

## PROFESSIONAL SERVICES AGREEMENT

THIS AGREEMENT, is made and entered into to be effective the 15<sup>th</sup> day of December, 2021 by and between the ORANGE COUNTY SANITATION DISTRICT, hereinafter referred to as "OC SAN", and 374Water Systems, Inc, for purposes of this Agreement hereinafter referred to as "CONSULTANT".

### WITNESSETH:

WHEREAS, OC SAN desires to engage a CONSULTANT for **Supercritical Water Oxidation Demonstration at Plant No. 1, Project No. RE21-01**; and to furnish goods and services for a demonstration project of the 374Water Air SCWO Nix6 system, and the goods and services are generally described as the design, fabrication, construction, installation, startup, commissioning, operations, sampling, testing, maintenance and support services and final report monitoring services for 374Water AirSCWO Nix6 system and,

WHEREAS, CONSULTANT is qualified to provide the necessary goods and services in connection with these requirements and has agreed to provide the necessary goods and services; and,

WHEREAS, OC SAN has adopted procedures for the selection of professional services and has proceeded in accordance with said procedures to select a CONSULTANT to perform this work; and,

WHEREAS, at its regular meeting on December 15, 2021 the Board of Directors, by Minute Order, accepted the recommendation of the Operations Committee pursuant to OC SAN's Ordinance No. OC SAN-56 to approve this Agreement between OC SAN and CONSULTANT.

NOW, THEREFORE, in consideration of the promises and mutual benefits, which will result to the parties in carrying out the terms of this Agreement, it is mutually agreed as follows:

#### **1. SCOPE OF WORK**

CONSULTANT agrees to furnish all labor, materials, and services to accomplish the requirements defined in the CONSULTANT's Scope of Work attached hereto as Attachment "A", and by this reference made a part of this Agreement. The Scope of Work incorporates the following four (4) types of activities:

- (1) the design services set forth in Section A-1 of Attachment "A" (the "DESIGN SERVICES") for the site work that is necessary for the installation of the SYSTEM (the "SITE WORK");
- (2) the sale of the equipment described in Section A-2 of Attachment "A", such equipment consisting of the following components: (a) the dewatering unit described in Section A-2 of Attachment "A" (the "DEWATERING UNIT") and (b) the treatment unit described in Section A-2 of Attachment "A" (the "AirSCWO NIX6 UNIT"). (The DEWATERING UNIT and the AirSCWO NIX6 UNIT are collectively referred to herein as the "SYSTEM");

- (3) the installation, operations, maintenance, and training services described in Section A-3 of Attachment "A"; and
- (4) technical support of OC SAN in its operation and maintenance of the SYSTEM for six (6) months after the conclusion of the CONSULTANT OPERATING TERM (as defined below) as described in Section A-4 of Attachment "A" (the "SYSTEM SUPPORT SERVICES").

**A. DESIGN SERVICES.** The provisions set forth in this Section 1.A shall apply only with respect to the DESIGN SERVICES- Section A-1 of Attachment "A" and not to any other obligations of CONSULTANT set forth herein.

1. The CONSULTANT shall be responsible for the professional quality, technical accuracy, completeness, and coordination of all design, drawings, specifications, and other services furnished by the CONSULTANT under this Agreement, including the work performed by its Subconsultants. Where approval by OC SAN is indicated, it is understood to be conceptual approval only and does not relieve the CONSULTANT of responsibility for complying with all laws, codes, industry standards and liability for damages caused by errors, omissions, noncompliance with industry standards, and/or negligence on the part of the CONSULTANT or its Subconsultants.
2. CONSULTANT is responsible for the quality of work prepared under this Agreement and shall ensure that all work is performed to the standards of best engineering practice for clarity, uniformity, and completeness. CONSULTANT shall respond to all comments, suggestions, and recommendations on OC SAN's review comment sheets. All comments shall be incorporated into the design prior to the next submittal deadline or addressed, in writing, as to why the comment has not been incorporated. CONSULTANT shall ensure that each submittal is 100% accurate for the level of work submitted (i.e., correct references, terms, capitalization or equal status, spelling, punctuation, etc.)
3. In the event that work does not conform to the requirements of this Agreement or any applicable industry standards, the CONSULTANT shall, without additional compensation, promptly correct or revise any errors or deficiencies in its designs, drawings, specifications, or other services within the timeframe specified by the Project Engineer/Project Manager. OC SAN may charge to CONSULTANT all costs, expenses and damages associated with any such corrections or revisions.
4. All CAD drawings, figures, and other work deliverables as part of the DESIGN SERVICES, that are used for the purpose of soliciting bids for construction, shall be produced by CONSULTANTS and Subconsultants using OC SAN CAD Manual. Conversion of CAD work from any other non-standard CAD format to OC SAN format shall not be acceptable in lieu of this requirement.

Electronic files shall conform to OC SAN specifications. Any changes to these specifications by the CONSULTANT are subject to review and approval of OC SAN.

Electronic files shall be subject to an acceptance period of ten (10) calendar days during which OC SAN shall perform appropriate reviews and including CAD Manual compliance. CONSULTANT shall correct any discrepancies or errors detected and reported within the acceptance period at no additional cost to OC SAN.

5. The CONSULTANT shall ensure that all plans and specifications prepared or recommended under this Agreement allow for competitive bidding of the SITE WORK by OC SAN. The CONSULTANT shall design such plans or specifications so that procurement of services, labor or materials are not available from only one source and shall not design plans and specifications around a single or specific product, piece of major equipment or machinery, a specific patented design or a proprietary process, unless required by principles of sound engineering practice and supported by a written justification that has been approved in writing by OC SAN. The CONSULTANT shall submit this written justification to OC SAN prior to beginning work on such plans and specifications. Whenever the CONSULTANT recommends a specific product or equipment for competitive procurement, such recommendation shall include at least two brand names of products that can meet the functional requirements applicable to the project.
6. The DESIGN SERVICES and the deliverables furnished as part of the DESIGN SERVICES, including but not limited to all drafts, data, correspondence, proposals, reports, and estimates compiled or composed by the CONSULTANT and their subconsultants, pursuant to this Agreement, are for the sole use of OC SAN, its agents, and employees. Neither the documents nor their contents shall be released to any third party without the prior written consent of OC SAN. This provision does not apply to information that (a) was publicly known, or otherwise known to the CONSULTANT, at the time that it was disclosed to the CONSULTANT by OC SAN, (b) subsequently becomes publicly known to the CONSULTANT other than through disclosure by OC SAN.

**B. OC SAN'S OBLIGATION TO COMPLETE SITE WORK AND SALE OF SYSTEM.** CONSULTANT'S obligations set forth in this Section 1.B shall apply only to the sale of the SYSTEM.

1. As between the CONSULTANT and OC SAN, the completion of the SITE WORK in accordance with the designs, drawings, and specifications provided by the CONSULTANT shall be the sole responsibility of OC SAN shall use commercially reasonable efforts to complete the SITE WORK in accordance with the project schedule set forth in Attachment "A" – Scope of Work shall notify CONSULTANT in writing when it believes that the SITE WORK has been completed, and CONSULTANT shall promptly thereafter inspect the SITE WORK for conformance to the designs, drawings, and specifications provided to OC SAN under the DESIGN SERVICES. If CONSULTANT believes that the SITE WORK does not conform to the design, drawings, or specifications, CONSULTANT shall notify OC SAN of the details of such nonconformance, and OC SAN shall promptly remedy such nonconformance at OC SAN's sole cost and expense. In the event of any delay caused by the SITE WORK not

meeting the project schedule set forth in Section A-2 of Attachment "A", OC SAN shall be responsible for reimbursing CONSULTANT for its costs and expenses incurred as a result of such delay.

2. Following OC SAN's completion of the SITE WORK in accordance with the designs, drawings, and specifications provided to OC SAN under the DESIGN SERVICES, as reasonably determined by the CONSULTANT, CONSULTANT shall deliver the SYSTEM in accordance with the timeframe specified in Attachment "A" provided that any such timeframe shall be extended by the number of days by which the SITE WORK was not completed in accordance with the project schedule set forth in Section A-2 of Attachment "A". For the avoidance of doubt, CONSULTANT shall have no obligation to deliver or install the SYSTEM unless and until the SITE WORK is completed in accordance with the terms of this Agreement.
3. Upon (1) payment in full by OC SAN for the SYSTEM in accordance with this Agreement and (2) the conclusion of the Section A-3 of Attachment "A", CONSULTANT shall provide to OC SAN a bill of sale transferring title to the SYSTEM and any components thereof, free of any liens or encumbrances. Concurrently therewith, CONSULTANT shall also provide OC SAN with the operations and maintenance manual, step-by-step standard operating procedures, and diagrams of the SYSTEM (such items, the "DOCUMENTATION").

**C. INSTALLATION, OPERATIONS, MAINTENANCE, AND TRAINING SERVICES.**

The provisions set forth in this Section 1.C shall apply only with respect to the Section A-3 of Attachment "A" and not to any other obligations of CONSULTANT set forth herein.

1. Following the delivery and sale of the SYSTEM as contemplated in Section 1.B.2 and Section 1.B.3, the CONSULTANT shall use commercially reasonable efforts to install the SYSTEM as described in Section A-3 of Attachment "A".
2. Commencing on the date on which the SITE WORK described in Section 1.B.2. is complete and with the completion of Task 5 in Section A-3 of Attachment "A", the CONSULTANT shall perform Tasks 6–8 in Section A-3 of Attachment "A".
3. Ending on the date that is six (6) months from the commencement of Task 7 in Section A-3 of Attachment "A" ("CONSULTANT OPERATING TERM") and successful achievement of operating criteria identified in the "Controlled Study Plan", CONSULTANT and OC SAN shall reasonably cooperate to transfer the ongoing operation and maintenance of the SYSTEM to personnel of OC SAN shall make available qualified operations personnel and CONSULTANT shall use commercially reasonable efforts to train such personnel to operate and maintain the SYSTEM in accordance with the DOCUMENTATION.
4. Upon the completion of Tasks 5-9 in Section A-3 of Attachment "A", INSTALLATION, OPERATIONS, MAINTENANCE, AND TRAINING SERVICES shall automatically terminate, and, as between the parties, OC SAN shall be

solely responsible for all operating and maintenance activities pertaining to the SYSTEM.

**D. SYSTEM SUPPORT SERVICES.** The provisions set forth in this Section 1.D shall apply only with respect to the SYSTEM SUPPORT SERVICES and not to any other obligations of CONSULTANT set forth herein

1. Commencing on the completion of INSTALLATION, OPERATIONS, MAINTENANCE, AND TRAINING SERVICES and continuing for a period of no more than six (6) months thereafter, CONSULTANT shall use commercially reasonable efforts to provide Section A-4 of Attachment "A" on-demand O&M support of the SYSTEM in accordance with Section A-4 of Attachment "A".

## **2. COMPENSATION**

Total compensation shall be paid to CONSULTANT for services in accordance with the following provisions:

### **A. Total Compensation**

Total compensation shall be firm fixed price Five Million One Hundred Thirty-Nine Thousand Dollars (\$5,139,000) total compensation to CONSULTANT including burdened labor (salaries plus benefits), overhead, profit, direct costs, and Subconsultant(s) fees and costs shall be a firm fixed price as set forth in Attachment "E" - Fee Proposal.

### **B. Limitation of Costs**

If, at any time, CONSULTANT estimates the cost of performing its obligations under this Agreement described in CONSULTANT's Attachment "A" will exceed one hundred percent (100%) of the approved total amount of the Agreement, including approved additional compensation, CONSULTANT shall notify OC SAN immediately, and in writing. This written notice shall indicate the additional amount necessary to complete its obligations hereunder. Any cost incurred in excess of the approved total amount of the Agreement without the express written consent of OC SAN's authorized representative shall be at CONSULTANT's own risk. This written notice shall be provided separately from, and in addition to any notification requirements contained in the CONSULTANT's invoice and monthly progress report.

## **3. REALLOCATION OF TOTAL COMPENSATION**

OC SAN, by its Director of Engineering, shall have the right to approve a reallocation of the incremental amounts constituting the total compensation, provided that (i) the total compensation is not increased or decreased and (ii) no reallocation between (a) the DESIGN SERVICES, (b) the sale of the SYSTEM, (c) the INSTALLATION, OPERATIONS, MAINTENANCE, AND TRAINING SERVICES, or (d) the SYSTEM SUPPORT SERVICES shall be permitted without the consent of CONSULTANT.

#### 4. PAYMENT

##### A. Payments for DESIGN SERVICES, INSTALLATION, OPERATIONS, MAINTENANCE, AND TRAINING SERVICES, and SYSTEM SUPPORT SERVICES.

1. OC SAN agrees to pay the CONSULTANT based on the itemized breakdown stated in Attachment "E". CONSULTANT will submit monthly invoices for DESIGN SERVICES, INSTALLATION, OPERATIONS, MAINTENANCE, AND TRAINING SERVICES, and SYSTEM SUPPORT SERVICES. CONSULTANT shall include in its monthly invoice for the DESIGN SERVICES, INSTALLATION, OPERATIONS, MAINTENANCE, AND TRAINING SERVICES, and SYSTEM SUPPORT SERVICES, a detailed breakdown of costs associated with the performance of any corrections or revisions of the work for that invoicing period. CONSULTANT shall allocate costs in the same manner as it would for payment requests as described in this Section of the Agreement. CONSULTANT shall warrant and certify the accuracy of these costs and understand that submitted costs are subject to Section 11 - AUDIT PROVISIONS.
2. CONSULTANT may submit monthly or periodic statements requesting payment for those items included in Section 2 - COMPENSATION hereof in the format reasonably required by OC SAN. Such requests shall be based upon the amount and value of the work and services performed by CONSULTANT under this Agreement and shall be prepared by CONSULTANT and accompanied by such supporting data, including a detailed breakdown of all costs incurred and project element work performed during the period covered by the statement, as may be required by OC SAN.

Upon approval of such payment request by OC SAN, payment shall be made to CONSULTANT as soon as practicable of one hundred percent (100%) of the approved invoiced amount on a per-project-element basis, and in any event, within thirty (30) days of OC SAN's approval of undisputed invoice or statement.

For the DESIGN SERVICES and other services described in Attachment "A" and Attachment "E" of this Agreement as applicable, If OC SAN determines that such work is incomplete and that the amount of payment with respect to such incomplete work is in excess of:

- (i) The amount considered by OC SAN's Director of Engineering to be adequate for the protection of OC SAN in its efforts to complete the work; or
- (ii) The percentage of the work accomplished for each project element.

Director of Engineering may, at his/her discretion, retain an amount equal to that which insures that the total amount paid to that date does not exceed the percentage of the completed work for the DESIGN SERVICES and other services described in Attachment "A" and Attachment "E" as applicable.

3. Upon completion by CONSULTANT in accordance with Attachment "E" and this Agreement of DESIGN SERVICES; INSTALLATION, OPERATIONS, MAINTENANCE, AND TRAINING SERVICES; or SYSTEM SUPPORT SERVICES, as the case may be, and upon acceptance of such work by OC SAN, such acceptance not to be unreasonably withheld, conditioned, or delayed, CONSULTANT will be paid the unpaid balance of any money due for such work, including any retained percentages relating to any portions of the work.
4. Upon completion of the DESIGN SERVICES, INSTALLATION, OPERATIONS, MAINTENANCE, AND TRAINING SERVICES, or SYSTEM SUPPORT SERVICES performed hereunder and prior to final payment under this Agreement for the applicable work, or prior settlement upon termination of this Agreement, and as a condition precedent thereto, CONSULTANT shall execute and deliver to OC SAN a release of all claims against OC SAN arising under or by virtue of this Agreement other than such claims, if any, as may be specifically exempted by CONSULTANT from the operation of the release in stated amounts to be set forth therein.
5. Pursuant to the California False Claims Act (Government Code Sections 12650-12655), any CONSULTANT that knowingly submits a false claim to OC SAN for compensation under the terms of this Agreement may be held liable for treble damages and up to a ten thousand dollars (\$10,000) civil penalty for each false claim submitted. This Section shall also be binding on all Subconsultants.
6. A CONSULTANT or Subconsultant shall be deemed to have submitted a false claim when the CONSULTANT or Subconsultant: a) knowingly presents or causes to be presented to an officer or employee of OC SAN a false claim or request for payment or approval; b) knowingly makes, uses, or causes to be made or used a false record or statement to get a false claim paid or approved by OC SAN; c) conspires to defraud OC SAN by getting a false claim allowed or paid by OC SAN; d) knowingly makes, uses, or causes to be made or used a false record or statement to conceal, avoid, or decrease an obligation to OC SAN; or e) is a beneficiary of an inadvertent submission of a false claim to OC SAN, and fails to disclose the false claim to OC SAN within a reasonable time after discovery of the false claim.

**B. Payments for Sale of the SYSTEM.** This Section 4.B. shall apply only to the sale of the SYSTEM.

1. Payments for the sale of the SYSTEM shall be made based on the achievement of the milestones and pursuant to the schedule set forth on Attachment "E".
2. Payment shall be made by OC SAN within thirty (30) days of OC SAN's approval of the CONSULTANT's invoice setting forth the amount of payment

and the corresponding milestone(s) for which such payment is sought. OC SAN to review and approve invoices in 10 business days.

3. If OC SAN issues a purchase order, then (a) OC SAN shall inform CONSULTANT of such purchase order and (b) invoices shall include the purchaser order number.
4. Invoices shall be emailed by CONSULTANT to OC SAN at [APStaff@ocsan.gov](mailto:APStaff@ocsan.gov) and "INVOICE" and the purchase order number shall be referenced in the subject line.
5. If any amount is the subject of a good faith dispute between CONSULTANT and OC SAN, OC SAN shall pay the amounts due under the applicable invoice, less the disputed amount, and shall advise CONSULTANT in reasonable detail of the reason for the dispute. CONSULTANT and OC SAN will negotiate in good faith to attempt to resolve such dispute, and if such efforts are unsuccessful, the provisions of Section 18 shall apply.
6. CONSULTANT assumes full responsibility for all transportation, transportation scheduling, packing, handling, insurance, and other services associated with delivery of the SYSTEM.

**5. CALIFORNIA DEPARTMENT OF INDUSTRIAL RELATIONS (DIR) REGISTRATION AND RECORD OF WAGES**

- A. To the extent CONSULTANT's employees and/or Subconsultants who will perform Work during the design and preconstruction phases of a construction contract for which Prevailing Wage Determinations have been issued by the DIR and as more specifically defined under Labor Code Section 1720 et seq, CONSULTANT and Subconsultants shall comply with the registration requirements of Labor Code Section 1725.5. Pursuant to Labor Code Section 1771.4, the Work is subject to compliance monitoring and enforcement by the DIR.
- B. The CONSULTANT and Subconsultants shall maintain accurate payroll records and shall comply with all the provisions of Labor Code Section 1776, and shall submit payroll records to the Labor Commissioner pursuant to Labor Code Section 1771.4(a)(3). Penalties for non-compliance with the requirements of Section 1776 may be deducted from progress payments per Section 1776.
- C. Pursuant to Labor Code Section 1776, the CONSULTANT and Subconsultants shall furnish a copy of all certified payroll records to OC SAN and/or general public upon request, provided the public request is made through OC SAN, the Division of Apprenticeship Standards or the Division of Labor Enforcement of the Department of Industrial Relations.
- D. The CONSULTANT and Subconsultants shall comply with the applicable job site notices posting requirements established by the Labor Commissioner per Title 8, California Code of Regulation Section 16461(e).



**6. DOCUMENT OWNERSHIP – SUBSEQUENT CHANGES TO PLANS AND SPECIFICATIONS.**

**A. Ownership of Documents for the DESIGN SERVICES.**

All documents, including but not limited to, original plans, studies, sketches, drawings, computer printouts and disk files, and specifications prepared as deliverables under the DESIGN SERVICES only, shall be the property of OC SAN. OC SAN's ownership of these documents includes use of, reproduction or reuse of and all incidental rights, whether or not the work for which they were prepared has been performed. OC SAN ownership entitlement arises upon payment or any partial payment for work performed and includes ownership of any and all work product completed prior to that payment. This Section shall apply whether the DESIGN SERVICES are terminated: a) by the completion of the Agreement, or b) in accordance with other provisions of this Agreement. Notwithstanding any other provision of this paragraph or Agreement, the CONSULTANT shall have the right to make copies of all such plans, studies, sketches, drawings, computer printouts and disk files, and specifications.

**B.** CONSULTANT shall not be responsible for damage caused by subsequent changes to or uses of the plans or specifications, where the subsequent changes or uses are not authorized or approved by CONSULTANT, provided that the service rendered by CONSULTANT was not a proximate cause of the damage.

**C.** For the avoidance of doubt, CONSULTANT retains ownership of, and does not transfer any right, title, or interest in or to any intellectual property rights other than as expressly set forth in Section 6.A.

**D.** Any software, including without limitation, source code, object code or microcode that is included with or embed in the System (collectively, the "Software") is owned by CONSULTANT and is the Confidential Information of CONSULTANT. Subject to the terms and conditions of this Agreement, OC SAN is granted a non-exclusive, non-transferable, and non-sublicensable license to use the Software solely in connection with OC SAN's use of the System. The rights and licenses granted to OC SAN with respect to the Software are limited to those expressly stated in this Agreement, and no other rights or licenses shall arise by implication or otherwise. Without limiting the generality of the foregoing, OC SAN shall not at any time, directly or indirectly, except as explicitly provided herein: (i) use the Software for any purpose other than as specified in this Agreement or knowingly make the Software available to unauthorized parties; (ii) copy, display, distribute or modify the Software in any manner or create derivative works based on the Software; (iii) rent, lease, lend, sell, license, sublicense, or otherwise distribute all or any part of the Software; (iv) reverse engineer, disassemble, decompile, decode, adapt, or otherwise attempt to derive or gain access to any source code of the Software, in whole or in part, or (v) access the Software in order to (1) build a competitive product or service, or (2) copy any content, features, functions or graphics of the Software.

## 7. INSURANCE

### A. General

- i. Insurance shall be issued and underwritten by insurance companies acceptable to OC SAN.
- ii. Insurers must have an "A-" Policyholder's Rating, or better, and Financial Rating of at least Class VIII, or better, in accordance with the most current A.M. Best's Guide Rating. However, OC SAN will accept State Compensation Insurance Fund, for the required policy of Workers' Compensation Insurance subject to OC SAN's option to require a change in insurer in the event the State Fund financial rating is decreased below "B". Further, OC SAN will require CONSULTANT to substitute any insurer whose rating drops below the levels herein specified. Said substitution shall occur within twenty (20) days of written notice to CONSULTANT, by OC SAN or its agent.
- iii. Coverage shall be in effect prior to the commencement of any work under this Agreement.

### B. General Liability

The CONSULTANT shall maintain during the life of this Agreement, including the period of warranty, commercial general liability insurance written on an occurrence basis providing the following minimum limits of liability coverage: One Million Dollars (\$1,000,000) per occurrence with Three Million Dollars (\$3,000,000) aggregate. Said insurance shall include coverage for the following hazards: premises-operations, blanket contractual liability (for this Agreement), products liability/completed operations (including any product manufactured or assembled), broad form property damage, blanket contractual liability, independent contractors liability, personal and advertising injury, mobile equipment, owners and contractors protective liability, and cross liability and severability of interest clauses. A statement on an insurance certificate will not be accepted in lieu of the actual additional insured endorsement(s). If requested by OC SAN and applicable, XCU coverage (Explosion, Collapse and Underground) and Riggers/On Hook Liability must be included in the General Liability policy and coverage must be reflected on the submitted Certificate of Insurance.

### C. Umbrella Excess Liability

The minimum limits of general liability and automobile liability insurance required, as set forth herein, shall be provided for through either a single policy of primary insurance or a combination of policies of primary and umbrella excess coverage. Umbrella excess liability coverage shall be issued with limits of liability which, when combined with the primary insurance, will equal the minimum limits for general liability and automobile liability.

D. Automobile/Vehicle Liability Insurance

The CONSULTANT shall maintain a policy of automobile liability insurance on a comprehensive form covering all owned, non-owned, and hired automobiles, trucks, and other vehicles providing the following minimum limit of liability coverage: combined single limit of One Million Dollars (\$1,000,000). A statement on an insurance certificate will not be accepted in lieu of the actual additional insured endorsement.

E. Drone Liability Insurance

If a drone will be used, drone liability insurance must be maintained by CONSULTANT in the amount of one million dollars (\$1,000,000) in form acceptable to OC SAN.

F. Workers' Compensation Insurance

The CONSULTANT shall provide such workers' compensation insurance as required by the Labor Code of the State of California in the amount of the statutory limit, including Employer's Liability Insurance with a minimum limit of One Million Dollars (\$1,000,000) per occurrence. Such workers' compensation insurance shall be endorsed to provide for a waiver of subrogation in favor of OC SAN. A statement on an insurance certificate will not be accepted in lieu of the actual endorsements unless the insurance carrier is State of California Insurance Fund and the identifier "SCIF" and endorsement numbers 2570 and 2065 are referenced on the certificate of insurance. If an exposure to Jones Act liability may exist, the insurance required herein shall include coverage for Jones Act claims.

G. Errors and Omissions/Professional Liability

CONSULTANT shall maintain in full force and effect, for the duration of this Agreement, standard industry form professional negligence errors and omissions insurance coverage in an amount of not less than One Million Dollars (\$1,000,000) with limits in accordance with the provisions of this Paragraph. If the policy of insurance is written on a "claims made" basis, said policy shall be continued in full force and effect at all times during the term of this Agreement, and for a period of five (5) years from the Effective Date of this Agreement.

In the event of termination of said policy during the period, CONSULTANT shall obtain continuing insurance coverage for the prior acts or omissions of CONSULTANT during the course of performing services under the term of this Agreement. Said coverage shall be evidenced by either a new policy evidencing no gap in coverage or by separate extended "tail" coverage with the present or new carrier.

In the event the present policy of insurance is written on an "occurrence" basis, said policy shall be continued in full force and effect during the term of this Agreement or until completion of the services provided for in this Agreement,

whichever is later. In the event of termination of said policy during this period, new coverage shall be obtained for the required period to insure for the prior acts of CONSULTANT during the course of performing services under the term of this Agreement.

CONSULTANT shall provide to OC SAN a certificate of insurance in a form acceptable to OC SAN indicating the deductible or self-retention amounts and the expiration date of said policy, and shall provide renewal certificates not less than ten (10) days prior to the expiration of each policy term.

H. Pollution Liability

CONSULTANT shall maintain in full force and effect, throughout the term of this Agreement, Pollution Liability insurance coverage in the amount of not less than One Million Dollars (\$1,000,000), of a type that is appropriate for the product or service offered.

I. Proof of Coverage

The CONSULTANT shall furnish OC SAN with original certificates and amendatory endorsements effecting coverage. Said policies and endorsements shall conform to the requirements herein stated. All certificates and endorsements are to be received and approved by OC SAN before work commences. OC SAN reserves the right to require complete, certified copies of all required insurance policies, including endorsements, effecting the coverage required, at any time. The following are approved forms that must be submitted as proof of coverage:

- Certificate of Insurance ACORD Form 25 (5/2010) or equivalent.
- Additional Insurance (General Liability) (ISO Form) CG2010 11 85 or  
The combination of (ISO Forms) CG 2010 10 01 and CG 2037 10 01

All other Additional Insured endorsements must be submitted for approval by OC SAN, and OC SAN may reject alternatives that provide different or less coverage to OC SAN.

- Additional Insured (Auto Liability) Submit endorsement provided by carrier for OC SAN approval.
- Waiver of Subrogation State Compensation Insurance Fund Endorsement No. 2570 or equivalent.
- Cancellation Notice State Compensation Insurance Fund Endorsement No. 2065 or equivalent.

J. Cancellation Notice

Each insurance policy required herein shall be endorsed to state that coverage shall not be cancelled by either party, except after thirty (30) days' prior written notice. The Cancellation Section of ACORD Form 25 (5/2010) shall state the required thirty (30) days' written notification. The policy shall not terminate, nor shall it be cancelled, nor the coverage reduced until thirty (30) days after written notice is given to OC SAN except for nonpayment of premium, which shall require not less than ten (10) days written notice to OC SAN. Should there be changes in coverage or an increase in deductible or SIR amounts, the CONSULTANT and its insurance broker/agent shall send to OC SAN a certified letter which includes a description of the changes in coverage and/or any increase in deductible or SIR amounts. The certified letter must be sent to the attention of Risk Management, and shall be received by OC SAN not less than thirty (30) days prior to the effective date of the change(s) if the change would reduce coverage or increase deductibles or SIR amounts or otherwise reduce or limit the scope of insurance coverage provided to OC SAN.

K. Primary Insurance

All liability policies shall contain a Primary and Non-Contributory Clause. Any other insurance maintained by OC SAN shall be excess and not contributing with the insurance provided by CONSULTANT.

L. Separation of Insured

All liability policies shall contain a "Separation of Insureds" clause.

M. Non-Limiting (if applicable)

Nothing in this document shall be construed as limiting in any way, nor shall it limit the indemnification provision contained in this Agreement, or the extent to which CONSULTANT may be held responsible for payment of damages to persons or property.

N. Deductibles and Self-Insured Retentions

Any deductible and/or self-insured retention must be declared to OC SAN on the Certificate of Insurance. All deductibles and/or self-insured retentions require approval by OC SAN. At the option of OC SAN, either: the insurer shall reduce or eliminate such deductible or self-insured retention as respects OC SAN; or the CONSULTANT shall provide a financial guarantee satisfactory to OC SAN guaranteeing payment of losses and related investigations, claim administration and defense expenses.

O. Defense Costs

Liability policies shall have a provision that defense costs for all insureds and additional insureds are paid in addition to and do not deplete any policy limits.

P. Subconsultants

The CONSULTANT shall be responsible to establish insurance requirements for any Subconsultant hired by the CONSULTANT. The insurance shall be in amounts and types reasonably sufficient to deal with the risk of loss involving the Subconsultant's operations and work.

Q. Limits Are Minimums

If the CONSULTANT maintains higher limits than any minimums shown above, then OC SAN requires and shall be entitled to coverage for the higher limits maintained by CONSULTANT.

**8. SCOPE CHANGES**

In the event of a change in the Scope of Work, reasonably requested by OC SAN, the parties hereto shall use good faith efforts to negotiate an amendment to this Agreement setting forth with particularity all terms of the new Agreement, including but not limited to any additional CONSULTANT's fees. In no event shall (a) either party be required to accept a change in the Scope of Work or (b) CONSULTANT be bound to perform any requested change in the Scope of Work until the parties agree in writing to such change.

**9. PROJECT TEAM AND SUBCONSULTANTS**

CONSULTANT shall provide to OC SAN, prior to execution of this Agreement, the names and full description of all Subconsultants and CONSULTANT's project team members anticipated to be used on this project by CONSULTANT. CONSULTANT shall include a description of the scope of work to be done by each Subconsultant and each CONSULTANT's project team member. CONSULTANT shall include the respective compensation amounts for CONSULTANT and each Subconsultant on a per-project-element basis, broken down as indicated in Section 2 - COMPENSATION.

There shall be no substitution of the listed Subconsultants and CONSULTANT's project team members without prior written approval by OC SAN.

**10. ENGINEERING REGISTRATION AND CONTRACTOR LICENSING**

- A. The CONSULTANT shall comply with the Contractor's license requirements, certifications, training, skills, experience, and other qualifications related to goods and services supplied with the SYSTEM.
- B. The CONSULTANT's personnel and their subconsultants performing the DESIGN and other professional services, as applicable, that are comprised of registered engineers and a staff of specialists and draftsmen in each department. The firm itself is not a registered engineer but represents and agrees that wherever in the performance of this Agreement requires the services of a registered engineer, such services hereunder will be performed under the direct supervision of registered engineers.

## 11. AUDIT PROVISIONS

- A. From the Effective Date until CONSULTANT's receipt of the final payment hereunder, OC SAN retains the right to perform an audit using its own staff or engage a third party auditor who does not have a conflict with CONSULTANT, to access, review, examine, and audit, at OC SAN's own cost and expense, any books and records that CONSULTANT is required by this Agreement to maintain and that OC SAN determines reasonably necessary to verify that the CONSULTANT is in compliance with all requirements under this Agreement. The CONSULTANT shall include OC SAN's right as described above, in any and all of their subcontracts, and shall ensure that these rights are binding upon all Subconsultants.
- B. OC SAN retains the right to perform an audit using its own staff or engage a third party auditor who does not have a conflict with CONSULTANT, to examine CONSULTANT's financial books and records OC SAN that are reasonably necessary to verify all direct and indirect costs, of whatever nature, which are claimed to have been incurred, or anticipated to be incurred or to ensure CONSULTANT's compliance with all requirements under this Agreement during the term of this Agreement and for a period of three (3) years after its termination.
- C. CONSULTANT shall maintain complete and accurate records in accordance with generally accepted industry standard practices for the periods of time required under Sections 11.A and 11.B.
- D. The provisions of this Section D shall apply to any audit conducted pursuant to this Section 11. The CONSULTANT shall make available to OC SAN's third party auditor for review and audit, all project related accounting records and documents, and any other financial data within 15 days after receipt of written notice from OC SAN. Promptly following such auditor's written request, the CONSULTANT shall submit exact duplicates of originals of all requested records to OC SAN. If an audit is performed, CONSULTANT shall ensure that a qualified employee of the CONSULTANT will be available to assist OC SAN's auditor in obtaining all project related accounting records and documents, and any other financial data. Any records or documents provided to or otherwise made available by CONSULTANT under this Section 11 are and shall remain the confidential information of CONSULTANT and may not be disclosed to any third party or used for any reason other than as set forth in this Section 11. Notwithstanding anything to the contrary in this Agreement, in no event shall CONSULTANT be obligated to provide OC SAN or its auditor technical information regarding the SYSTEM that CONSULTANT maintains as a trade secret.

## 12. LEGAL RELATIONSHIP BETWEEN PARTIES

The legal relationship between the parties hereto is that of an independent contractor and nothing herein shall be deemed to make CONSULTANT an employee of OC SAN.

### 13. NOTICES

All notices hereunder and communications regarding the interpretation of the terms of this Agreement, or changes thereto, shall be effected by delivery of said notices in person or by depositing said notices in the U.S. mail, registered or certified mail, return receipt requested, postage prepaid.

Notices shall be mailed to OC SAN at:

ORANGE COUNTY SANITATION DISTRICT  
10844 Ellis Avenue  
Fountain Valley, CA 92708-7018  
Attention: «Contracts Administrator's Name», «Contracts Administrator's Title»  
Copy: Jacob Dalgoff, Project Manager

Notices shall be mailed to CONSULTANT at:

374Water Systems, Inc.  
3710 Shannon Road  
Suite 51877  
Durham, NC 27717  
Attention: Kobe Nagar, President and Chief Executive Officer  
Copy: Belton Copp, Project Manager

All communication regarding the Scope of Work, will be addressed to the Project Manager. Direction from other OC SAN's staff must be approved in writing by OC SAN's Project Manager prior to action from the CONSULTANT.

### 14. TERMINATION

OC SAN may terminate this Agreement at any time, without cause, upon giving sixty (60) days written notice to CONSULTANT. In the event of such termination, CONSULTANT shall be entitled to compensation for work performed on a prorated basis through and including the effective date of termination and for any non-cancellable costs that will be incurred following the effective date of termination.

CONSULTANT shall be permitted to terminate this Agreement upon thirty (30) days written notice only if CONSULTANT is not compensated for billed amounts in accordance with the provisions of this Agreement, when the same are due.

Notice of termination shall be mailed to OC SAN and/or CONSULTANT in accordance with Section 13 - NOTICES.

If not earlier terminated in accordance with the provisions set forth in this Section 14, this Agreement shall automatically terminate upon the completion of sale of the System and the completion of all of the services set forth in Sections A-1 through A-3 of Attachment "A".



## 15. DESIGN SERVICES DOCUMENTS; RESULTS; PUBLICITY

The documents specified in Section A-1 of Attachment A as deliverables to be provided by CONSULTANT as part of the DESIGN SERVICES shall become the property of OC SAN upon the completion of the work. CONSULTANT agrees to furnish to

1. OC SAN copies of such deliverables promptly following its receipt of a request in writing by OC SAN. Except as set forth in this Section 15, CONSULTANT transfers no intellectual property rights to OC SAN under this Agreement.
2. If at any time following the transfer of title to the SYSTEM to OC SAN, CONSULTANT learns any information about the SYSTEM as a result of its performance of the INSTALLATION, OPERATIONS, MAINTENANCE, AND TRAINING SERVICES; or SYSTEM SUPPORT SERVICES (any such information, the "RESULTS"), then CONSULTANT shall have the right to use the RESULTS for any purpose. OC SAN may not use the results for any purpose other than as necessary or useful to operate, maintain and repair the System for its intended purpose. Use of this material for the purpose of presenting at trade shows and/or conferences is acceptable with the approval of CONSULTANT.
3. The parties shall use reasonable efforts to, promptly following the Effective Date, issue a mutually agreed-upon joint press release or other document as required by law regarding the fact that the parties have entered into this Agreement. Promptly following the conclusion of the CONSULTANT OPERATING TERM, the parties shall use reasonable efforts to issue an additional mutually agreed-upon joint press release regarding OC SAN's purchase and operating of the SYSTEM. Any information contained in any such press release may be subsequently disclosed by either party without the consent of the other party for any purpose. OC SAN hereby agrees to allow CONSULTANT to bring prospective investors and customers to OC SAN's property to view the SYSTEM during regular business hours during the CONSULTANT OPERATING TERM. Following the conclusion of the CONSULTANT OPERATING TERM, and following CONSULTANT's reasonable advance written request, OC SAN agrees to permit CONSULTANT and its prospective customers to access and view the SYSTEM during regular business hours.

## 16. COMPLIANCE

### A. Labor

CONSULTANT certifies by the execution of this Agreement that it pays employees not less than the minimum wage as defined by law, and that it does not discriminate in its employment with regard to race, color, religion, sex or national origin; that it is in compliance with all federal, state and local directives and executive orders regarding non-discrimination in employment; and that it agrees to demonstrate positively and aggressively the principle of equal opportunity in employment.

B. Air Pollution

CONSULTANT and its subconsultants and subcontractors shall comply with all federal, state and local air pollution control laws and regulations applicable to the services provided under this Agreement. C. Iran Contracting Act

C. Iran Contracting Act

CONSULTANT and its subconsultants and subcontractors shall comply with the Iran Contracting Act of 2010 (Public Contract Code sections 2200-2208).

**17. AGREEMENT EXECUTION AUTHORIZATION**

Both OC SAN and CONSULTANT do covenant that each individual executing this document by and on behalf of each party is a person duly authorized to execute agreements for that party.

**18. DISPUTE RESOLUTION**

In the event of a dispute arising between the parties regarding performance or interpretation of this Agreement, the dispute shall be resolved by binding arbitration under the auspices of the Judicial Arbitration and Mediation Service ("JAMS"), or similar organization or entity conducting alternate dispute resolution services.

**19. ATTORNEY'S FEES, COSTS AND NECESSARY DISBURSEMENTS**

If any action at law or in equity or if any proceeding in the form of an Alternative Dispute Resolution (ADR) is necessary to enforce or interpret the terms of this Agreement, the prevailing party shall be entitled to reasonable attorney's fees, costs and necessary disbursements in addition to any other relief to which it may be entitled.

**20. PROGRESS REPORTS**

Monthly progress reports shall be submitted for review by the tenth day of the following month and must include as a minimum: 1) current activities, 2) future activities, 3) potential items that are not included in the Scope of Work, 4) concerns and possible delays, 5) percentage of completion, and 6) budget status.

**21. WARRANTY FOR DESIGN SERVICES; WARRANTY OF SYSTEM**

**WARRANTY FOR DESIGN SERVICES.** CONSULTANT shall perform the DESIGN SERVICES in accordance with generally accepted industry and professional standards. If, within the 12-month period following completion of the DESIGN SERVICES, OC SAN informs CONSULTANT that any part of the DESIGN SERVICES fail to meet those standards, CONSULTANT shall, within the time prescribed by OC SAN, use commercially reasonable efforts to correct or complete the noted deficiency(ies).

**WARRANTY OF SYSTEM.** If, within the 12-month period following completion of startup and commissioning of the SYSTEM, performed as part of Task 6 in Section A-3

of Attachment "A" as described in Section 1.C.2, OC SAN informs CONSULTANT that any part of the SYSTEM fails to meet the applicable standards required under this Agreement, CONSULTANT shall, within the time agreed to by OC SAN and CONSULTANT, use commercially reasonable efforts to correct or remedy the noted deficiency(ies) at CONSULTANT'S sole cost and expense. If the defect cannot be corrected or remedied through CONSULTANT's use of commercially reasonable efforts after a reasonable period of time, then OC SAN's sole remedy shall be to re-sell the AirSCWO Nix6 to CONSULTANT in accordance with the procedures set forth in Section 30 - SYSTEM UPGRADE CREDIT; CONSULTANT'S REPURCHASE RIGHT. Notwithstanding the foregoing, if the failure of the SYSTEM to meet the applicable standards is the result of OC SAN's use of the SYSTEM in a manner other than that for which it was designed or intended or otherwise not in accordance with the DOCUMENTATION, CONSULTANT shall not be obligated to correct or remedy such defect. OC SAN shall provide CONSULTANT remote monitoring access to the control system via the web.

Except as set forth in this Section 21, CONSULTANT disclaims all warranties, express or implied, including the implied warranties of fitness for a particular purpose, merchantability, and noninfringement.

## **22. INDEMNIFICATION**

To the fullest extent permitted by law, CONSULTANT shall indemnify, defend (at CONSULTANT's sole cost and expense and with legal counsel approved by OC SAN, which approval shall not be unreasonably withheld), protect and hold harmless OC SAN and all of OC SAN's officers, directors, employees, CONSULTANT's, and agents (collectively the "Indemnified Parties"), from and against any and all claims, damages, liabilities, causes of action, suits, arbitration awards, losses, judgments, fines, penalties, costs and expenses (including, without limitation, attorneys' fees, disbursements and court costs, and all other professional, expert or CONSULTANT's fees and costs and OC SAN's general and administrative expenses; individually, a "Claim"; collectively, "Claims") which may arise from or are in any manner related, directly or indirectly, to any work performed, or any operations, activities, or services provided by CONSULTANT in carrying out its obligations under this Agreement to the extent of the negligent, recklessness and/or willful misconduct of CONSULTANT, its principals, officers, agents, employees, CONSULTANT's suppliers, CONSULTANT, Subconsultants, subcontractors, and/or anyone employed directly or indirectly by any of them, regardless of any contributing negligence or strict liability of an Indemnified Party. Notwithstanding the foregoing, nothing herein shall be construed to require CONSULTANT to indemnify the Indemnified Parties from any Claim arising solely from:

- (A) the active negligence or willful misconduct of the Indemnified Parties; or
- (B) a natural disaster or other act of God, such as an earthquake; or
- (C) the independent action of a third party who is neither one of the Indemnified Parties nor the CONSULTANT, nor its principal, officer, agent, employee, nor CONSULTANT's supplier, CONSULTANT, Subconsultant, subcontractor, nor anyone employed directly or indirectly by any of them.

Exceptions (A) through (B) above shall not apply, and CONSULTANT shall, to the fullest extent permitted by law, indemnify the Indemnified Parties, from Claims arising from more than one cause if any such cause taken alone would otherwise result in the obligation to indemnify hereunder.

CONSULTANT's liability for indemnification hereunder is in addition to any liability CONSULTANT may have to OC SAN for a breach by CONSULTANT of any of the provisions of this Agreement. Under no circumstances shall the insurance requirements and limits set forth in this Agreement be construed to limit CONSULTANT's indemnification obligation or other liability hereunder. The terms of this Agreement are contractual and the result of negotiation between the parties hereto. Accordingly, any rule of construction of contracts (including, without limitation, California Civil Code Section 1654) that ambiguities are to be construed against the drafting party, shall not be employed in the interpretation of this Agreement.

### **23. DUTY TO DEFEND**

The duty to defend hereunder is wholly independent of and separate from the duty to indemnify and such duty to defend shall exist regardless of any ultimate liability of CONSULTANT and shall be consistent with Civil Code Section 2782.8. Such defense obligation shall arise immediately upon presentation of a Claim by any person if, without regard to the merit of the Claim, such Claim could potentially result in an obligation to indemnify one or more Indemnified Parties, and upon written notice of such Claim being provided to CONSULTANT. Payment to CONSULTANT by any Indemnified Party or the payment or advance of defense costs by any Indemnified Party shall not be a condition precedent to enforcing such Indemnified Party's rights to indemnification hereunder. In the event a final judgment, arbitration, award, order, settlement, or other final resolution expressly determines that the claim did not arise out of, pertain to, or relate to the negligence, recklessness, or willful misconduct of the CONSULTANT, to any extent, then OC SAN will reimburse CONSULTANT for the reasonable costs of defending the Indemnified Parties against such claims.

CONSULTANT's indemnification obligation hereunder shall survive the expiration or earlier termination of this Agreement until such time as action against the Indemnified Parties for such matter indemnified hereunder is fully and finally barred by the applicable statute of limitations.

### **24. LIMITATION OF LIABILITY**

Except for CONSULTANT's obligations to indemnify and defend OC SAN for personal injury, bodily injury and property damage to the extent otherwise required by this Agreement, the CONSULTANT's total liability to OC SAN arising out of or in connection with this Agreement shall not exceed 300% value of the AirSCWO NIX6 UNIT as stated in Attachment "E".

## **25. PUBLIC RECORDS ACT**

### **A. Disclosure of Contract**

All drawings, plans, specifications, and all other information relating to the conduct of OC San's business, including information submitted by CONSULTANT, constitute a "public record" as defined in the California Public Records Act (Government Code § 6250 et. seq.) (the "Act", and each such record, a "Public Record"). OC San's disclosure of such Public Records is governed by the Act. OC San will use its best efforts to immediately inform the CONSULTANT in writing of any request for any financial records or documents marked or otherwise constituting a trade secret, Confidential Information or other proprietary information of the CONSULTANT (including a description of the requested materials, the identity and contact information of the person, entity, or agency making the request and by identifying the forum, if any in which the materials are sought or the law or regulation pursuant to which such materials are sought) so that CONSULTANT may seek, at its own cost and expense, an appropriate order or other remedy protecting its confidential information if it deems necessary, and OC San will provide CONSULTANT with a reasonable period of time (up to the maximum period of time permitted by the Act) to seek an appropriate order or remedy before OC San produces any such financial records or documents in response to such request or requirement. OC San will not advise as to the nature or content of documents entitled to protection from disclosure under the California Public Records Act.

### **B. Litigation Related to Disclosure**

In the event of litigation concerning the disclosure of any Records, OC San's sole involvement will be as a stakeholder, retaining the Public Records until otherwise ordered by a court. CONSULTANT, at its sole expense and risk, shall be fully responsible for any and all fees for prosecuting or defending any action concerning the Public Records and shall indemnify and hold OC San harmless from all costs and expenses including attorney's fees in connection with any such action.

## **26. CONSULTANT PERFORMANCE**

The CONSULTANT's performance shall be evaluated by OC SAN. A copy of the evaluation shall be sent to the CONSULTANT for comment. The evaluation, together with the comments, shall be retained by OC SAN and may be considered in future CONSULTANT selection processes.

## **27. COMPLIANCE WITH OC SAN POLICIES AND PROCEDURES**

CONSULTANT shall comply with all OC SAN policies and procedures including the Contractor Safety Standards, as applicable, all of which may be amended from time to time.

## **28. CLOSEOUT**

When OC SAN determines that all Work authorized under the Agreement is fully

complete and that OC SAN requires no further work from CONSULTANT, or the Agreement is otherwise terminated or expires in accordance with the terms of the Agreement, OC SAN shall give the Consultant written notice that the Agreement will be closed out. CONSULTANT shall submit all outstanding billings, work submittals, deliverables, reports or similarly related documents as required under the Agreement within thirty (30) days of receipt of notice of Agreement closeout.

Upon receipt of CONSULTANT's submittals, OC SAN shall commence a closeout audit of the Agreement and will either:

- i. Give the CONSULTANT a final Agreement Acceptance: or
- ii. Advise the CONSULTANT in writing of any outstanding item or items which must be furnished, completed, or corrected at the CONSULTANT's cost.

CONSULTANT shall be required to provide adequate resources to fully support any administrative closeout efforts identified in this Agreement. Such support must be provided within the timeframe requested by OC SAN.

Notwithstanding the final Agreement Acceptance the CONSULTANT will not be relieved of its obligations hereunder, nor will the CONSULTANT be relieved of its obligations to complete any portions of the work, the non-completion of which were not disclosed to OC SAN (regardless of whether such nondisclosures were fraudulent, negligent, or otherwise); and the CONSULTANT shall remain obligated under all those provisions of the Agreement which expressly or by their nature extend beyond and survive final Agreement Acceptance.

Any failure by OC SAN to reject the work or to reject the CONSULTANT's request for final Agreement Acceptance as set forth above shall not be deemed to be acceptance of the work by OC SAN for any purpose nor imply acceptance of, or agreement with, the CONSULTANT's request for final Agreement Acceptance.

## **29. FORCE MAJEURE**

Neither party shall be liable for delays caused by accident, flood, acts of God, fire, labor trouble, war, acts of government or any other cause beyond its control, but said party shall use reasonable efforts to minimize the extent of the delay. Work affected by a Force Majeure condition may be rescheduled by mutual consent or may be eliminated from the Contract. This Section 29 shall not operate to excuse or delay the performance of any payment obligation.

## **30. SYSTEM UPGRADE CREDIT; CONSULTANT'S REPURCHASE RIGHT**

If, within two years of the Effective Date, OC SAN desires to purchase a larger system from CONSULTANT (for example, the CONSULTANT'S "AirSCWO NIX30 UNIT"), then OC SAN shall have the right to return the AirSCWO NIX6 UNIT, at OC SAN's cost and expense, to CONSULTANT in exchange for a credit against the purchase price of such larger system. The value of such credit shall be the amount of the purchase price identified on Section A-2 of Attachment "A" for the AirSCWO NIX6 UNIT.

If, at any time, OC SAN desires to cease operation of the SYSTEM or desires to dispose of the SYSTEM in whole or in part, OC SAN shall provide CONSULTANT with sixty (60) days prior written notice, and CONSULTANT shall have the right to purchase the AirSCWO NIX6 UNIT from OC SAN for a price equal to the market price identified on Section A-2 of Attachment "A" for the AirSCWO NIX6 UNIT. This Section 30 shall survive the termination of this Agreement.

### **31. FUTURE LICENSES AND ROYALTIES**

In recognition of OC SAN's commitment to advance the AirSCWO technology in the municipal market, if in the course of performing this Agreement CONSULTANT develops intellectual property rights that are solely and specifically related to OCSAN's wastewater treatment system ("Arising IP"), and if CONSULTANT and OCSAN enter into a license in the future under which CONSULTANT grants to OCSAN rights under any other intellectual property rights covering CONSULTANT'S AirSCWO technology, then CONSULTANT agrees that any such license would contain a perpetual, royalty-free, non-sublicensable license under such Arising IP to practice such Arising IP solely in connection with OCSAN's use of AirSCWO systems purchased from CONSULTANT and subject to any terms as may be agreed between CONSULTANT and OCSAN in such future license.

### **32. SEVERABILITY; ENTIRE AGREEMENT**

If any section, subsection, or provision of this Agreement, or any agreement or instrument contemplated hereby, or the application of such section, subsection, or provision is held invalid, the remainder of this Agreement or instrument in the application of such section, subsection or provision to persons or circumstances other than those to which it is held invalid, shall not be affected thereby, unless the effect of such invalidity shall be to substantially frustrate the expectations of the parties. This Agreement constitutes the entire understanding and agreement between the Parties and supersedes all previous negotiations between them pertaining to the subject matter thereof.

IN WITNESS WHEREOF, this Agreement has been executed in the name of OC SAN, by its officers thereunto duly authorized, and CONSULTANT as of the day and year first above written.

**CONSULTANT: 374WATER SYSTEMS, INC.**

By \_\_\_\_\_ Date \_\_\_\_\_  
\_\_\_\_\_  
Printed Name & Title

**ORANGE COUNTY SANITATION DISTRICT**

By \_\_\_\_\_ Date \_\_\_\_\_  
John B. Withers  
Board Chairman

By \_\_\_\_\_ Date \_\_\_\_\_  
Kelly A. Lore  
Clerk of the Board

By \_\_\_\_\_ Date \_\_\_\_\_  
Ruth Zintzun  
Purchasing & Contracts Manager

- Attachments:  
Attachment "A" – Scope of Work  
Attachment "B" – Not Used  
Attachment "C" – Conflict of Interest Disclaimer  
Attachment "D" – Not Used  
Attachment "E" – Fee Proposal  
Attachment "F" – Not Used  
Attachment "G" – Acknowledgement of the Agreement  
Attachment "H" – Not Used  
Attachment "I" – Not Used  
Attachment "J" – Not Used  
Attachment "K" – Not Used  
Attachment "L" – Contractor Safety Standards  
Attachment "M"- Iran Contracting Act Verification



## ATTACHMENT A - SCOPE OF WORK

**PROJECT DESCRIPTION, OBJECTIVES, AND GOALS:**<sup>1</sup> The project will demonstrate the use of a full-scale AirSCWO system at an existing wastewater treatment plant to continuously process 6 metric tons of wet solids comprised of municipal wastewater sludge, biosolids and food slurry waste while recovering resources in the form of power, mineral nutrients, heat and reusable water while simultaneously eliminating emerging contaminants such as pharmaceuticals, per- and polyfluoroalkyl substances (PFAS), microplastics and emerging pathogens such as virus and antibiotic resistant bacteria.

Figure 1 is a diagram of the process flow of the complete system. The “System” consists of: (1) Dewatering Unit, (2) AirSCWO Nix6 unit, (3) minerals separation, (4) odor control system, (5) control system and Internet connection, (6) supplementary fuel supply and storage tank, (7) water storage tanks, (8) compressor (with sound attenuation as appropriate) and (9) all connections to equipment, interconnection piping and wiring, and appurtenances physically made by 374Water and excluding all connections made by others during the site work. Plant sludges will be fed to the Dewatering Unit, which will screen out undesirable materials, equalize the two feed streams, and dewater the equalized stream to 12-15% total solids (TS). The resultant stream will be fed to the AirSCWO Nix6 unit where the streams will be treated via supercritical water oxidation resulting in air emissions, distilled water, clean water (treated), and minerals. Distilled water will be stored in a tank and fed back to the AirSCWO Nix6 unit for use in the process. The treated water and minerals will feed into a cone bottom tank and then be discharged to the centrate pipeline. Further description of each of the three units follows below including a description of support infrastructure. All lockout/tagout at sludge, plant water, and electrical points of connection shall be performed jointly by CONSULTANT and OC SAN.



Figure 1. Process flow diagram.

---

<sup>1</sup> The descriptions and illustrations included in this section titled “Project Description, Objectives, and Goals” are intended to be for background information only and are not intended to be used as specifications or legally binding standards or provisions of this Scope of Work. The descriptions, figures, and illustrations in this Scope of Work constitute 374Water’s copyrighted and confidential information and may not be used or disseminated to third parties without 374Water’s prior, written consent.

## ATTACHMENT A - SCOPE OF WORK

Figure 2 shows the layout and the general equipment arrangement of the System at the project site at OC SAN Plant No. 1, 10844 Ellis Ave, Fountain Valley, CA 92708. The precise location and arrangement at the project site will be determined during the Design Services work. The System will not be located on the high-pressure digester gas line.

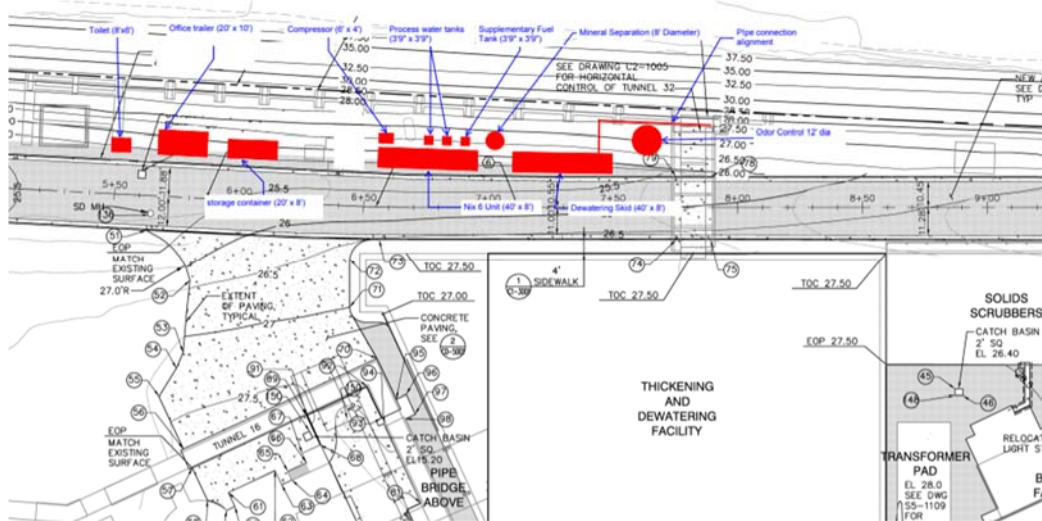


Figure 2. General equipment arrangement.

374Water will prepare a Controlled Study Plan that will define the activities and mutually agreed upon success criteria. OC SAN and 374Water will review, finalize, and document (Task 7 below). Such success criteria will include the following as a minimum:

- A reliable and stable operation of the demonstration unit for >1000 continuous hours of operation (excluding reasonable shutdowns and external events and circumstances beyond either the normal operation of the System or the control of CONSULTANT) during the testing phase of the project, handling over 250 tons of wet biosolids.
- A volatile solids reduction (VSR) of 99% or greater of treated material
- A COD destruction and removal efficiency (DRE) of 99% or greater.
- PFAS and other emerging organic contaminants DRE of 99% or greater.
- Microplastic elimination efficiency of 99% or greater.
- Safe and odorless operation of the AirSCWO unit.

**PROJECT TEAM:** The project team consists of industry leaders in biosolids and sludges management and advanced process technology from Hazen and Sawyer and Merrell Bros. Inc. led by the domain experts of 374Water to jointly implement the AirSCWO technology at OC SAN. The project organization is shown below.

## ATTACHMENT A - SCOPE OF WORK

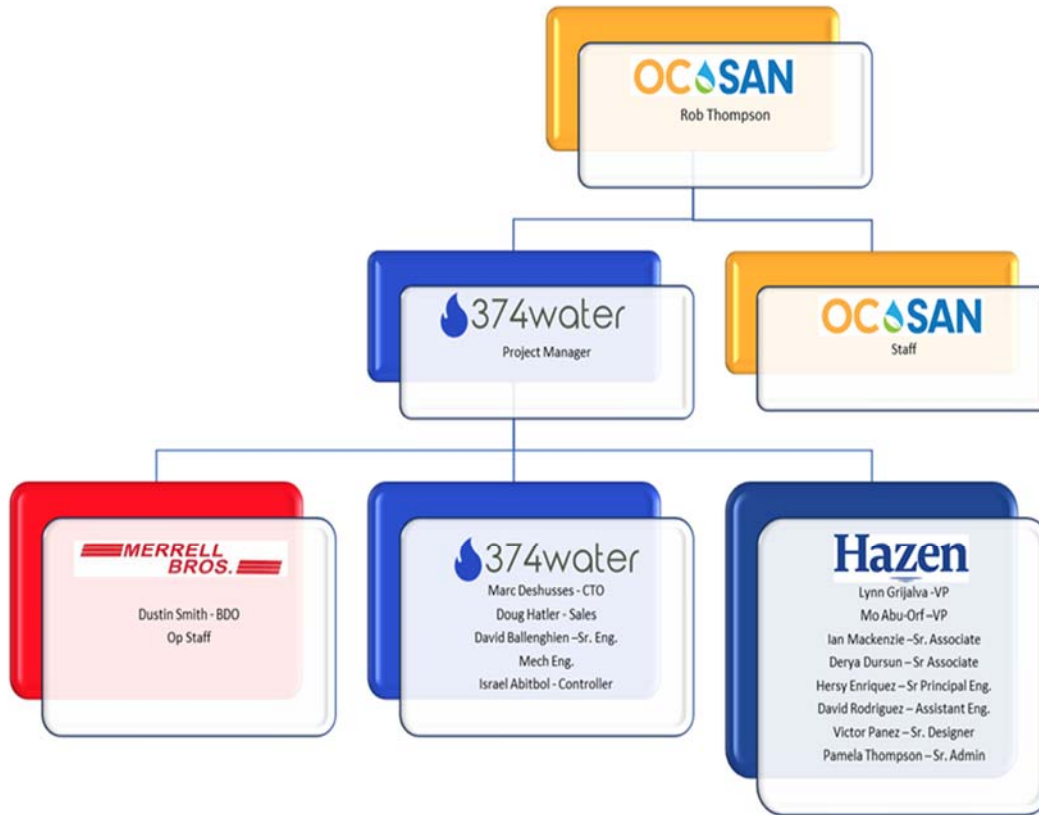


Figure 3 - Project Organization

Merrell Bros., Inc. (MBI) is a strategic partner of 374Water for the fabrication and service of AirSCWO Nix systems. MBI personnel will assist 374Water with installation, commissioning, startup, operations, and maintenance of the unit at OC SAN Plant No. 1. MBI is a nationwide biosolids management company helping municipalities, industries and agricultural operations successfully manage and recycle biosolids since 1982. Merrell Bros., Inc. is dedicated to environmentally sound, agriculturally oriented, and State and Federally approved methods of biosolids management.

Hazen and Sawyer (Hazen) is a trusted advisor of 374Water and OC SAN. Hazen will provide the site engineering design, permitting, system observation and monitoring services. Since 1951, Hazen has focused on two critical activities – helping its clients provide safe drinking water to their customers and controlling water pollution and its effects on the environment. Hazen employs many of the world’s most knowledgeable and experienced environmental engineers and scientists, each seeking a challenging and rewarding career while making an important contribution to the communities in which we work. Hazen has planned, designed, and managed the construction of numerous solids management facilities for both new and upgraded water reclamation facilities. These facilities range from simple lagoons to advanced high solids dewatering systems that yield the greatest possible efficiency of biosolids resource recovery. Hazen plans and designs treatment systems for water, residuals, energy and biosolids to become community assets.

## ATTACHMENT A - SCOPE OF WORK

**PROJECT TASKS:** The project work breakdown structure by task is summarized in the table below.

Table 1- Project Tasks and Deliverables/Milestones

Task No.	Task Description	Deliverables/Milestones
1	Project kick-off, pre-design, and system review	Final detailed schedule, communication plan, site visit, basis of study TM, and solids, water, and mineral design.
2	Site Preparation engineering design and specifications for an OC SAN Public Works bid.	Plans and specifications for site preparation and service utilities to a point outside the equipment installation in a format for an OC SAN Public Works Bid; Drawings developed in accordance with OC SAN CAD standards; Bidding and construction support (RFIs and RFPs), OC SAN contractor submittal review and record drawings (utility services and site layout) for future demolition contract.
3	Environmental permitting support	AQMD Permits application to build and operate
4	Fabrication and delivery of the Nix6 unit, Dewatering unit, and ancillary equipment including the minerals separation tank	Unit FAT completed for Nix6 and Dewatering Unit; systems and equipment shipped and received
5	Physical site integration of the systems at OC SAN Plant No. 1	Completed site work; systems, equipment and support infrastructure installed. Design and Construction Closeout. To be completed by OC SAN in accordance with the design and specifications provided by 374Water. OC SAN will update SAT and EID and provide 480V breaker settings.

## ATTACHMENT A - SCOPE OF WORK

6	Commissioning and Startup	Complete Operational Readiness Review (ORR). Controlled Study Plan with mutually agreed upon success criteria.
7	Controlled performance study	Completed runs for primary sludge, digested sludge, and food slurry individually and combined, including monitoring and lab testing of inflows and outflows
8	Project evaluation and summary report	Final project report
9	Operation, Maintenance, Documentation and Training OC SAN staff	OC SAN Operation and maintenance of the system through the 1st six (6) months of the project; Documentation including diagrams, Operations & Maintenance manual; Step-by-step Standard Operating Procedures
10	On-demand O&M support of the system by 374Water personnel through the completion of the project	Stable and effective operation of the system by OC SAN personnel

**PROJECT SCHEDULE:** Figure 4 presents a Gantt chart for the project. The timeline assumes that OC SAN approves the project and contracts are executed in October 2021.

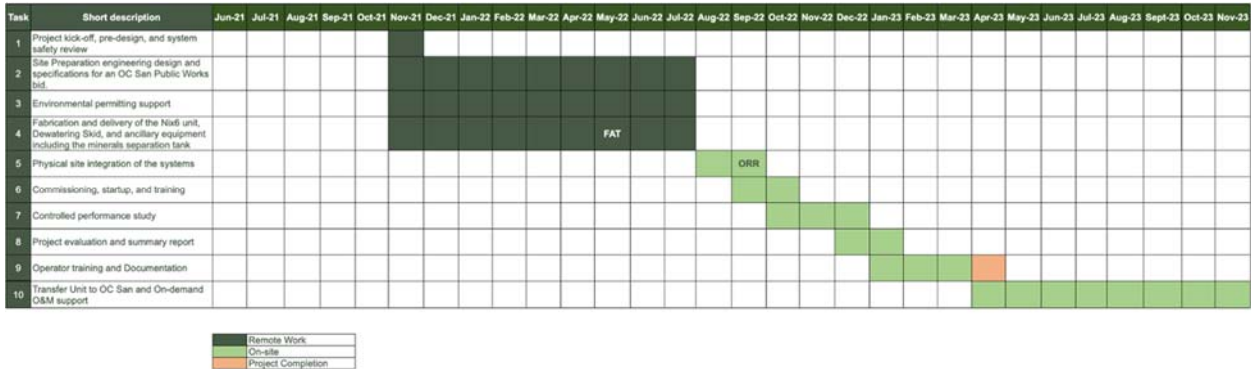


Figure 4 - Project Schedule, Gantt Chart

## **ATTACHMENT A - SCOPE OF WORK**

**SCOPE OF SERVICES:** CONSULTANT shall provide the services and furnish the equipment as described and, on the timelines, and pursuant to the applicable specifications set forth in the following Attachments:

1. The DESIGN SERVICES are set forth in Section A-1.
2. The SYSTEM is described in Section A-2.
3. The INSTALLATION, OPERATIONS, MAINTENANCE AND TRAINING SERVICES are set forth in Section A-3.
4. The SYSTEM SUPPORT SERVICES are set forth in Section A-4.

**LOCATION OF SERVICES:** Unless otherwise specified in Sections A-1 through A-4, CONSULTANT shall perform the services and install the SYSTEM at OC SAN Plant No. 1, 10844 Ellis Ave, Fountain Valley, CA 92708

### **SECTION A-1. DESIGN SERVICES**

#### **Task 1. Project kick-off, pre-design, and system review**

374Water will conduct a remote project kick-off meeting with all parties contracted to the project (including Subconsultants and subcontractors) and OC SAN personnel. The meeting will cover in detail the project plan as outlined in the proposal, key personnel, tasks timeline, and billing structure, and be available to answer questions regarding the project. 374Water and OC SAN will also establish a regular meetings schedule for in-person and virtual project updates, challenge resolutions, change order process, communications, and invoice reviews.

#### **Task 2. Site Preparation engineering design and specifications for an OC SAN Public Works bid**

Hazen, as a Subconsultant to 374Water, will create a site preparation engineering design and specification for an OSCAN Public Works bid. This task will include plans and specifications for site preparation and service utilities to a point outside the equipment installation in a format for an OC SAN Public Works Bid. Drawings will be developed in accordance with OC SAN CAD standards. Hazen will also provide bidding and construction support (RFIs and RFPs) including OC SAN contractor submittal review. After construction is completed record drawings (utility services and site layout) will be provided to OC SAN for use in a future demolition contract.

The work will be completed following the standard OC SAN design and construction project approach, which is divided into six phases as follows. Phases 1 and 4 are not in scope for this project.

- Phase 1 – Project Development (Not in this Scope of Work)
- Phase 2 – Preliminary Design
- Phase 3 – Design
- Phase 4 – Construction
- Phase 5 – Commissioning

## ATTACHMENT A - SCOPE OF WORK

- Phase 6 – Close Out

The detailed scope for this task is provided in Attachment A-1-A.

### **Task 3. Environmental permitting support**

Hazen will assist OC SAN with the South Coast Air Quality Management District (AQMD) permit application for permit to construct and permit to operate the System. Services may include preparing a narrative and schematics of the project, portions of the monitoring plan related to air emissions, summary of past data, application forms, forms related to odor control method, and other support material from the design process that OC San may use in submittals, presentations, and meetings with AQMD. This task is Hazen Task 2.5 in Attachment A-1-A.

## ATTACHMENT A - SCOPE OF WORK

### SECTION A-2. SYSTEM

#### Task 4 - Fabrication and delivery of the Nix6 unit, Dewatering Unit, and ancillary equipment including the minerals separation tank

374Water and the Merrell Bros. will fabricate the Dewatering Unit and an AirSCWO Nix6 unit at the Merrell Bros. facility in Kokomo, IN. The Dewatering Unit and Nix6 unit will be delivered to OC SAN following completion of fabrication and FAT. Details are provided below.

#### DEWATERING UNIT

The dewatering unit (the “DU” or the “Dewatering Unit”) is designed to condition the liquid waste streams produced by OC SAN in preparation for AirSCWO treatment. The DU is an enclosed 40’ x 8’ x 9.5’ cargo shipping container that is fully integrated with the AirSCWO Nix6, and it has been designed for future integration and use with an AirSCWO Nix30. The container will have large cargo doors to allow access for maintenance and repairs. The process begins with three flange connections on the exterior of the DU where the 5%-7% TS combined thickened sludge and the 2%-3% anaerobic digested sludge feed lines will be connected. The third flange is available for alternate feed stocks for future testing. Also, on the exterior of the container will be a flange to be connected to the OC SAN plant water system. OC SAN will provide power to the DU and the Nix6 unit. Two (2) 3 Phase 480 Volt 200-amp electrical service will be connected to a properly sized disconnect on the exterior of the DU. Figures 5 and 6 illustrate the internal layout of the Dewatering Unit.

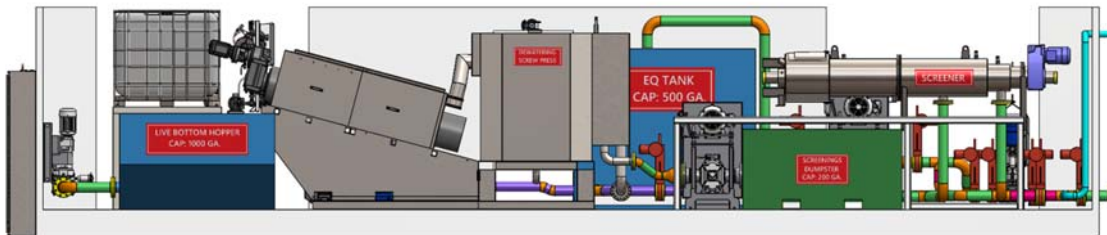


Figure 5. Side view of the Dewatering Unit



## ATTACHMENT A - SCOPE OF WORK

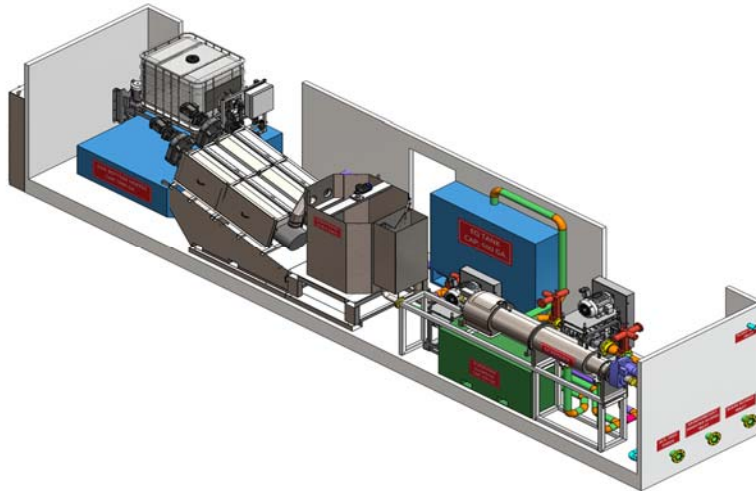


Figure 6. Angled view of the Dewatering Unit

As the liquid feed sludge enters the DU piping manifold, it will travel through a series of valves before entering the inline macerator. The macerator is set in line with a rotary lobe sludge pump that will pump the liquid sludge through a [REDACTED] to screen any debris larger than 4mm. The screened liquid sludge from the discharge side of the [REDACTED] will flow into an Equalization (EQ) Tank. A submersible electric mixer will equalize the liquid sludge in the EQ tank prior to dewatering. The screening from the [REDACTED] will be discharged into an endless bagging system that will go into a small dumpster that is stored inside the DU. A small cargo door will allow for the dumpster to be removed from the DU and properly disposed of. Access will be provided from the road to remove the dumpster. Screenings disposal service will be provided by OC SAN for the 12 months of operation.

The next phase of the process is sludge dewatering utilizing a [REDACTED] Screw Press. A rotary lobe sludge pump will pull the screened liquid sludge from the EQ tank and feed the Screw Press at the proper flow rate. Included on the DU is an emulsion polymer make-down system with a 2300-pound polymer storage tote. 374 Water will provide up to 5680 pounds of polymer, the supply for 12 months of operation. OC SAN will call the supplier for delivery during OC SAN's 6 month of operation. The made-down polymer will be injected into the sludge as it enters the Screw Press. The Screw Press will be adjusted to produce a 12%-15% Total Solids Cake that will discharge into the sludge Feed Hopper (FH). The filtrate water from the Screw Press will flow into a centrifugal pump that will discharge the filtrate water to the OC SAN centrate line. The FH will have a live bottom screw conveyor system to move the cake sludge to the discharge that will feed the final sludge pump in the process that will feed the Nix 6 or Nix 30 unit. The DU will receive the mineral water that is produced from the SCWO process and discharge it into the filtrate pumping system.

To mitigate the risk of odor, the DU is designed to operate under a negative vacuum with fresh air entering the DU, and the exhaust air is designed to be treated with an activated carbon odor control system. The carbon odor control system will be sized for 12 months

## ATTACHMENT A - SCOPE OF WORK

of treatment. 374Water will meet the permit requirements and OC SAN will provide required permit monitoring equipment and data logging. Atmospheric monitoring equipment will be installed in the DU. The control system from the DU and SCWO units will be fully integrated to allow for simple and efficient operations. OC SAN will, at its expense, provide an office trailer for the operator. 374Water will provide remote monitoring services and process support through an internet service provider. The DU will also include exterior lighting for safety. Internet service will be provided at 374Water's expense for 12 months.

### AirSCWO Nix6 Unit

The AirSCWO Nix6 will be contained in a 40-foot cargo container. The inlet waste stream is continuously fed to a heat exchanger to preheat the stream before entering the reactor. The stream is then combined with compressed air from a high-pressure compressor. The air and water at high pressure and temperature oxidize the organics in the reactor to clean water, inert gases, mineral salts, and heat. The heat is recycled to heat-up the inlet waste stream in the economizer and to flash some of the effluent, together with the high-pressure exhaust gases, in the expander to produce mechanical power to run the air compressor. The effluent water with the suspended minerals is cooled, depressurized, and safely discharged from the system. The water and mineral salts are separated. Figure 7 illustrates the inflows and outflows of the AirSCWO Nix6 unit.

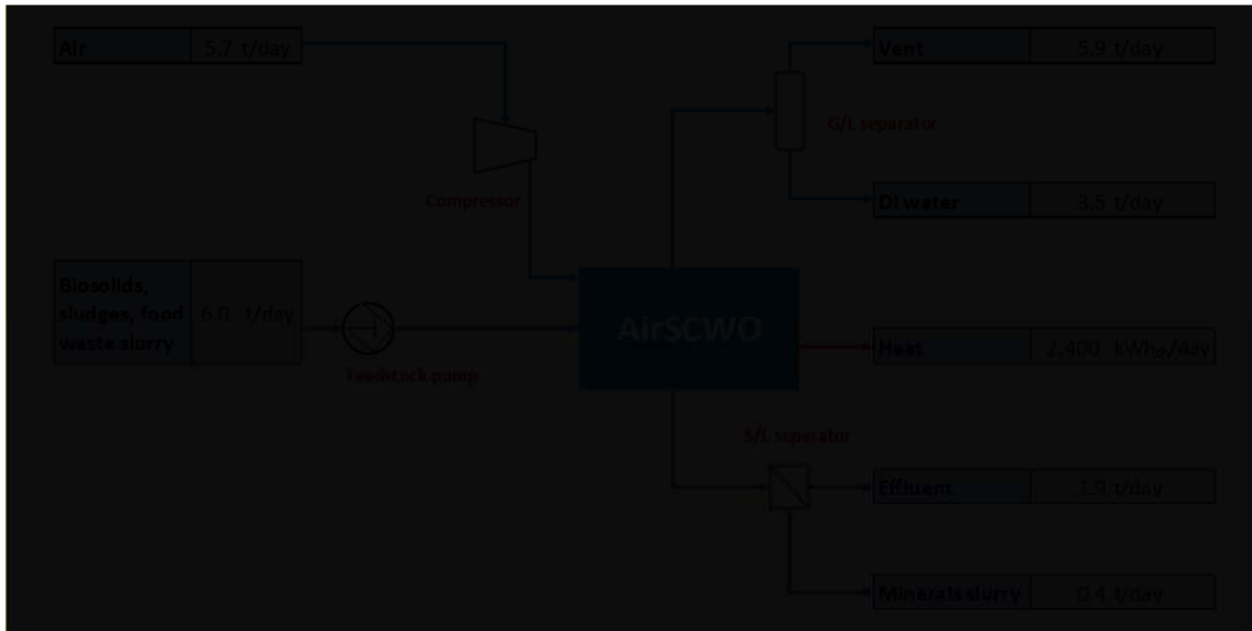


Figure 7. AirSCWO Nix6 inflows and outflows

### Mineral separation

The AirSCWO unit will produce a mineral stream consisting of oxidized minerals suspended in water. This stream will be routed to a pump on the Dewatering Unit and

## ATTACHMENT A - SCOPE OF WORK

then pumped to the central line along with other process waste streams for disposal to the OC SAN centrate line. A minerals sampling/separation unit will also be provided to allow a portion of the minerals stream to be retained for testing. The minerals separation unit will consist of a cone bottom settling tank (Figure 8) and associated piping and valves to allow flow to be routed from the AirSCWO Nix6 unit to the settling tank, and to allow settled minerals to be captured for analysis. Decanted water from the settling tank will be routed to the Dewatering Unit for disposal along with other process waste streams. Mineral separation unit and sampling area will be set on secondary containment to maintain clean surroundings.



Figure 8. Representative cone bottom tank for minerals separation.

### Factory Acceptance Testing (FAT)

A FAT will be performed upon fabrication completion of the Dewatering and AirSCWO Nix6 units. The Dewatering and AirSCWO Nix 6 units may be interconnected or tested separately, and pressure tested. The FAT shall test each unit using sludge and the AirSCWO Nix6 using a fuel source. The FAT shall demonstrate that the system successfully operates for 48 continuous hours.

## ATTACHMENT A - SCOPE OF WORK

### SECTION A-3. INSTALLATION, OPERATIONS, MAINTENANCE, AND TRAINING SERVICES

CONSULTANT'S obligation to commence the services set forth in this Attachment A-3 shall be contingent upon OC SAN's completion of the SITE WORK in accordance with the design, drawings, and specifications provided to OC SAN under the DESIGN SERVICES.

#### Task 5. Physical site integration of the systems at OC SAN Plant No. 1

374Water will install the System at OC SAN. The DU and AirSCWO Nix6 units will be placed on site promptly following the final completion of the site work in accordance with the design drawings and specifications, including the installation of support infrastructure, as validated by 374Water.

374Water will connect the DU to the OC SAN pipeline that will convey combined thickened sludge (CTS) and digested sludge (DS) for processing. A piping connection will also be provided to allow alternative test materials, such as food waste, to be pumped into the system. The DU will be connected to an OC SAN plant water line.

374Water will connect the DU and AirSCWO Nix6 units and connect the AirSCWO Nix6 outlet lines to the Minerals Separation Tank and the OC SAN centrate drain line. 374Water will also connect the DU unit to the odor control unit.

OC SAN will connect two 200A 480v electrical services from the existing 480V Motor Control Center – 15LMCC294 (MCC-SHF) in its Thickening & Dewatering Facility – Electrical building to the DU unit. 374Water will make the electrical connections within the System. A power monitor will be installed at the MCC as part of the SITE WORK for each service line and will record amperes, kW and KVA.

Select hardwired alarm and monitoring signals will interface with OC SAN's nearest PLC. The AirSCWO Nix6 and the Dewatering Unit will have an emergency stop to properly shut down the units if there is a problem.

374Water will provide communications for remote monitoring and control, and internet communications will be provided through a cellular based router installed in the Dewatering Unit. OC SAN will have remote monitoring access to the control system via the web. This will allow OC SAN to monitor the control system from the Plant 1 Control Center.

OC SAN will provide the following support facilities at its expense:

- An office trailer (24' x 10') which will house a desk and control station for the facility operator.
- A portable toilet and handwashing station for the use of facility staff
- A storage container (20' x 8') to store spare parts and consumable items for the facility

## ATTACHMENT A - SCOPE OF WORK

### Task 6. Commissioning and Startup

374Water will commission and startup the System and train project team and key OC SAN personnel on operation and maintenance. Following commission and startup, 374Water will operate and maintain the system for up to six (6) months. OC SAN will operate and maintain the system for the next six (6) months of the project with on-demand support from the 374Water and MBIA high-level allocation of resources as shown in Table 2. Routine maintenance is shown in Table 3.

Table 2. Commissioning, operations, and maintenance activities.

Activities	Description	Resources	Note
Commission and startup, (3 months)	System commission and startup	Four (4) 374Water resources onsite	OC SAN will provide site access and be available to answer questions about the plant.
Operation, Maintenance Documentation, and Training (3 months)	Operation of the System including routine maintenance and training of project and key OC SAN personnel	Four (4) 374Water resources; Onsite System coverage 5 days per week, 16 hours per day	OC SAN will monitor the system overnight and on weekends and notify 374Water of any issues. 374Water will mobilize onsite as needed to resolve issues. 374Water will provide round sheets if needed.

Table 3. Maintenance activities.

[REDACTED]	[REDACTED]					
[REDACTED]	[REDACTED]					
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]					

## ATTACHMENT A - SCOPE OF WORK

374Water will prepare a Controlled Study Plan that will define the activities and mutually agreed upon success criteria.

### **Task 7. Controlled performance study**

The controlled performance study will test the AirSCWO Nix6 system under real operating conditions in an actual operating environment. The feedstocks to be treated include:

1. Primary & WAS pre-anaerobic digestion
2. Post-anaerobic digestion Class B biosolids
3. Food waste blended with biosolids (in ratios to be determined)

During this time, 374Water will continue to operate and maintain the system 5 days per week, 16 hours per day. OC SAN will monitor the system overnight and on weekends and notify 374Water of any issues. 374Water will mobilize onsite as needed to resolve issues.

374Water will collect treatment and performance information and log manual operations and maintenance activities. Hazen will collect samples of inlet and outlet streams for treatment performance (influent and effluent COD, BOD, TN, TP, monitoring of selected emerging contaminants, see Appendix E) and resources recovery performance power balance, heat recovered, water and minerals recovered will be collected under selected operating conditions. O&M requirements, uptime, and other information pertaining to the safety and operability of the system will be collected and documented.

During the controlled performance study, key parameters pertaining to the performance of the AirSCWO system will be monitored, all using standard methods. The different sampling points are shown in Figure 9 and a breakdown of the sampled parameters, their frequency and where the collected samples will be analyzed is shown in Table 6. Monitoring, sampling, data collection plan, testing and sampling protocols will be developed by Hazen in collaboration with 374Water personnel after project initiation.

OC SAN's laboratories will conduct analyses identified in Table 4 at its own expense. 374Water will contract with a 3<sup>rd</sup> party laboratory for parameters for which OC SAN does not have the capability. The costs of the 3<sup>rd</sup> party laboratory for analysis of the parameters in Table 4 are included in 374Water's fixed fee. 374Water will verify that OC SAN can routinely analyze the parameters identified in Table 4 prior to project initiation.

# ATTACHMENT A - SCOPE OF WORK



Figure 9 - Identification of AirSCWO inputs and outputs for sampling and analysis.

## ATTACHMENT A - SCOPE OF WORK

Table 4. Monitoring and analysis during the Controlled Study.

Analyte	Location (see process flow chat)					Frequency and mode	Collection by:	Analysis by:	# Samples per week per location	Total # Samples per week	Comments
	1	2	3	4	5						
COD, TP	x	x	x			Composite (3/day), daily	374Water Team	OC SAN Lab	7	21	Composite means every day take three samples from each location (at similar times) and make up one composite sample per day for each location
COD, TP				x		Composite (3/day)	374Water Team	OC SAN Lab	1	1	Same as row number 1 and take sample at similar time of sampling locations 1, 2, and 3 once a week
TS, VS	x			x		Composite (3/day), daily	374Water Team	OC SAN Lab	7	14	Same as row number 1
TN, Tot Ammonia N, NO <sub>2</sub> <sup>-</sup> , NO <sub>3</sub> <sup>-</sup>	x	x	x			Composite (3/day), daily	374Water Team	OC SAN Lab	7	21	Same as row number 1



**ATTACHMENT A - SCOPE OF WORK**

Calorific value	x					3 grab Samples per feed stock	374Water Team	Contract lab	N/A	N/A	Over the first three months of the demonstration take 3 grab samples for each feed stock. The plan is to test three different stocks. So, total samples is 9 per the first three months
PFAS (Target PFAS and TOF)	x	x	x	x		Composite, weekly	374Water Team	OC SAN Lab, except TOF contract lab	1	4	Same as row number 1. Composite of grabs over 24hrs per sample location (similar time). So, will be three samples per week. Repeat for 4 weeks to prove the concept of destroying PFAS.
PFAS (Target PFAS and TOF)					x	2 samples per feedstock (expensive testing)	374Water Team	Contract Lab	N/A	NA	Total six samples, need to take these sample same time samples collected for row 7 (Sampling for rows, 9-12 need to be taken similar time)
NOx, N2O, SOx.					x	Dragger tubes	374Water Team	Contract lab	N/A	N/A	Per AQMD permit
NH3					x	once a week	374Water Team	OC SAN Lab	1	1	Per AQMD permit

**ATTACHMENT A - SCOPE OF WORK**

Reduced sulfur compounds					x	3x per week	374Water Team	OC SAN Lab	3	3	Per AQMD permit
NPK, Ca, Mg, sulfur, micronutrients, salts, etc.					x	3 grab samples per feedstock	374Water Team	Contract Lab	N/A	N/A	9 total samples
(Arsenic, Cadmium, Copper, Lead, Mercury, Molybdenum, Nickel, Selenium, Zinc)	x	x	x	x		3 grab samples per feedstock	374Water Team	OC SAN Lab			36 samples total assuming three (3) feed stocks

## ATTACHMENT A - SCOPE OF WORK

374Water personnel will compile PLC logged values shown in Table 5. This will include daily and weekly averages, minimum and maximum values, and standard deviations.

Table 5. Parameters monitored by the PLC, selected for daily and weekly averaging.

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

Historical trend data in Excel format will be provided for select analog values.

374Water and Hazen will compile weekly summaries for discussion with project stakeholders (30 min virtual project meetings). Progress reports will be compiled monthly for each specific feedstock treated

### **Task 8 - Project evaluation and summary report**

Upon completion of the Controlled Study, 374Water and Hazen will prepare a project evaluation and summary report. The report will include a summary of the activities performed, the analytical results of the samples collected, and an evaluation of results compared to the Project Objectives and Goals and success criteria. 374Water will provide a draft copy of the report to OC SAN for review and comment, and then follow up with a final report that addresses OC SAN's reasonable comments.

## **ATTACHMENT A - SCOPE OF WORK**

### **Task 9 - Operations, maintenance, documentation, and training; Transfer to OC SAN**

374Water will develop a training plan and provide it to OC SAN for review and comment. The training plan will be finalized and implemented to prepare OC SAN operators to assume responsibility for operations and maintenance of the system.

374Water will finalize the operations and maintenance manual and the step-by-step SOPs based on learnings from the Controlled Study. The manual and SOPs will serve as the training materials for OC SAN operators. The operation and maintenance manuals will include P&IDs, loop drawings, single line diagrams, control schematics, control narratives, and equipment calibration data.

## **ATTACHMENT A - SCOPE OF WORK**

### **SECTION A-4. SYSTEM SUPPORT SERVICES**

#### **Task 10. OC SAN On-demand O&M support of the system by 374Water personnel through the completion of the project**

Upon successful completion of the Control Performance Study, OC SAN will operate and maintain the System for six (6) months.

374Water will provide OC SAN 32 hours per month of remote, on-demand support of System operation and maintenance for six (6) months, or a total of 192 hours over the six-month period.



## **ATTACHMENT A-1-A**

### **I. SUMMARY**

Services in this scope of work will generally be in two efforts:

1. Pre-Design, Design and Permitting Support
2. Construction, Installation and Close Out Support

### **II. PROJECT ELEMENTS**

#### **DESCRIPTION – SITE PREPARATION FOR DEMONSTRATION TREATMENT FACILITY SYSTEM**

This project element includes the development of a site layout plan for the Demonstration Treatment System (System). The location for the System has been identified as the gravel paved area adjacent to the Plant No. 1 Eastern fence line. Hazen will develop a site layout including the location of the Treatment Unit, Dewatering Unit, mineral separation unit, office trailer, mobile toilet, storage container and odor control unit. The layout will be arranged to avoid putting heavy treatment units on top of the existing high pressure gas pipeline.

Hazen will utilize a sub consultant to conduct a topographical survey of the site location. Hazen will prepare a grading plan for area. It is anticipated that some minor regrading of the existing site will be necessary to prepare level sites for treatment units but that import or removal of material will not be required.

Hazen will utilize a sub consultant to conduct a desktop geotechnical evaluation of the site and will develop recommendations for seismic anchorage of the treatment units.

The System will require connections to the existing combined thickened sludge, dewatered sludge, centrate and plant water lines located on the pipe rack on the eastern edge of the site. Hazen will prepare a design for these piped connections.

The System will require two 200 A 480V 3P electrical supplies. OC SAN has identified an existing motor control center in the Thickening & Dewatering System – Electrical building which has capability to provide these electrical supplies. Hazen will design cabling and conduit to route power from this MCC to the dewatering unit. Hazen will also design cabling and conduit to route power from the dewatering unit to the AirSCWO Nix6, office trailer and the odor control unit. All other site power distribution will be provided as part of the dewatering and treatment units.

The System will have the capability to send select hardwired alarm and monitoring signals to the OC SAN control system. Hazen will design cabling and conduit to route these



signals from the dewatering unit to an existing PLC or RIO located in the Thickening & Dewatering System.

The System will include a packaged activated carbon odor control unit to treat foul air from the Dewatering Unit. Hazen will prepare a specification for this unit, which will be procured and installed as part of Section A-2 of Attachment "A". The unit will be specified to require carbon changeout at intervals of 1 year or more. Hazen will also design the duct to connect the dewatering unit to the odor control unit.

To facilitate construction of the System the centrate pipes will be modified to include additional pipe connections to allow the two centrate lines to be drained when not in use. A location for these drainage connections has been identified in Tunnel 29.

#### Assumptions

For the design level of effort, Hazen has assumed the following:

- The geotechnical evaluation will be based on existing geotechnical information provided by OC SAN. No ground investigation will be conducted
- Electrical supplies will come from existing motor control centers, no MCC design will be required
- Instrumentation connection will be to an existing PLC or RIO; other than cabling and conduit no new equipment will need to be specified

#### **IV. PROJECT EXECUTION**

All OC SAN projects are divided into six phases. CONSULTANT shall provide engineering services for all Project Elements listed in Section II of this Scope of Work for the following Phases:

- Phase 1 – Project Development (Not in this Scope of Work)
- Phase 2 – Preliminary Design - Basis of Study Tech Memo, Solids System Design
- Phase 3 – Final Design
- Phase 4 – Construction
- Phase 5 – Commissioning (Not in this Scope of Work)
- Phase 6 – Close Out



## **PHASE 1 PROJECT DEVELOPMENT**

### **TASK 1.1 – BASIS OF STUDY TECHNICAL MEMORANDUM**

Participate in a Basis of Study Technical memorandum. This is a test plan of objectives and goals, operations on up to five processing streams, schedule and siting plan for the 374Water Air SCWO Nix6 demonstration unit. This establishes the expectations for the study design, startup, optimization, testing, analysis, and final report.

### **TASK 1.2 – SOLIDS DESIGN**

Participate in design of solids feed, screening, thickening at the front of the pilot, and of water, solids and air separation at the outputs of the system.

## **PHASE 2 – PRELIMINARY DESIGN**

### **TASK 2.1 – PREDESIGN EVALUATION STUDIES**

Not used.

### **TASK 2.2 - PRELIMINARY DESIGN PRODUCTION**

Preliminary Design Production (PDR Production) involves the preparation of design memos, drawings, calculations, and other supporting material resulting in the Preliminary Design Report (PDR).

The following requirements apply to PDR Production.

- Each design memo shall be submitted as part of the compiled Draft PDR. Draft copies of individual design memos will not be submitted in advance.

The design memos shall clearly document exact naming conventions to be used for all process equipment covered by the design memo.

- Each design memo shall identify any equipment and instruments that have fewer than three competitive suppliers. In those cases, the design memo shall recommend an appropriate procurement strategy compatible with California Law and OC SAN policies.
- Where appropriate, OC SAN will circulate design memos to permitting agencies for review. OC SAN will review comments from those agencies and forwarded them to CONSULTANT. CONSULTANT shall respond to all OC SAN and agency comments in writing and incorporate all comments into the Final Design Memos as applicable.

### **Preliminary Design Report (PDR) Contents and Organization**

The PDR shall be structured as outlined below, with the contents corresponding to the tasks listed in this Scope of Work.





## **Volume 1 – Preliminary Design Report Technical Memos**

### **Executive Summary**

### **Design Memos**

Design Memo 1 – Site Preparation for the Pilot Treatment System

## **Volume 2 – Drawings**

- General
- Civil
- Structural
- Mechanical
- Electrical
- Instrumentation & Control

## **Volume 3 – Submittal Documentation**

- Calculations
- Decision Log
- Meeting Minutes

The Executive Summary shall summarize the conclusions of the report, and specifically include a summary construction schedule and construction cost estimate.

The Draft PDR and Final PDR shall be submitted in searchable PDF format legible on-screen. Refer to the OC SAN CAD Standards Manual and Exhibit 17 Designer Training for Submission and Exhibit 18 Designer User Training for submittal requirements.

### **Task 2.2.1 Design Memo 1**

CONSULTANT shall prepare a design memo that includes the following material:

- Identify all utility requirements (combined thickened sludge, dewatered sludge, centrate and plant water).
- Identify piping materials and valve selection
- Field verify proposed improvements with existing conditions and record drawings.
- Recommendations for materials of construction.
- Evaluation of electrical requirements
- Evaluation of Odor Control Requirements
- Evaluation of seismic anchoring requirements for the major equipment units
- Design Parameters including but not limited to:
  - Building codes and other regulations;
  - State and federal safety standards and regulations

## Preliminary Design Construction Cost Estimate

The CONSULTANT shall prepare an AACE International Class 3 cost estimate per OC SAN's Engineering Design Guidelines, Chapter 01.

### **Preliminary Table of Contents for Technical Specifications**

CONSULTANT shall develop a Table of Contents identifying all technical specifications for the Project. Table of Contents shall identify specification sections that will be based on OC SAN master specifications.

### **Task 2.2.2 Preliminary Design Drawings**

Preliminary Design drawings shall be bound into a separate volume. Drawing requirements by discipline are described below.

#### **General Drawings**

General drawings shall include:

- Cover sheet including location and vicinity maps Index of drawings
- Abbreviations, Legends and symbols

#### **Civil Drawings**

Civil drawings shall include:

- Overall site plan

#### **Structural Drawings**

Structural drawings shall include:

- Plan view showing extent of structural improvements
- Illustrative sections
- Key project-specific details required to illustrate key connections, including to existing structures.

#### **Mechanical Drawings**

Mechanical drawings shall include the following:

- Layout plans showing the location of all process units, pipe sizes, valve locations, pipe routes.
- Sections illustrating the proposed layout of equipment and piping.

#### **Electrical Drawings**

Electrical drawings shall include the following:

- Preliminary Electrical Site Plan. This is a site plan that shows routing of electrical and instrumentation conduits.

## **Instrumentation and Control Drawings**

Not required in as part of the Preliminary Design Drawings

## **TASK 2.3 –VALUE ENGINEERING ASSISTANCE**

Not in this Scope of Work.

## **TASK 2.4 - ENVIRONMENTAL DOCUMENTATION**

Not in this Scope of Work.

## **TASK 2.5 - PERMITTING ASSISTANCE**

Assist with the South Coast Air Quality Management District (AQMD) permit application for permit to construct and permit to operate a temporary research System. Services may include preparing a narrative and schematics of the project, portions of the monitoring plan related to air emissions, summary of past data, application forms, forms related to odor control method, and other support material from the design process that OC SAN may use in submittals, presentations and meetings with AQMD.

## **TASK 2.6 - PROJECT MANAGEMENT**

CONSULTANT shall be responsible for managing CONSULTANT's project execution, schedule, budget, and subconsultants.

## **TASK 2.7 - RISK MANAGEMENT**

Not in this Scope of Work.

## **TASK 2.8 – PDR PRODUCTION WORKSHOPS AND MEETINGS**

CONSULTANT shall hold meetings and workshops throughout the project to keep OC SAN apprised of the job, review work-in-progress, share information, discuss project submittals, present findings of technical analyses, receive and resolve comments, and obtain decisions and direction by OC SAN staff.

CONSULTANT shall anticipate and budget for, at minimum, at least one meeting and one workshop during the PDR phase.

## **TASK 2.9 - QUALITY CONTROL**

The following Quality Control requirements apply both to Phase 2 – Preliminary Design and Phase 3 - Design. Quality control activities during Design should be budgeted for and charged to the Phase 3 quality control budget. Submittals that contain gross

deficiencies or errors requiring a significant amount of OC SAN staff time for checking will be returned without review until OC SAN is satisfied that a thorough CONSULTANT's review, checking and correction for coherence, consistency, spelling, etc. has been performed.

## **Discipline Internal Check**

CONSULTANT shall perform discipline check and review all drawings, specifications, studies, reports, calculations, and any other deliverable required by the Scope of Work. These requirements shall be implemented by those Project Team members responsible for the specific planning or design activity.

## **Inter-discipline Coordination Check**

CONSULTANT shall perform an inter-discipline coordination cross-check immediately before each design submittal to correct discrepancies among the process and demolition plans; mechanical, structural, electrical, and instrumentation and controls drawings, and databases. Within each submittal, all documents shall have inter-discipline coordination checked and shall be in agreement with each other. Documentary evidence of such checking shall be provided to OC SAN with each project submittal. CONSULTANT shall refer to Engineering Design Guidelines, Chapter 01, Design Guidelines, General Requirements, and Phase 2 – Preliminary Design and Phase 3 –Design in this Scope or Work for additional requirements.

## **Documentation of Level of Effort for QA/QC**

CONSULTANT shall include man-hours for all QA/QC activities related to Preliminary Design in this task, including the development of the QA/QC Plan and review of Bid Documents either by CONSULTANT, or by the CONSULTANT in conjunction with OC SAN staff in meetings and workshops. The level of effort will be reviewed with OC SAN staff prior to award of the Professional Design Services Agreement (PDSA).

## **PHASE 3 – DESIGN**

### **TASK 3.1 - BID DOCUMENTS**

CONSULTANT shall provide engineering services to prepare biddable plans, technical specifications, and other Bid Documents as required based on the design concepts and criteria developed during Phase 2 - Preliminary Design. In this Scope of Work, construction documents include specifications, drawings and cable and conduit schedules.

## **Task 3.1.1 Specifications**

### **Task 3.1.1.1 Contract Agreement, General Conditions and Special**

Provisions:

CONSULTANT shall review OC SAN's standard Contract Agreement, General Conditions, and Special Provisions, and General Contractor warranty requirements. The CONSULTANT shall prepare the initial draft of the Bid Submittal Forms – Attachment A Schedule of Prices, and the Special Provisions, Appendix A Work Completion schedule including the definition of contract milestones, the number of calendar days to be allowed for each, and a recommended amount of liquidated damage for not meeting the schedule requirements. The CONSULTANT shall provide recommended Contractor experience and qualification requirements.

CONSULTANT shall identify all proposed changes or additions to OC SAN's standard warranty requirements. Any proposed changes and additional warranties will be allowed only upon review and acceptance by OC SAN.

### **Task 3.1.1.2 General Requirements and Additional General Requirements**

OC SAN will prepare the General Requirements (GRs) for the project, which will be updated by OC SAN throughout the project. The CONSULTANT shall prepare the Additional GRs which take the form of Division 01 technical specifications. CONSULTANT shall be responsible for preparing the Additional GRs and all other technical specifications so that they are consistent with the GRs provided by OC SAN.

In addition, CONSULTANT shall review OC SAN's standard GRs and propose revisions via Additional GRs. OC SAN's standard Contract Agreement sets the order of precedence in which plans and specifications in Divisions 01 through 17 supersede the GRs. Where minor changes to and deletions of certain GRs are warranted due to particular needs of the project, CONSULTANT may propose specific revisions to the GRs, subject to acceptance by OC SAN's Engineering and Construction Division Manager.

Specific requirements in OC SAN's GRs shall not be duplicated in Additional GRs Specifications. Only deviations from the GRs and project-specific requirements not addressed in OC SAN's standard GRs shall be included in Additional GRs.

Additional GRs Specifications shall be developed by the CONSULTANT for specific project requirements and the numbering convention shall be per OC SAN's template project Table of Contents. The following are the minimum Additional GRs topics required for this project:

- Summary of the Work
- Work Restrictions
- Work Sequence
- Permits

- Measurement and Payment
- Vehicle Access, Staging and Security

### Task 3.1.1.3 Technical Specifications

CONSULTANT shall be responsible for contents of all technical specifications (Divisions 01 through 17), including edited OC SAN Master technical specifications. OC SAN's master technical specifications shall be reviewed in detail, and changes, deletions and additions required by the project shall be provided by CONSULTANT. CONSULTANT shall be responsible for developing specifications required by the project that are not found in OC SAN's Master Specifications.

### Task 3.1.2 Drawings

The CONSULTANT shall prepare construction drawings per OC SAN Design Standards including CAD Manual, Design Guidelines, Master Specifications, and Tagging Procedures.

### Task 3.1.3 Cable, Conduit and Tray Schedules

CONSULTANT may utilize OC SAN's Microsoft Access Cable and Raceway Schedule database electronic format or use own format.

### Task 3.2.4 Construction Cost Estimates

CONSULTANT shall provide a Construction Cost Estimates with Design Submittal 3 per OC SAN's Engineering Design Guidelines, Chapter 01, Section 01.4.6 "Construction Cost Estimate."

## TASK 3.4 - DESIGN SUBMITTALS

Design Submittals shall be submitted for OC SAN review as indicated in the Section III - Project Schedule. For Design Submittal 3, CONSULTANT shall stop all design work until receipt of OC SAN comments on that submittal.

Design Submittals shall be delivered in PDF format and native files. DS3 and FDS submittals will be provided, but not other design gatepoints typical of an OC SAN design process.

The following requirements apply to the labeling and organization of the PDF and native:

- Specifications shall be compiled into a single PDF file. When the specification exceeds approximately 700 pages, the specifications shall be broken into separate volumes. Divisions 16 and 17 should be kept in the same volume.
- Drawings shall be submitted as a single compiled file. In no case may drawings be submitted as separate PDF files for each drawing. The order of drawings in the PDF file shall match the list of drawings.

- All native Word files used for specifications shall be submitted, combined into a single folder with the number of the specification section in the file name so that the files are listed in the same order they would appear in a hard copy print. Attachments to specification sections should be named so that they also fall in the correct order on the file list.
- Specification sections based on OC SAN master specifications shall be edited using tracked changes so changes made to the OC SAN master can be readily viewed.
- Native CAD files shall be submitted per the OC SAN CAD Standards Manual

## **TASK 3.5 - BID SUPPORT SERVICES**

### **Task 3.5.1 Bid Phase Activities**

CONSULTANT shall provide the following bid period services:

- Participate in the pre-bid meeting.
- Prepare project drawing set and project specification addenda to provide clarification and resolve errors and omissions identified prior to bid opening.

### **Task 3.5.2 Bid Evaluation Assistance**

Participate in reviewing alternate equipment proposals from the Contractor, if applicable.

Participate in the evaluation of the submitted bids, furnish consultation and advice to OC SAN staff and assist with all the related equipment, cost, and other analyses as required to finalize the award decision.

### **Task 3.5.3 Conformed Document Preparation**

Within two weeks of the bid date, prepare conformed documents set (drawings, databases, specifications and other required materials) that incorporates the addenda. See Engineering Design Guidelines, Chapter 01, Design Guidelines – General Requirements, Section 01.4 “Preparation of Project Deliverables” for requirements as modified in Section V of this Scope of Work, “Project-Specific Deviations from OC SAN Design Guidelines” and the requirements of the CAD Manual).

## **TASK 3.6 - PROJECT MANAGEMENT**

CONSULTANT Project Management responsibilities during Phase 3 - Design shall be as specified for Phase 2 – Preliminary Design.

## **TASK 3.8 - WORKSHOPS AND MEETINGS**

The requirements specified in Task 2.8 – Workshops and Meetings specified for Phase 2 – Preliminary Design related to Workshop and Meeting Planning and Workshop and Meeting Agendas shall also apply for Phase 3 - Design.

CONSULTANT shall anticipate and budget for, at minimum, the following meetings and workshops during the design phase:

- Submittal Review Workshop (2 Workshops) - One Review Workshop at each design submittal.

## **TASK 3.9 - QUALITY CONTROL**

The quality control requirements for Phase 3 - Design and Bid are specified under Quality Control for Phase 2.

## **PHASE 4 – CONSTRUCTION AND INSTALLATION SERVICES**

OC SAN will administer and provide field inspection for construction contracts. Construction and installation support services shall be provided by the CONSULTANT as requested by OC SAN. CONSULTANT shall refer to the Engineering Design Guidelines, Chapter 01 for detailed requirements.

CONSULTANT shall provide the key management personnel as described in their proposal on this project. CONSULTANT shall not reassign the key project personnel without prior approval of OC SAN. OC SAN may request reassignment of any of the CONSULTANT's personnel, based on that individual's performance.

For all services CONSULTANT shall refer to Engineering Design Guidelines. Chapter 01 for detailed requirements.

### **Task 4.1 Project Management**

CONSULTANT shall be responsible for detailed management of the project, including managing its subconsultants, and shall keep OC SAN apprised of the status of the project.

### **Task 4.2 – Initial Project Meetings**

#### **a. Construction Hand-off Workshop**

CONSULTANT shall participate in a 2-hour Construction Hand-off Workshop. The purpose of the workshop is for the Consultant and OC SAN design teams to transfer project specific knowledge to the OC SAN construction management and inspections staff that will be managing and monitoring construction. Topics that might be covered in this meeting include the following:

- Overview of objective of the project
- Review of project elements
- Review of sequencing constraints



- Key issues to be addressed during construction
- Identification of risks and discussion of contingency plans

The workshop will be led by OC SAN's Project Engineer. CONSULTANT shall include its Project Manager as a minimum.

b. Submittal review Procedures

The purpose of the Submittal Review Procedures Meeting is to review the roles and logistics for review and approval of Contractor Submittals. The CONSULTANT Project Manager and Project Engineer shall attend in person.

### **Task 4.3 Submittal Reviews**

OC SAN will receive and log-in all submittals from the Contractor. OC SAN will forward copies of selected shop drawing and submittals requiring CONSULTANT review. CONSULTANT shall review the shop drawings and submittals for conformance with the requirements of the Contract Documents and return the submittal review comments to OC SAN within ten (10) calendar days after receipt of submittal. CONSULTANT shall return comments to OC SAN allowing sufficient time for OC SAN to incorporate all comments into a combined review comment set that OC SAN will return to the Contractor. Hazen will be responsible for reviewing submittals relevant to Hazen's Scope of Work. CONSULTANT shall accommodate occasional expedited reviews for time sensitive submittals. Submittals shall include but not be limited to shop drawings, vendor tests, certifications, and test reports.

See Quantitative Assumptions in this Scope of Work for the number of submittals.

### **Task 4.4 – Request for Information (RFIs)**

OC SAN will log-in and forward to CONSULTANT certain RFIs generated by the Contractor or OC SAN. CONSULTANT shall return written response to OC SAN as soon as possible or within five (5) calendar days of receipt of RFI, clarifying the requirements of the Contract Documents. Hazen to review RFI's relevant to Hazen's Scope of Work. CONSULTANT shall generate necessary sketches, figures and modifications to the drawings for clarifications. When required to avoid schedule delay or additional construction related costs, CONSULTANT shall expedite the review of time sensitive RFIs.

If any changes to the Contract Drawings are required, the CONSULTANT shall prepare these drawings and submit them as AutoCAD files to OC SAN. The CONSULTANT shall update all AutoCAD drawings and specifications upon OC SAN acceptance of any changes resulting from RFIs and change orders.

CONSULTANT shall also allocate time for required efforts to analyze and provide input on issues that may arise on a weekly basis. The assumption of the effort involved in

weekly assistance shall be as indicated under “Quantitative Assumptions” in this Scope of Work.

## **Task 4.5 – Contract Document Modifications, Design Changes and Change Orders**

If the Contract Documents require modifications due to changed conditions, OC SAN requested changes, omissions or design errors; CONSULTANT shall prepare preliminary change order documents and forward them to OC SAN, as needed. OC SAN shall review the proposed change and request CONSULTANT to incorporate and changes. OC SAN will issue the change order documents in a formal Request for Proposal (RFP) or Field Change Order (FCO) to the Contractor. CONSULTANT shall forward design calculations and other design backup documents as necessary to OC SAN.

Any Contract Document that requires changes shall be identified with date of change and reference (RFI number, RFP number, FCO number etc.) shown on the document. Changes shown on drawings shall be clearly marked and “clouded” for accurate identification of the scope of change by the Contractor and inspection staff. CONSULTANT shall maintain up-to-date Contract Documents. When a change is required on a contract drawing that has previously undergone a change, the updated drawing showing the previous change shall be used as the base document to identify new changes.

CONSULTANT shall submit complete change documentation to OC SAN for use in RFIs, RFPs and FCOs. This change documentation shall include plan drawings, schematics, details, schedules and specifications, as required.

CONSULTANT shall prepare cost estimates for the changes when requested by OC SAN. The CONSULTANT shall include an allowance for cost estimating as indicated under “Quantitative Assumptions” in this Scope of Work.

## **Task 4.6 – Construction Progress Meetings and Site Visits**

CONSULTANT shall attend construction progress meetings as requested by OC SAN. The scope includes time for meeting preparation, travel time, follow-up and review of meeting minutes. Progress meeting minutes shall be prepared by OC SAN.

CONSULTANT shall make field visits to assist in field problem resolution and design/clarification/verification to help resolve construction issues as they arise and as requested by OC SAN. CONSULTANT shall report the nature of the field site visits, the problem resolved and identify staff requesting a site visit in CONSULTANT’s monthly progress report. OC SAN will provide inspection, except as required in other sections of this scope.

See Quantitative Assumptions in this Scope of Work for construction progress meetings and site visits.

## PHASE 5 – COMMISSIONING SERVICES

Not Used

## PHASE 6 – CLOSEOUT

Closeout tasks include completion of punch list work by the Contractor, final inspection, completion of record drawings and electronic data. CONSULTANT shall submit a final invoice at the completion of the project.

### Task 6.1 – Final Inspection and Punch Lists

CONSULTANT's construction coordinator shall attend the final inspection job walk with the Contractor and OC SAN staff. CONSULTANT shall make recommendations on the completion of the work including, but not limited to, completion of punch list items, site cleanup, leakage and overall system operations. Each engineering discipline will be involved in the final inspection job walk.

CONSULTANT shall assist OC SAN in developing punch lists of items required to be completed prior to final acceptance of the project by OC SAN.

### Task 6.2 – Record Drawings

After completion of construction, OC SAN will transmit to CONSULTANT the Final Field Markup Set of drawings. AT that time, the CONSULTANT shall meet with OC SAN's inspectors and Resident Engineer to review the Contractor's Final Field Markup Set.

CONSULTANT shall prepare Draft Record Drawings based on the Final Field Markup Set for all drawings in accordance with the requirements in the CAD Manual. The CONSULTANT shall submit the Draft Record Drawings to the OC SAN Resident Engineer. The Draft Record Drawings will be reviewed for content and CAD compliance by OC SAN staff. A comment log will be returned to the CONSULTANT and, if any comments are generated, the CONSULTANT shall revise the record drawings and resubmit to the RE for review of the changes and acceptance of the record drawings.

When no additional comments are identified, CONSULTANT shall prepare the Final Record Drawings and submit them along with the Contractors field markup set to the Project Manager. All record drawings shall contain a stamp indicating:

<p><b>"Record Drawings</b></p> <p>These record drawings have been prepared based on information provided by others. The Engineer has not verified the accuracy of this information and shall not be responsible for any errors or omissions which may be herein as a result."</p>
---

The stamp shall optimally be placed in the bottom right-hand corner of the border and



may be included via x-ref. If importing the stamp via x-ref interferes with content in the bottom right-hand corner, the stamp may also be placed in other open space along the bottom of the border. In addition, a note shall be placed over the engineer’s seal stating that “This drawing was originally approved for construction by [name of engineer] on [date] and sealed by [name of engineer] a licensed professional engineer in the state of California No. [License number}”. CONSULTANT shall submit an electronic copy of the record drawing to OC SAN for review and approval. The acceptance of the record drawings shall be deemed a condition for completion of work.

Contractor generated drawings described in the Design Guidelines and the shop drawings will not be updated by CONSULTANT.

Submittals shall be delivered electronically in pdf and CAD format.

**Task 6.3 – Project Management**

CONSULTANT shall also include project management support labor hours related to closeout activities per requirements stated in Phase 4, Project Management Task.

**IV. QUANTITATIVE ASSUMPTIONS**

The assumptions listed in the table below shall be the basis for the assumed level of effort.

Task	Description	Assumption
4.3	Submittals	12 submittals 4 resubmittals
4.4	Requests for Information	5 RFIs
4.4	Weekly Assistance	8 hours
4.5	Design Changes	16 hours
4.5	Cost Estimating for Design Changes	4 hours
4.6	On-Site meetings & Site Visits (not including meetings specified in Task 4.2)	2 person visits

Services during monitoring and reporting are described elsewhere.