and properties that affect design and construction. The Preliminary Geotechnical Report shall also cover recommendations for subsurface exploration, laboratory testing, access requests, and traffic control for boring work.

*Task 2.1.06.2 - Subsurface Exploration*

The geotechnical services shall include subsurface exploration necessary to observe, test, and classify soils and monitor groundwater. The number and spacing of borings or other subsurface exploratory means (“borings” hereafter) shall be based on the Consultant’s and Geotechnical Professional’s interpretation of needs and recommendations.

The depth of the borings, proposed sampling, and boring locations shall be adequate to characterize the soils to a depth of at least ten (10) feet below the bottom of an excavation or any proposed sewer invert elevation. At least two borings shall extend 20 feet below the proposed excavation bottom or sewer invert. If unexpected or unique soils are encountered, an adequate number of borings shall be taken to try and define the limits of the anomaly.
Consultant shall specify in the Proposal the recommended number of borings and include them in the Cost Proposal. The final number of borings proposed for the project will be determined and agreed upon by the Consultant and the District.

The location of all borings shall be plotted on a map and attached to the Geotechnical Report. The borings shall be located by survey coordinates consistent with the Project survey. Complete logs of the soil profiles shall be included in the report.

**Task 2.1.06.3 - Geotechnical Report**

The Geotechnical Report shall address, but not be limited to, seismic design parameters, soil contamination, groundwater presence, groundwater levels, groundwater contamination, construction dewatering, pipe bedding requirements, trench shoring requirements, engineered fill and settlement potential, excavation of soils, temporary slope stability, location of rock, backfill suitability, backfill compaction, allowable foundation bearing pressures, and many other analyses and recommendations needed to design and construct the proposed Project.

Pumping tests shall be required to determine dewatering parameters for inclusion in the specifications.

The report shall describe and categorize the soil types and identify potential for off-site disposal locations. The Consultant shall be responsible for establishing the actual scope of work for the Geotechnical Report. The report shall emphasize specific construction concerns and concerns regarding the integrity of sewers, pavement and structures.

The report shall address in detail the excavation impact of the proposed work on all existing structures and utility trenches in the vicinity of the proposed Project. The report shall also focus on the potential collapse of the earth prism located between existing parallel utilities and the trench excavated for any proposed sewer installation. The report shall also address all of the information needed for compliance with codes, structural design, buried piping, roads, walkways, and other design elements such as soil corrosivity.

The draft and final geotechnical reports shall be submitted to the District for review and comment. Any comments received regarding the Geotechnical Report shall be addressed by Consultant and responses returned to the PMO.

**Task 2.1.08 - Coordination with Other Projects**

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 Figure 2 of the NST Draft BODR.

EchoWater Project  
*Nitrifying Sidestream Treatment Project Engineering Services*
Several other EchoWater Project designs could potentially impact the NST. Other projects include: BNR, PEPS, FEQ, DCS and SP. Consultant will work closely with the BNR, PEPS, FEQ, DCS and SP consultants and the PMO to coordinate the following:

- Coordination with new parallel pipelines that convey treated sidestream effluent from the NST and chlorine solution from the DCS project (SP and DCS projects)
- NST WAS line connection with BNR (SP and BNR Projects)
- Connection of treated sidestream effluent into the PE Diversion Box (PEPS project)
- General coordination with FEQ and main electrical substation expansion projects
- Utility extensions, contractor workforce parking, storm drainage improvements, new roads, trailer areas, and laydown areas (SP project)
- General coordination with RCD Facilitator at RCD Workshops
- Plant Computer Control System Application Programming

**Task 2.1.09 – TM-1 Design Criteria**

TM-1 will focus on the basis of design and design criteria. The key elements of the BODR, modified under Task 1.2 by Consultant’s comments and the District responses, shall be incorporated into TM-1. The TM shall include any exceptions being proposed to District 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**

- Flows and loads (year 2018, and design year 2048)
- Process overview
- Treated Water Quality
- Discipline design criteria
  - Civil
  - Architecture
  - Structural
  - Process
  - Corrosion
  - Noise
  - Mechanical (HVAC, plumbing)
  - Electrical
  - Process and instrumentation
- Process flow diagrams
- Naming and numbering plan for facilities and equipment
- Preliminary drawing list
Key elements of TM-1 shall include the following:

1. For the basis of design and general design criteria, extract information from Attachment A – Nitrifying Sidestream Treatment Facility Draft BODR and develop any supplemental information. Evaluate process design criteria and propose any modifications to the basis of design.

2. Augment the discipline criteria found in the BODR and District Design Guidelines with design criteria specific to individual design discipline elements.

3. Update the process flow diagrams for the design condition. Flow diagrams shall include flow values to and from each unit process.

4. Prepare new process flow diagrams for future conversion to Anammox process.

5. Start the list of major equipment, develop equipment names and begin to assign tag numbers based on the District’s conventions and guidance.

6. Develop a preliminary drawing list.

7. Review District design guidelines and identify any exceptions.

8. Submit the CAD/BIM execution plan including hardware, software, configuration, responsibilities, and methodologies in accordance with Attachment C - District Project CAD/BIM Standards.

**Task 2.1.10 – TM-2 NST Unit Processes**

TM-2 will focus on the pre-design of the NST Unit processes. The Consultant may divide the NST Unit Processes into separate TMs, but the final deliverable for TM-2 must include all components associated with the Project under one cover. Items to be included in the TMs are as follows:

**TM-2 NST Unit Processes**

- Influent Pumping Station
- Settling Tank and Settled Sludge Pumping
- Fine Screening Facilities
- Nitrifying Sequencing Batch Reactors
- Equalization Basin
- Effluent Pumping Station
- Ferric Chloride Storage and Feed Facilities
- Lime Storage and Feed Facilities

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

At a minimum, for each unit process present the following:

1. Unit process number, capacity, orientation
2. Equipment number, size, orientation, features
3. Process and equipment redundancy
4. Arrangement to allow for future expansion/conversion to Anammox process (Capacity TBD)
5. Utility requirements
6. Operating philosophies and general control descriptions
7. Process flow diagrams
8. Process and piping schematics
9. Models of unit processes
10. Use BCEs to compare process alternatives and major equipment types. See Attachment I – BCE Guidance.

Specific requirements for each unit process are listed in the following sections. Additional requirements are listed in the draft BODR.

Influent Pumping Station

1. Evaluate wet well configurations including self-cleaning wet wells
2. Evaluate partitioning wet wells for maintenance
3. Evaluate pump types and verify flow and capacity requirements

Settling Tank

1. Evaluate sludge withdrawal mechanisms
2. Evaluate the use of launder covers
3. Determine design clarifier overflow rate
4. Evaluate scum removal conveyance and discharge locations

Fine Screening

1. Evaluate drum or basket screening alternatives
2. Evaluate self-contained screening units
3. Evaluate screenings conveyance alternatives
4. Evaluate channel sizing and screening hydraulics,
**Nitrifying Sequencing Batch Reactors**

1. Evaluate continuous SBR and batch SBR
2. Evaluate flow splitting alternatives
3. Evaluate valve actuators (pneumatic verses electric)
4. Evaluate decanter types
5. Recommend performing BCE on fine bubble diffuser/aeration system selection.
6. Recommend performing BCE on Blower selection
7. Develop selection Criteria for Pre-selection of SBR equipment
8. Evaluate WAS pump types and method of wasting sludge (settled sludge verses mixed liquor wasting)
9. Evaluate basin access and drainage provisions

**Equalization Basin**

1. Evaluate scum removal and overflow alternatives
2. Evaluate flow control and measurement alternatives for NST effluent (gravity only)
3. Evaluate basin isolation and drainage provisions

**Effluent Pumping Station**

1. Evaluate pump types and verify associated flow and capacity requirements
2. Hydraulic modeling of effluent pumping system discharging to the City interceptor and PE Diversion Box
3. Describe general operational strategies
4. Evaluate basin isolation and drainage provisions

**Ferric Chloride Feed and Storage Facilities**

1. Evaluate indoor verses outdoor chemical metering installations
2. Evaluate storage tank materials and appurtenances
**Lime Feed and Storage Facilities**

1. Evaluate Grit Collection and means of disposal
2. Describe general operational strategies
3. Consider flexibility of using other dry sources of alkalinity addition such as magnesium oxide in storage and feed facility

**Task 2.1.11 – TM-3 Site Development and Layout**

TM-3 will focus on the site. Because the site is shared by four overlapping projects, the Consultant will consider development of the north area site as a whole when preparing this TM. The Consultant will work with the PMO and appropriate designers from other projects to develop assumptions, constraints, and construction sequencing relative to parts of the site to be occupied by other projects.

In addition to Project Area Topography (Task 2.1.05), the District will provide Master Site Utility and Process Pipeline Drawings of the Project area in AutoCAD Civil 3D. The drawings show known buried lines and ductbanks. 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 or potholing or both, and all other research, to produce complete drawings of existing conditions for design and construction.

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:

- Demolition and relocation requirements
- Hydraulic profile
- Site plans
  - Grading plan and site sections
  - Site paving plan including site gravel and erosion control
  - Stormwater handling requirements
  - Site Utility Plan (water, drains, etc.)
- Channels and conveyance piping between unit processes, other EchoWater Projects and future buildout considerations
- Flow distribution and connection structure(s)
- Pipe/ductbank corridors
- Earthwork balance calculation and drawings
- Geotechnical considerations and potential groundwater impacts
- 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 NST site finish grade elevations.
2. Evaluate site plans, ancillary facility locations, and coordinate with other projects.
3. Develop piping systems between unit processes and other projects.
4. Determine hydraulic conditions at year 2018 and at design year (2048).
5. Assess relocation of any existing utilities that conflict with construction.
6. Develop site grading and paving plans and show access and circulation for chemical deliveries and maintenance.
7. Evaluate and plan mitigation for groundwater impacts including disposal of dewatering discharge.
8. Determine stormwater requirements including drainage patterns and flow rates. Coordinate with PMO on points of connection to plant stormwater system.
9. Evaluate utility demands and coordinate with the PMO to assess existing utility capacity and need for the extension of utilities.
10. Show contractor laydown areas and portion of site that will be under the Contractor’s control.
11. Confirm and show areas for contractor trailers and construction support facilities, Construction Management (CM) facilities.
12. Show areas to be reserved for future expansion.

**Task 2.1.12 – 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. The initial intent for expansion of the PCCS to the NST processes is to install redundant Emerson Ovation and Allen-Bradley PLC control panels in the NST electrical building control system (CS) room for NST monitoring and control and extend the plant-wide network fiber optic network from ACC-12 fiber optic termination panels located in the CS room in the electrical building.
A general outline for the TM is as follows:

- 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
- Fieldbus communication systems overview diagrams
- Preliminary control strategies
- Process and instrumentation diagrams (P&IDs)

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 motor control center (MCC). Prepare preliminary load calculations.
3. Evaluate equipment requirements and the location and size for each CS room and associated ACC.
4. Determine corridors for routing for power and signal ductbanks and coordinate with site piping and other potential conflicts.
5. Show preliminary locations of electrical building and rooms.
6. Assess whether the NST equipment and processes require a local PCCS operator interface for local control.
7. Assess control strategies and networking requirements with the BNR facility.
8. Prepare the network and communication block diagram.
9. Prepare preliminary P&IDs. Develop overall control strategies for the NST facility, ancillary facilities, and instruments and coordinate with related projects.

Task 2.1.13 – TM-5 Buildings and Structures

TM-5 is focused on the structures and buildings. The TM includes a section for each discipline involved with the design of buildings and structures. A general outline for the TM is as follows:

- Architecture
  - Room area plan, section, and dimensions
  - Code analysis and requirements
  - Exit plan
  - Fire protection requirements
Building materials and finishes
- Doors, windows, skylights
- Roof

- Structural
  - Foundation design based on geotechnical study results
  - Structural concept
  - Preliminary structural sizing and thicknesses

- Process
  - Equipment location and working space
  - Major pipe routing
  - Maintenance access and removal provisions for equipment
  - Safety hazards for O&M after construction

- Corrosion
  - Corrosion narrative
  - Protection schemes

- Noise
  - Noise narrative
  - Noise mitigation schemes

- Mechanical (HVAC, plumbing)
  - Interior air temperatures
  - HVAC requirements and duct layout
  - Plumbing provisions
  - Utility needs and coordination with site

Key elements of TM-5 shall include the following:

1. Develop floor plans and sections for NST facilities and determine code requirements.
2. The Consultant will determine needs for the MCC room and switchgear, control room, control system room, mechanical room, storage areas and restrooms.
3. Develop architectural concepts consistent with the BODR and District Standards.
4. Evaluate structural concepts and list alternatives for materials, finishes, and features.
5. Give dimensions for areas, volumes, and estimate wall thicknesses.
6. Provide foundation design based on the Geotechnical Report.
7. For all processes and equipment, identify the equipment location, working space requirements, pipe routing, valve and equipment access, and maintenance access and removal provisions.
8. Identify potential safety hazards for O&M activities and mitigation measures.
9. Evaluate corrosion potential and mitigation measures for structural and building materials, equipment, and exposed pipe and conduit.

Task 2.1.14 – TM-6 Implementation Plan

TM-6 will focus on construction, testing and commissioning. A general outline for the TM is as follows:

- Construction sequencing narrative and drawings
- Permit requirements and what type of permits needed
- Preliminary construction schedule
- Preliminary construction cost estimate
- Coordination with other projects
- Testing/commissioning planning

Key elements of TM-6 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 (e.g. SP, PEPS, FEQ, BNR, and DCS projects).
5. Develop operational testing, reliability testing and commissioning procedures and coordinate with related projects.

Task 2.1.15 – TM-7 Reliability Centered Design Workshop 2

In accordance with Attachment F – Reliability Center Design (RCD) Implementation Guide, Consultant will participate in RCD Workshop 2 together with District and PMO staff and District’s RCD Facilitation Consultant. The workshop will be conducted when preliminary P&IDs have been prepared, but before quantities and layout of project elements requiring maintenance are established. Prepare a TM describing how RCD will be incorporated into design of the Project. Incorporate outcome of RCD activities into PDR documents.

Task 2.1.20 – Preliminary Design Report (PDR) – Draft

The TMs prepared under the previous tasks 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” x 17” (half size) drawings in Volume 2. Twenty hard copies plus PDF electronic files.
- BIM and CAD files per Attachment C – District Project 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 2.1.30 – PDR Review Workshop**

Conduct PDR submittal workshop with District and PMO staff. Present the proposed NST design using NavisWorks or equivalent program.

**Task 2.1.31 – PDR – Final**

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

- PDR in PDF format with 8-1/2” x 11” documents in volume 1 and 11” x 17” drawings in volume 2. Ten hard copies plus PDF electronic files formatted to print 11” x 17” drawings.
- Written response to comments in PMWeb.
- Updated decision log in PMWeb.

Consultant shall attend and participate in the PDR Design Gate Workshop 3 at completion of PDR. Consultant shall assist PMO PM in preparing presentation material and pre-meeting handouts for Gate 3 meeting, including briefing on outcome of PDR phase, updates to Project schedule and budget, risk management matrix, and updates to Project Team. Refer to Attachment E - Design Consultant Project Management Requirements.

**Task 2.2 – Design Submittal 1**

Design Submittal 1 (DS1) begins the process of preparing the Project design specifications, drawings, and construction cost estimate, building on the work performed
during the preliminary design phase. The focus during this phase of design is finalizing major equipment sizing, process and piping schematics, P&IDs, overall facility layouts, and utility corridors. The list of specifications shall be finalized as well during the DS1 phase. The following describes the specific tasks required as part of this effort.

**Task 2.2.01 – Project Management (DS1 Phase)**

The Project Management task encompasses overall project management, coordination with other projects, and risk management.

**Task 2.2.01.1 – Project Management**

Consultant shall continue to ensure control of the project in terms of staffing, budget, schedule and scope, promote communication within the project team, and document key decisions in PMWeb.

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

- Design phase kickoff meeting.
- Monthly progress meetings at the PMO.
- Project workshops and focused meetings.
- Other meetings. In addition to specific types of meetings described in the RFP and attachments, Consultant should anticipate participation in management briefings, and other meetings, including coordination meetings with other designers referenced to above, throughout the duration of the Project. Consultant’s proposal should state their assumptions for various meetings based on their management approach.
- Scope, budget and schedule management.
- Interface with PMWeb.
- 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 the District and Consultant. Identify, manage and mitigate Consultant’s Project risks.
- Management and coordination of subconsultants.
- Management and coordination of Consultant staff.
- Monthly invoicing.
- Monthly earned value analyses and progress reports.

Additional detail regarding Project Management requirements is provided in Attachment E – Design Consultant Project Management Requirements.
**Task 2.2.01.2 - Risk Management Plan- Design Phase**

The Consultant shall participate in an update of the Risk Management Plan developed during the PDR Phase. This participation shall include attendance at one risk management workshop to identify and mitigate potential risk to the Project during final design. This workshop is anticipated to last up to four (4) hours. The Consultant should assume 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 separately budgeted under this task. This task is limited to the Consultant’s participation in the workshop and updating of the Risk Management Plan.

**Task 2.2.02 – Quality Assurance/Quality Control (DS1 Phase)**

This task includes labor-hours for all QA/QC activities related to DS1, including the review of deliverables either by the Consultant, or by the Consultant in conjunction with District staff in meetings and workshops as described in Attachment B - Design Contract Requirements for EchoWater Projects. 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 a Design Level Construction Cost Estimate to be included as part of the DS1 submittal. 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 baseline estimate. 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 District-approved change in Project scope establishing a new baseline, the baseline estimate will not be changed. Submit ten (10) hard copies and electronic files.

**Task 2.2.04 – Construction Schedule**

The Consultant shall update the construction schedule to reflect any changes since the PDR and submit it with the DS1 submittal package. Update the durations, sequencing, tie-ins, and milestones based on further development of the Project design. The schedule narrative shall also be updated and expanded, particularly noting any critical sections of work, coordination with other projects and District shutdown or tie-in requirements. Submit ten (10) hard copies and native electronic and PDF files.
**Task 2.2.05 - Coordination with Other Projects**

The Project shall continue to be coordinated with other EchoWater Projects, including those listed in 2.1.08 – Coordination with Other Projects.

**Task 2.2.10– Drawings and Design Development**

The Consultant shall prepare DS1 submittal including drawings, electronic drawing files, BIM model and clash detection reports in accordance with Attachment B - Design Contract Requirements for EchoWater Projects and Attachment C - District Project CAD/BIM Standards. 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.

**Task 2.2.20 – Specifications**

The Consultant shall prepare a full list of anticipated specifications using the Construction Specifications Institute Master Format 50-Division numbering system. Identify the District-provided specifications, as well as those that will be prepared by the Consultant. Note that the District will prepare the Division 00 contract specifications except that the Consultant shall provide Project-specific information such as the bid schedule, work constraints, and time of completion.

**Task 2.2.30 – Design Related Documents**

Under this task, the Consultant shall develop all parts of the DS1 submittal which are not specifically identified under other DS1 tasks including, but not limited to, the documents described in Attachment B - Design Contract Requirements for EchoWater Projects. Minimum content expected at the time of DS1 submittal includes:

- A detailed outline for the Project Commissioning Plan.
- A Project Design Manual shall be prepared, and shall include updates of information contained in the PDR to conform to the DS1 submittal.
- 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
Task 2.2.40 – DS1 Submittal and Design Review Workshops

DS1 work products shall consist of:

- Contract drawings, compiled into sets on 11” x 17” (half size) paper – 10 hard copies and PDF files formatted to print 11” x 17” drawings.
- Complete list of specifications printed on 8-1/2” x 11” paper – 10 hard copies and PDF files.
- BIM and CAD files per Attachment C – District Project CAD/BIM Standards.
- Project Commissioning Plan outline – 10 hard copies and PDF files.
- Project Design Report – 5 hard copies and PDF files.
- Equipment databases – 10 hard copies and MS Excel or Access files, and PDF files.
- QA/QC documentation.
- Construction schedule (see specific task).
- Construction cost estimate (see specific task).

Conduct design submittal review workshops during the District’s review of DS1.

Task 2.2.41 – Responses to Review Comments and Validation Workshop

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

Task 2.3 – Design Submittal 2

Design Submittal 2 (DS2) continues the process of preparing the Project design specifications, drawings, and construction cost estimate, building on the work performed during the DS1 phase. For this submittal, the major design elements are well-established and supplementary/auxiliary design elements are in progress between DS1 and DS2. 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 the District.

The electrical calculations (District uses Paladin Design Base – 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 2.3.01 – Project Management (DS2 Phase)**

The Project Management task encompasses overall Project Management and coordination with other projects.

*Task 2.3.01.1 - Project Management*

Consultant shall continue to ensure control of the Project in terms of staffing, budget, schedule and scope, promote communication within the project team, and document key decisions.

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

- Monthly progress review meetings at the PMO.
- Project workshops and focused meetings.
- Other meetings. In addition to specific types of meetings described in the RFP and attachments, Consultant should anticipate participation in management briefings, and other meetings, throughout the duration of the project.
- Scope, budget and schedule management.
- Interface with PMWeb.
- 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 the District and Consultant. Identify, manage and mitigate Consultant’s Project risks.
- Management and coordination of subconsultants.
- Management and coordination of Consultant staff.
- Monthly invoicing in PMWeb.
- Monthly earned value analyses and progress reports.

Additional detail regarding Project Management requirements is provided in Attachment E – Design Consultant Project Management Requirements.

**Task 2.3.02 – 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 District staff in meetings and workshops, and preparation of the Submittal Outcome...
Report, as described in Attachment E - 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 2.3.03 – Construction Cost Estimate**

Consultant shall update the Design Level Construction Cost Estimate and include it as part of the DS2 submittal. 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 baseline estimate. 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 District-approved change in Project scope establishing a new baseline, the baseline estimate will not be changed. Submit ten (10) hard copies and the electronic files.

**Task 2.3.04 – Construction Schedule**

The Consultant shall update the construction schedule in preparation for the constructability review (Task 2.3.43) providing more detail and updating the durations, sequencing, tie-ins, and milestones based on further development of the Project design. The schedule shall be coordinated with and align with the latest version of the BNR Project schedule. The schedule narrative shall also be updated and expanded, particularly noting any critical sections of work, coordination with other projects and District shutdown or tie-in requirements. The updated schedule shall be submitted as part of the DS2 submittal package. Submit ten (10) hard copies and native electronic and PDF files.

**Task 2.3.05 - Coordination with Other Projects**

The Project shall continue to be coordinated with other EchoWater Projects, including those listed in 2.1.08 – Coordination with Other Projects.

**Task 2.3.10– Drawings and Design Development**

The Consultant shall prepare the DS2 submittal including hard copy drawings, electronic files, BIM model and clash detection reports in accordance with Attachment B - Design Contract Requirements for EchoWater Projects and Attachment C - District Project CAD/BIM Standards. 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 2.3.20 – Specifications

Consultant shall prepare draft specifications for all technical sections identified during the DS1 phase. The District will prepare the Division 00 contract specifications except that the Consultant shall provide Project-specific information such as the bid schedule, work constraints, and time of completion. Specifications shall be substantially complete and ready for review by discipline-specific District staff.

As permitted by California Law, the District requires contractors to request and be granted approval in advance of the bid date for substitution of major equipment. The Consultant shall prepare a list of equipment to be named in the specifications as major equipment.

Task 2.3.30 – 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 B - Design Contract Requirements for EchoWater Projects. Minimum expected level of design development at the time of DS2 submittal includes:

- Draft Project Commissioning Plan
- Project Design Manual - updated to conform with the DS2 submittal
- Draft databases (hard copy and electronic files) shall be submitted for:
  - Master equipment list
  - Equipment maintenance summary spreadsheets
  - Major equipment inventory control list
  - Catalog information from acceptable manufacturers
- Calculations in accordance with Attachment B – Design Contract Requirements for EchoWater Projects.

Task 2.3.40 – Reliability Centered Design Workshop 3

Perform analyses, participate in Workshop 3 and prepare documents as described in Attachment F – Reliability Centered Design Implementation Guide. Prepare a TM documenting the reliability centered design and reliability centered maintenance principles that have been incorporated into the design.

Task 2.3.41 – DS2 Submittal and Design Review Workshops

DS2 work products shall consist of:

- Contract drawings, compiled into sets on 11” x 17” (half size) paper – 10 hard copies and PDF files formatted to print 11” x 17” drawings.
• Complete technical specifications printed on 8-1/2” x 11” paper – 10 hard copies and PDF files.
• BIM and CAD files per Attachment C – District Project CAD/BIM Standards.
• Clash detection report – 10 hard copies and electronic file.
• Draft Project Commissioning Plan – 10 hard copies and PDF files.
• Project Design Report – 5 hard copies and PDF files.
• Equipment databases – 10 hard copies and MS Excel or Access files, and PDF files.
• QA/QC documentation
• Construction schedule (see specific task).
• Construction cost estimate (see specific task).
• Calculations – five (5) hard copies.

Conduct design submittal review workshops during the District’s review of DS2.

**Task 2.3.42 – Responses to Review Comments, Validation Workshop**

Respond to all review comments from District and PMO in PMWeb. Conduct a design submittal validation workshop to confirm responses to comments and resolve any issues. Refer to Attachment E – Design Consultant Project Management and QA/QC Requirements.

**Task 2.3.43 – Constructability Review**

A constructability review will be conducted by the PMO immediately following DS2 in accordance with the Attachment E - 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.

**Task 2.4 – Design Submittal 3 (DS3) and Bid Documents**

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

**Task 2.4.01 – Project Management (DS3 Phase)**

The Project Management task encompasses overall Project Management, coordination with other projects, and risk management.
Task 2.4.01.1 – Project Management

Consultant shall continue to ensure control of the Project in terms of staffing, budget, schedule and scope, promote communication within the Project Team, and document key decisions.

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

- Monthly meetings.
- Project workshops and focused meetings.
- Other meetings. In addition to specific types of meetings described in the RFP and attachments, Consultant should anticipate participation in management briefings, and other meetings, including coordination meetings with other designers referenced to above, throughout the duration of the Project. Consultant’s proposal should state their assumptions for various meetings based on their management approach.
- Scope, budget and schedule management.
- Interface with PMWeb.
- 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 the District and Consultant. Identify, manage and mitigate Consultant’s Project risks.
- Management and coordination of subconsultants.
- Management and coordination of Consultant staff.
- Monthly invoicing in PMWeb.
- Monthly earned value analyses and progress reports.

Additional detail regarding Project Management requirements is provided in Attachment E – Design Consultant Project Management Requirements.

Task 2.4.01.2 - Risk Management Plan – Construction and Commissioning

The Consultant shall participate in a third risk management workshop during this phase of work to identify and mitigate potential risk to the Project during construction and commissioning. This workshop is anticipated to last up to six (6) hours. The Consultant should assume that incorporating risk mitigation measures into the Project Bid 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 the workshop and updating of the Risk Management Plan.
Task 2.4.02 – Quality Assurance/Quality Control (DS3 Phase)

This task includes labor-hours for all QA/QC activities related to DS3, including the review of deliverables either by the Consultant, or by the Consultant in conjunction with District staff in meetings and workshops. Refer to Attachment E – Design Consultant Project Management Requirements, Appendix A 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 2.4.03 – Construction Cost Estimate

Consultant shall update the Design Level Construction Cost Estimate and include it as part of the DS3 submittal. 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 baseline estimate. 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 District-approved change in Project scope establishing a new baseline, the baseline estimate will not be changed. Submit ten (10) hard copies and electronic files.

Task 2.4.04 – Construction Schedule

The Consultant shall provide a final construction schedule based on the bid documents. The final schedule shall include:

- A detailed breakdown of construction activities including BNR activities
- Major submittal review activities
- Testing, startup and commissioning activities
- Coordination with other projects

Submit ten (10) hard copies and native and PDF electronic files. The final construction schedule will be made available to Contractors, upon request, during the bid period.

Task 2.4.05 - Coordination with Other Projects

The Project shall continue to be coordinated with other EchoWater Projects, including those listed in 2.1.08 – Coordination with Other Projects.

Task 2.4.10– Drawings and Design Development

The Consultant shall prepare DS3 submittal in accordance with Attachment B - Design Contract Requirements for EchoWater Projects and Attachment C – District Project CAD/BIM Standards. Drawing 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 finished and 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 District comments on the previous submittal shall have been resolved, rejected, addressed and/or incorporated in this submittal. The only additional effort is the District’s 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 the District along with DS3. A typical mechanical process and electrical/instrumentation/control cross-check shall compare the process and piping schematics, P&IDs, single-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 2.4.20 – Specifications**

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

**Task 2.4.30 – 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 Plan in accordance with Attachment J – 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:
  o Master equipment list
  o Equipment maintenance and spare parts summary spreadsheets
  o Major equipment inventory control list
  o All catalog information from manufacturers listed in the specifications.

Task 2.4.40 – DS3 Submittal and Design Review Workshops

DS3 work products shall consist of the following:

• Contract drawings, compiled into sets on 11” x 17” (half size) paper – 10 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– 10 hard copies and PDF files.

• BIM and CAD files per Attachment C – District Project CAD/BIM Standards.

• Clash detection report – 10 hard copies and electronic file.

• Project Commissioning Plan – 10 hard copies and PDF files.

• Project Design Report – 5 hard copies and PDF files.

• Equipment databases – 10 hard copies and MS Excel or Access files, and PDF files.

• QA/QC documentation.

• Construction schedule (see specific task).

• Construction cost estimate (see specific task).

Conduct design submittal review workshops during the District’s review of DS3.

Task 2.4.41 – Responses to Review Comments and Validation Workshop

Respond to all review comments from District and PMO in PMWeb. Conduct a design submittal validation workshop to review responses to comments and resolve any issues. Refer to Attachment E – Design Consultant Project Management Requirements.
Task 2.4.50–Bid Set Submittal

The Consultant shall prepare a Check Set of the bid documents for final review by the District 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. The District 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 the PMO PM for a final review. The final Check Set shall include finished, checked and complete drawings and specifications and other documents that incorporate all District 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 since 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 the District or the final in-house quality control check, or to resolve a problem needing correction that was not previously known. Any such changes shall be identified so that the District can review them. The Consultant shall document in-house changes and submit them to the District 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 provided to the selected Contractor for use after award. The models may be provided to contractors 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, commissioning plan, 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 five (5) working days of any comments.

Consultant shall attend and participate in the Design Gate 4 Workshop (final design acceptance) at completion of the design phase, and shall assist the PMO PM in preparing presentation material and pre-meeting handouts for Gate 4 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 E- Design Consultant Project Management Requirements.
Bid Documents

The Consultant shall respond to and resolve any final comments from the District and update the contract documents accordingly. The District Board will authorize advertising for bids. The final bid documents shall be complete and ready in electronic form a minimum of seven (7) calendar days prior to the board meeting. Five (5) working days prior to the day that bids are advertised to the public, the following documents shall be delivered:

- Stamped and signed bid sets of drawings and specifications – five (5) hard copies with half-size drawings
- One set of full-size drawings
- Final construction schedule – five (5) hard copies
- Final construction cost estimate – five (5) hard copies
- Equipment databases – five (5) hard copies
- Electronic files of all deliverables (including models). Coordinate with PMO PM regarding format and layout electronic media prior to submittal.

PHASE 3 – BID AND AWARD

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

- Project management
- Respond to bidders’ questions
- Attend the pre-bid meeting
- Prepare addenda
- Prepare conformed documents

Task 3.1 – Project Management

Consultant shall continue to ensure control of the Project in terms of staffing, budget, schedule and scope, promote communication within the Project Team, and document key decisions.

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

- Monthly progress meetings.
- Project workshops and focused meetings.
- Other meetings. In addition to specific types of meetings described in the RFP and attachments, Consultant should anticipate participation in management briefings, and other meetings, throughout the duration of the project.
- Scope, budget and schedule management.
- Interface with PMWeb.
- 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 the District and Consultant. Identify, manage and mitigate Consultant’s Project risks.
- Management and coordination of subconsultants.
- Management and coordination of Consultant staff.
- Monthly invoicing in PMWeb.
- Monthly earned value analyses and progress reports.

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

**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 Contractors’ 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 (5) 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 PMO 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 PMO PM will notify the Consultant within five (5) working days of any comments.

Submit the following:

• Conformed contract documents – 20 hard copies (half-size drawings), one (1) full-size set of drawings, MS Word, Excel and Access files, and PDF files formatted to print 11” x 17” drawings and the project specifications.

• BIM and CAD files per Attachment C – District Project CAD/BIM Standards.

• Stamped final calculations and computer output – five (5) hard copies and PDF files. Refer to Attachment B – 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.

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

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 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 the District 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.

**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 **25 pages** in length and the cover letter shall not exceed **two pages**. Other sections have no page limitations and must be limited to the contents listed. Up to four (4) 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. Prepare proposal using 12 point Times New Roman font.

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<thead>
<tr>
<th>Section</th>
<th>Contents</th>
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<td>Resumes of Key Staff</td>
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<td>B</td>
<td>Description of Project Deliverables</td>
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*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 District projects. The Consultant shall also demonstrate an understanding of the District’s goals and objectives as related to this Project. The Proposal shall include a statement acknowledging the scope of work. 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

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. Consultant shall highlight any approaches that can be used to expedite the design schedule.

The Proposal shall describe the Project’s technical issues and the Consultant’s approach to handling these issues. The Consultant shall explain how TM, 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 the District’s design guidelines into the Project. Emphasis should be placed on how the Consultant’s technical approach will promote the Project’s success, 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, 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 the District, PMO and other design consultants.

SECTION 5 – CAPABILITIES, TOOLS, AND PROCESSES

The Consultant shall highlight capabilities, tools, and processes that will be used to obtain and manage resources, partner with District 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 AND PRODUCTION CAPABILITIES

The Proposal shall include a team member organizational chart clearly identifying the key individuals assigned to the Project and his/her proposed position/responsibility. The proposal shall indicate the Consultant’s approach for staffing including who will be located locally versus working from remote offices. The Proposal shall clearly indicate who will be in responsible charge of the Project.

The proposal shall also 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. All subconsultants with significant hours shall be included in the labor hour matrix. 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 K. Consultant may use its own matrix providing it includes all the requested information. A list of drawings should also 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. Special emphasis shall be provided on the individual’s background, qualifications, certifications, experience on related and/or similar projects, and the location from where their 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, which will be negotiated later.

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 Consultant shall demonstrate that they have relevant project experience specifically in designing Sequencing Batch Reactors. The Proposal shall include profiles of similar projects for which the firm(s) and proposed team members have completed design in the last 15 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 the District using the resources proposed by the Consultant, as well as describe how the proposed staff will meet the resource requirements of the Project. Schedule shall highlight any activities that would expedite early design completion. The Consultant shall prepare a schedule showing all major Project tasks (integrated with the District’s WBS) and milestones required to complete all work through Phase 6 (i.e., from Final BODR through closeout). The District’s Project WBS is listed in Attachment K - Sample Labor Hour Matrix.

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.

SECTION 11 - PROPRIETARY INFORMATION

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

SECTION 12 – INDEMNIFICATION

For work or services provided under this Agreement, Consultant shall indemnify, defend, and hold harmless Sacramento Regional County Sanitation District, Sacramento Area Sewer District, Brown and Caldwell, HDR Engineering, Inc., and each of their subconsultants, Brown and Caldwell/HDR Engineering, Inc., a Joint Venture, and the County of Sacramento, their respective Boards of Directors/Supervisors, officers, agents, employees and volunteers from and against any and all claims, demands, actions, losses, liabilities, damages, and costs, including reasonable attorneys' fees, arising out of or resulting from the performance of this Agreement, but only to the extent of the negligent acts, errors, omissions, recklessness or willful misconduct on the part of the Consultant or the Consultant’s subconsultants. The provisions of this indemnity shall survive the expiration or termination of the Agreement.

SECTION 13 - INSURANCE

Provide a summary of each Consultant firm's (and subcontractor's) present and proposed insurance coverage, including public liability, property damage, worker's compensation, automobile, and professional liability for the duration of the project showing compliance with the insurance requirements identified in Attachment L - District 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 - FEE ESTIMATE

A Fee Estimate 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 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. A maximum direct salary escalation rate of 3 percent per year is permitted.
• Direct labor multiplier. A maximum 3.0 multiplier on base direct salary is permitted.
• Subconsultant costs. A maximum markup of 5 percent is permitted.
• Other direct costs (ODCs). A maximum markup of 5 percent is permitted.

SECTION 16 – EXCEPTIONS TO CONTRACT TERMS AND CONDITIONS.

Provide a list of any exceptions to contract terms and conditions (see Attachment L - District Sample Agreement) which the Consultant will seek from the standard District contract language. Include these exceptions in the sealed Fee Estimate envelope.

VIII. PROCUREMENT SCHEDULE

The District has established the following tentative schedule for the selection process:

Advertise Request for Proposal December 4, 2013
One on One Meetings (see Section IX) December 16, 2013
Deadline to Submit Questions December 20, 2013
Deadline to Submit Proposals January 10, 2014
Shortlist and Notification for Interviews January 16, 2014
Interviews (if required) January 23, 2014
Selection Notification January 28, 2014
Complete Contract Negotiations February 11, 2014
Board Approval of Agreement March 26, 2014
Notice to Proceed (NTP) March 27, 2014

IX. PRE-PROPOSAL MEETINGS

Prospective consultants or consultant teams may request one private meeting with the District after the RFP is issued and prior to the Proposal due date. Meetings may be scheduled on December 16, 2013 for up to 45 minutes. Contact Mike Harrison, PMO Project Manager, at 916-875-9206 or harrisonmi@sacsewer.com. Several members of the District’s selection committee will attend the meeting.
Generally, any information and/or questions raised during these individual meetings will be kept private; however, the District may determine that some information be summarized and shared with all proposers.

X. SUBMITTAL INSTRUCTIONS

Please submit ten (10) hardcopies and one PDF on CD as follows:

Due Date: January 10, 2014 by 3:00 p.m.
Deliver to: EchoWater Project
SRWTP Administration Building
8521 Laguna Station Road
Elk Grove, CA 95758
Attn: Mike Harrison, PMO Project Manager

XI. EVALUATION AND SECTION CRITERIA

A Technical Review Panel composed of District staff and outside representative(s) will evaluate and rate each proposal on the following criteria:

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Weight</th>
<th>Scores&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Weighted Scores&lt;sup&gt;b&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project approach</td>
<td>20%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Management approach</td>
<td>20%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resources, tools, and processes</td>
<td>10%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Staffing and production capabilities</td>
<td>15%</td>
<td></td>
<td></td>
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<tr>
<td>Staff qualifications and related project experience</td>
<td>20%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interview (if required)</td>
<td>15%</td>
<td></td>
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</tr>
</tbody>
</table>

<sup>a</sup> Each criterion will be assigned a score of 1 to 100.

<sup>b</sup> Scores will be multiplied by the weights and totaled to yield the total points on the proposal and interview. Maximum total points are 100.

The District may elect to interview prospective consultants before making a final selection. Interview invitations may be sent to a short-list of firms. Presentations at the oral interviews (if required) shall be made by those individuals who will actually be assigned to the Project.

A final recommendation will be made by the selection panel based on the technical review and evaluation of the Proposal and interview. 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 the District Board of Directors for approval.
An award of contract will be made to the responsible Consultant who provides the best overall response to the requirements of this RFP. The District 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. Written notification of the outcome of the selection process will be mailed to all Consultants who submit a Proposal.

Proposals submitted without required documents may be considered nonresponsive and may be rejected.

The District 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, the District 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.

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 the District.

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 Nitrifying Sidestream Treatment Project RFP must be in writing and directed to Mike Harrison, PMO Project Manager (harrisonmi@sacsewer.com) on or before December 20, 2013 by 3:00 PM. All inquiries should include the name of the RFP. Modifications and clarifications will be made by addenda as specified in this RFP. The District 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 the District website at http://www.srcsd.com/business-opportunities.php.
B. INTERPRETATION AND ADDENDA

The Proposer will be responsible for ensuring that its Proposal reflects any and all addenda posted by the District prior to the Proposal due date regardless of when the Proposal is submitted. The District recommends that the Proposer check the District web page before submitting its Proposal to determine if the Proposer has read all posted addenda. The District 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, the District may require a Proposer to provide oral or written clarification of its Proposal.

D. ERRORS AND OMISSIONS IN PROPOSAL

Failure by the District 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 ten (10) calendar days after the RFP is issued, provide written notice to the District 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.

XIV. ATTACHMENTS

A. Nitrifying Sidestream Treatment Project Draft Basis of Design Report
B. Design Contract Requirements for EchoWater Projects
C. District Project CAD/BIM Standards
D. Design Guidelines
E. Design Consultant Project Management Requirements
F. Reliability Centered Design Implementation Guide
G. Design Consultant Cost Estimating Guidelines
H. Preliminary Geotechnical Information
I. BCE Guidance
J. Commissioning Plan Preparation Guide
K. Sample Labor Hour Matrix
L. District Sample Agreement
Other information available on request:

- Plant Computer Control System Master Plan
- Draft Facility Master Plan - EchoWater Project
- Topographic survey of SRWTP EchoWater site (2012)
- Energy Master Plan