

PROFESSIONAL DESIGN SERVICES AGREEMENT

This PROFESSIONAL DESIGN SERVICES AGREEMENT, (hereinafter referred to as "Agreement"), is made and entered into to be effective the 22nd day of March, 2023 by and between the ORANGE COUNTY SANITATION DISTRICT, (hereinafter referred to as "OC SAN"), and LEE & RO, INC., (hereinafter referred to as "CONSULTANT").

WITNESSETH:

WHEREAS, OC SAN desires to engage CONSULTANT for **Chemical Systems Rehabilitation at Plant No. 2, Project No. P2-135**; and to provide professional design services for the Chemical Systems at Plant No. 2, (Services) and

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

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

WHEREAS, at its regular meeting on March 22, 2023 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.

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 necessary professional and technical services to accomplish those project elements outlined in the Scope of Work attached hereto as Attachment "A", and by this reference made a part of this Agreement.

- A. 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 (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.
- B. 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 of OC SAN's questions, comments, suggestions, corrections, and recommendations (i.e., DS1, DS2, DS3, and FDS). 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.)

- C. In the event that work is not performed to the satisfaction of OC SAN and 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.
- D. All CAD drawings, figures, and other work 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 thirty (30) 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.

- E. The CONSULTANT shall ensure that all plans and specifications prepared, or recommended under this Agreement allow for competitive bidding. 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 are capable of meeting the functional requirements applicable to the project.
- F. All professional services performed by the CONSULTANT, including but not limited to all drafts, data, correspondence, proposals, reports, and estimates compiled or composed by the CONSULTANT, 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.

2. COMPENSATION

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

A. Total Compensation

Total compensation shall be in an amount not to exceed Eight Hundred Sixty-Two Thousand Three Hundred Twenty-Eight Dollars (\$862,328.00). Total compensation to CONSULTANT including burdened labor (salaries plus benefits), overhead, profit, direct costs, and Subconsultant(s) fees and costs shall not exceed the sum set forth in Attachment "E" - Fee Proposal.

B. Labor

As a portion of the total compensation to be paid to CONSULTANT, OC SAN shall pay to CONSULTANT a sum equal to the burdened salaries (salaries plus benefits) actually paid by CONSULTANT charged on an hourly-rate basis to this project and paid to the personnel of CONSULTANT. Upon request of OC SAN, CONSULTANT shall provide OC SAN with certified payroll records of all employees' work that is charged to this project.

C. Overhead

As a portion of the total compensation to be paid to CONSULTANT, OC SAN shall compensate CONSULTANT and Subconsultants for overhead at the rate equal to the percentage of burdened labor as specified in Attachment "E" - Fee Proposal.

D. Profit

Profit for CONSULTANT and Subconsultants shall be a percentage of consulting services fees (Burdened Labor and Overhead). When the consulting or subconsulting services amount is \$250,000 or less, the maximum Profit shall be 10%. Between \$250,000 and \$2,500,000, the maximum Profit shall be limited by a straight declining percentage between 10% and 5%. For consulting or subconsulting services fees with a value greater than \$2,500,000, the maximum Profit shall be 5%. Addenda shall be governed by the same maximum Profit percentage after adding consulting services fees.

As a portion of the total compensation to be paid to CONSULTANT and Subconsultants, OC SAN shall pay profit for all services rendered by CONSULTANT and Subconsultants for this project according to Attachment "E" - Fee Proposal.

E. Subconsultants

For any Subconsultant whose fees for services are greater than or equal to \$100,000 (excluding out-of-pocket costs), CONSULTANT shall pay to Subconsultant total compensation in accordance with the Subconsultant amount specified in Attachment "E" - Fee Proposal.

For any Subconsultant whose fees for services are less than \$100,000, CONSULTANT may pay to Subconsultant total compensation on an hourly-rate basis per the attached hourly rate Schedule and as specified in the Scope of Work. OC SAN shall pay to CONSULTANT the actual costs of Subconsultant fees and charges in an amount not to exceed the sum set forth in Attachment "E" - Fee Proposal.

F. Direct Costs

OC SAN shall pay to CONSULTANT and Subconsultants the actual costs of permits and associated fees, travel and licenses for an amount not to exceed the sum set forth in Attachment "E" - Fee Proposal. OC SAN shall also pay to CONSULTANT actual costs for equipment rentals, leases or purchases with prior approval of OC SAN. Upon request, CONSULTANT shall provide to OC SAN receipts and other documentary records to support CONSULTANT's request for reimbursement of these amounts, see Attachment "D" - Allowable Direct Costs. All incidental expenses shall be included in overhead pursuant to Section 2 - COMPENSATION above.

G. Other Direct Costs

Other Direct Costs incurred by CONSULTANT and its Contractor due to modifications to the Scope of Work resulting from field investigations and field work required by the Agreement. These items may include special equipment, test equipment and tooling and other materials and services not previously identified. Refer to attachment "D" Allowable Direct Costs for payment information.

H. Reimbursable Direct Costs

OC SAN will reimburse the CONSULTANT for reasonable travel and business expenses as described in this section and further described in Attachment "D" - Allowable Direct Costs to this Agreement. The reimbursement of the above-mentioned expenses will be based on an "accountable plan" as considered by Internal Revenue Service (IRS). The plan includes a combination of reimbursements based upon receipts and a "per diem" component approved by IRS. The most recent schedule of the per diem rates utilized by OC SAN can be found on the U.S. General Service Administration website at <http://www.gsa.gov/portal/category/104711#>.

The CONSULTANT shall be responsible for the most economical and practical means of management of reimbursable costs inclusive but not limited to travel, lodging and meals arrangements. OC SAN shall apply the most economic and practical method of reimbursement which may include reimbursements based upon receipts and/or "per diem" as deemed the most practical.

CONSULTANT shall be responsible for returning to OC SAN any excess reimbursements after the reimbursement has been paid by OC SAN.

Travel and travel arrangements – Any travel involving airfare, overnight stays or multiple day attendance must be approved by OC SAN in advance.

Local Travel is considered travel by the CONSULTANT within OC SAN general geographical area which includes Orange, Los Angeles, Ventura, San Bernardino, Riverside, San Diego, Imperial, and Kern Counties. Automobile mileage is reimbursable if CONSULTANT is required to utilize personal vehicle for local travel.

Lodging – Overnight stays will not be approved by OC SAN for local travel. However, under certain circumstances overnight stay may be allowed at the discretion of OC SAN based on reasonableness of meeting schedules and the amount of time required for travel by the CONSULTANT. Such determination will be made on a case-by-case basis and at the discretion of OC SAN.

Travel Meals – Per-diem rates as approved by IRS shall be utilized for travel meals reimbursements. Per diem rates shall be applied to meals that are appropriate for travel times. Receipts are not required for the approved meals.

Additional details related to the reimbursement of the allowable direct costs are provided in the Attachment “D” - Allowable Direct Costs of this Agreement.

I. Limitation of Costs

If, at any time, CONSULTANT estimates the cost of performing the services described in CONSULTANT's Proposal will exceed seventy-five percent (75%) of the not-to-exceed 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 the services. Any cost incurred in excess of the approved not-to-exceed amount, 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. Failure to notify OC SAN that the services cannot be completed within the authorized not-to-exceed amount is a material breach of this Agreement.

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 the total compensation is not increased.

4. PAYMENT

- A. Monthly Invoice: CONSULTANT shall include in its monthly invoice, 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.

- B. CONSULTANT may submit monthly or periodic statements requesting payment for those items included in Section 2 - COMPENSATION hereof in the format as 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 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 invoiced amount on a per task basis.

If OC SAN determines that the work under this Agreement, or any specified task hereunder, is incomplete and that the amount of payment is in excess of:

- i. The amount considered by OC SAN's Director of Engineering to be adequate for the protection of OC SAN; or
- ii. The percentage of the work accomplished for each task.

OC SAN may, at the discretion of the Director of Engineering, retain an amount equal to that which ensures that the total amount paid to that date does not exceed the percentage of the completed work for each task or the project in its entirety.

- C. CONSULTANT may submit periodic payment requests for each 30-day period of this Agreement for the profit as set forth in Section 2 - COMPENSATION above. Said profit payment request shall be proportionate to the work actually accomplished to date on a per task basis. In the event OC SAN's Director of Engineering determines that no satisfactory progress has been made since the prior payment, or in the event of a delay in the work progress for any reason, OC SAN shall have the right to withhold any scheduled proportionate profit payment.
- D. Upon satisfactory completion by CONSULTANT of the work called for under the terms of this Agreement, and upon acceptance of such work by OC SAN, CONSULTANT will be paid the unpaid balance of any money due for such work, including any retained percentages relating to this portion of the work.

Upon satisfactory completion of the work performed hereunder and prior to final payment under this Agreement for such 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.

- E. 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.

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.

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 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 Services performed.

All documents, including but not limited to, original plans, studies, sketches, drawings, computer printouts and disk files, and specifications prepared in connection with or related to the Scope of Work or Services, 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 CONSULTANT's 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.

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: Two Million Dollars (\$2,000,000) per occurrence with Four Million Dollars (\$4,000,000) aggregate. If aggregate limits apply separately to this contract (as evidenced by submission of ISO form CG 25 03 or 25 04), then the aggregate limit may be equivalent to the per occurrence limit. 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. Where permitted by law, CONSULTANT hereby waives all rights of recovery by subrogation because of deductible clauses, inadequacy of limits of any insurance policy, limitations or exclusions of coverage, or any other reason against OC SAN, its or their officers, agents, or employees, and any other consultant, contractor, or subcontractor performing work or rendering services on behalf of OC SAN in connection with the planning, development, and construction of the project. In all its insurance coverages related to the work, CONSULTANT shall include clauses providing that each insurer shall waive all of its rights of recovery by subrogation against OC SAN, its or their officers, agents, or employees, or any other consultant, contractor, or subcontractor performing work or rendering services at the project. Where permitted by law, CONSULTANT shall require similar written express waivers and insurance clauses from each of its Subconsultants of every tier. A waiver of subrogation shall be effective as to any individual or entity, even if such individual or entity (a) would otherwise have a duty of indemnification, contractual or otherwise, (b) did not pay the insurance premium, directly or indirectly, and (c) whether or not such individual or entity has an insurable interest in the property damaged.

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, throughout the term of this Agreement, standard industry form professional negligence errors and omissions insurance coverage in an amount of not less than Two Million Dollars (\$2,000,000) 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 date of the completion of the services hereunder.

In the event of termination of said policy during this 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. 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, at any time, complete, certified copies of all required insurance policies, including endorsements, effecting the coverage required. The following are approved forms that must be submitted as proof of coverage:

- Certificate of Insurance ACORD Form 25 or other equivalent certificate of insurance form
- Additional Insurance (General Liability) The combination of (ISO Forms) CG 20 10 and CG 20 37

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 (Automobile Liability) Submit endorsement provided by carrier for OC SAN approval.
- Waiver of Subrogation Submit workers' compensation waiver of subrogation endorsement provided by carrier for OC SAN approval.
- Cancellation Notice No endorsement is required. However, CONSULTANT is responsible for notifying OC SAN of any pending or actual insurance policy cancellation, as described in Article I. Cancellation and Policy Change Notice, below.

I. Cancellation and Policy Change Notice

The CONSULTANT is required to notify OC SAN in writing of any insurance cancellation notice it receives or other knowledge of pending or actual insurance policy cancellation within two (2) working days of receipt of such notice or acquisition of such knowledge. Additionally, the CONSULTANT is required to notify OC SAN in writing of any change in the terms of insurance, including reduction in coverage or increase in deductible/SIR, within two (2) working days of receipt of such notice or knowledge of same.

Said notices shall be mailed to OC SAN at:

ORANGE COUNTY SANITATION DISTRICT
10844 Ellis Avenue, Fountain Valley, CA 92708
Attention: Contracts, Purchasing & Materials Management Division

J. Primary Insurance

The general and automobile 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.

K. Separation of Insured

The general and automobile liability policies shall contain a "Separation of Insureds" clause.

L. 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.

M. 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.

N. Defense Costs

The general and automobile 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.

O. 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.

P. 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 or other terms in the Agreement, as requested by OC SAN, the parties hereto shall execute 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. CONSULTANT hereby agrees to use any and all procedures, programs, and systems required by OC SAN to process and execute such Amendment(s), including, but not limited to, computer programs and systems.

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 task 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

The CONSULTANT's personnel 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. OC SAN retains the reasonable right to access, review, examine, and audit, any and all books, records, documents, and any other evidence of procedures and practices that OC SAN determines are necessary to discover and 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 examine CONSULTANT's books, records, documents and any other evidence of procedures and practices that OC SAN determines are necessary to discover and 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 and OC SAN's policy. The CONSULTANT shall make available to OC SAN for review and audit, all project related accounting records and documents, and any other financial data within 15 days after receipt of notice from OC SAN. Upon OC SAN's 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.

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: Wai Chan, Contracts Administrator
Copy: Cindy Murra, Project Manager

Notices shall be mailed to CONSULTANT at:

LEE & RO, INC.
1199 South Fullerton Road
City of Industry, CA 91748
Attention: Charles Ro, Principal in Charge

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 thirty (30) 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.

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.

15. DOCUMENTS AND STUDY MATERIALS

The documents and study materials for this project shall become the property of OC SAN upon the termination or completion of the work. CONSULTANT agrees to furnish to OC SAN copies of all memoranda, correspondence, computation and study materials in its files pertaining to the work described in this Agreement, which is requested in writing by OC SAN.

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 applicable federal, state and local air pollution control laws and regulations.

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

CONSULTANT shall perform its services in accordance with generally accepted industry and professional standards. If, within the 12-month period following completion of its services, OC SAN informs CONSULTANT that any part of the services fails to meet those standards, CONSULTANT shall, within the time prescribed by OC SAN, take all such actions as are necessary to correct or complete the noted deficiency(ies).

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, consultants, 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. 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.

25. 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.

26. 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.

27. ENTIRE AGREEMENT

This Agreement constitutes the entire understanding and agreement between the Parties and supersedes all previous negotiations between them pertaining to the subject matter thereof.

[THIS SECTION INTENTIONALLY LEFT BLANK]

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

CONSULTANT: LEE & RO, INC.

By _____ Date _____

Printed Name & Title

ORANGE COUNTY SANITATION DISTRICT

By _____ Date _____
Chad P. Wanke
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" – Labor Hour Matrix
Attachment "C" – Not Attached
Attachment "D" – Allowable Direct Costs
Attachment "E" – Fee Proposal
Attachment "F" – Not Used
Attachment "G" – Not Attached
Attachment "H" – Not Used
Attachment "I" – Cost Matrix and Summary
Attachment "J" – Not Attached
Attachment "K" – Minor Subconsultant Hourly Rate Schedule
Attachment "L" – Contractor Safety Standards
Attachment "M" – Iran Contracting Act Verification

WC:ms

ATTACHMENT "A"

SCOPE OF WORK

Chemical Systems Rehabilitation at Plant No. 2
Project No. P2-135

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1. PROJECT REQUIREMENTS

1.0 SUMMARY

1.0.1 PROFESSIONAL DESIGN ENGINEERING SERVICES

A. Provide professional design engineering services for the project described herein including the following:

1. Preliminary Design Report
2. Permitting assistance
3. Preparation of bid documents

1.0.2 PROFESSIONAL LICENSING REQUIREMENTS

A. All plans and specifications shall be prepared by a professional engineer licensed in the State of California of the associated discipline.

1.1 BACKGROUND

The Sodium Bisulfite Station and Anionic Polymer Station at Plant No. 2 are in need of upgrades.

The existing Plant No. 2 Sodium Bisulfite Station was designed for continuous use when OC SAN regularly disinfected the effluent. From 2000 to 2015, OC SAN disinfected all wastewater which was sent to the ocean outfall, as required to meet the NPDES Permit bacteriological standards. The disinfection process included adding sodium hypochlorite to the wastewater to destroy fecal coliform and other disease carrying microorganisms, and then added sodium bisulfite to dechlorinate the wastewater to reduce the impact of sodium hypochlorite on the ocean.

In 2015, OC SAN received approval from the USEPA and Santa Ana Regional Water Quality Control Board to stop disinfection. Since 2015, disinfection is now only required for abnormal operational conditions. The NPDES permit still requires OC SAN to disinfect when using the 78-inch one-mile short outfall, which occurs when the 120-inch outfall is scheduled for maintenance, or OC SAN experiences an extreme high flow event. The Sodium Bisulfite Station has only been utilized a few times since 2015.

Due to sodium bisulfate crystalizing when stored, it is difficult to maintain stored chemicals at the Sodium Bisulfite Station since OC SAN stopped disinfecting continuously. The equipment is in poor condition and it is overdesigned for how it is used today.

Plant No. 2 uses ferric chloride and anionic polymer as coagulants as part of the chemically enhanced primary treatment (CEPT) in the primary basins to remove settleable solids. With CEPT, effluent quality is improved and H₂S in the digester gas is reduced. The process is generally controlled at the Headworks by feeding each of the three sets of clarifiers. Ferric chloride is added to the primary influent stream at the primary influent metering structure downstream of the primary influent flowmeters for each side of the primary plant. Anionic polymer is added to the three distribution structures that feed the 14 primary clarifiers. The dose of polymer varies depending on the type of polymer used. Regular jar testing by Operations staff determines the specific dose rates for ferric chloride and for polymer.

OC SAN has experienced difficulties to maintain the existing electrical and instrumentation (E&I) equipment at the Anionic Polymer Station as most of the equipment is obsolete or is no longer reliable. No work is proposed to the Ferric Chloride facilities at this time.

1.2 GENERAL PROJECT DESCRIPTION

This project will make improvements to two existing chemical areas within Plant No. 2: a) the Sodium Bisulfite Station, and b) the Anionic Polymer Station. The project will demolish the existing Plant No. 2

Sodium Bisulfite Station, built under project J-87 in 2003, inside the containment and pump areas. There are 3 x 13,000-gallon fiber-reinforced plastic (FRP) tanks, 6 various sized chemical feed pumps, including motors and drives, and associated piping and valves. There are aged chemicals inside 2 of the 3 tanks with heavy crystallization buildup. The project will install one or more FRP tanks with 3 high turndown ratio pumps per tank. Also, the station does not have a plant water supply. See Figure 1 Project Site.

This project will also replace equipment at the Anionic Polymer Station to ensure that this critical facility remains reliable until OC SAN is able to rehabilitate the entire facility with future project P2-133 B/C-Side Primary Sedimentation Basins Rehabilitation at Plant No. 2, which is scheduled to start in 2029. The project will demolish and replace the Anionic Polymer Station's obsolete electrical and instrumentation assets, built under project P2-36 in 1986. The electrical and instrumentation assets include controllers, flow meters/transmitters, motor running time meter tubs, valves, and actuators. See Figure 2 Project Site.

Figure 1 Project Site

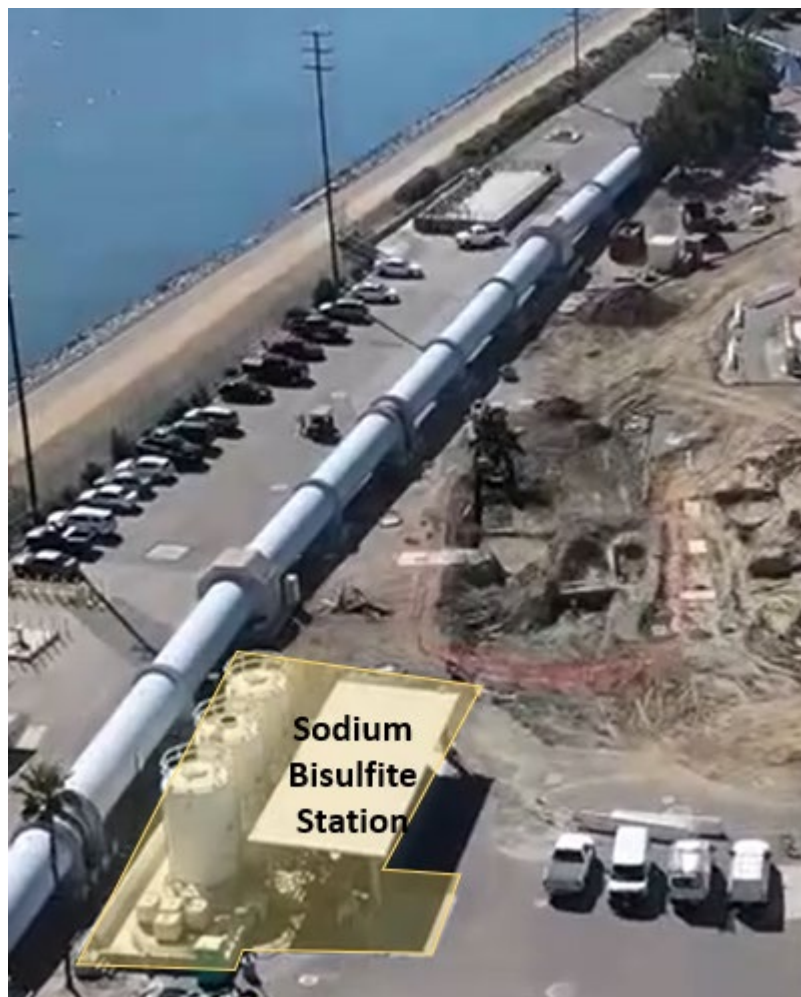
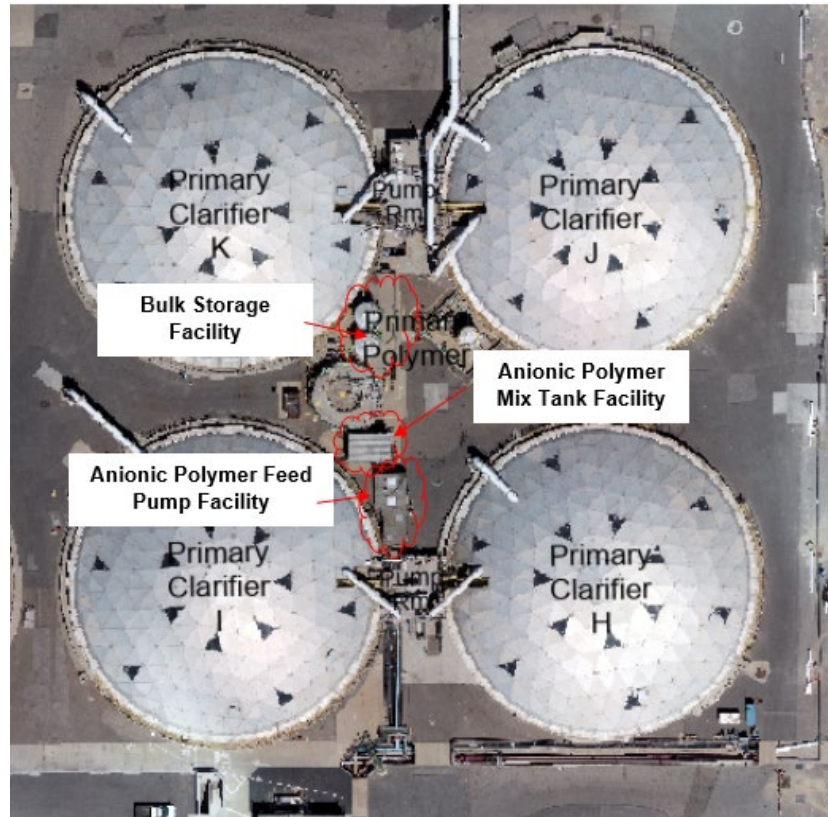


Figure 2 Project Site



1.3 PROJECT EXECUTION PHASES

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

- Phase 1 – Project Development (Not in this Scope of Work)
- Phase 2 – Preliminary Design
- Phase 3 – Design
- Phase 4 – Construction (Not in this Scope of Work)
- Phase 5 – Commissioning (Not in this Scope of Work)
- Phase 6 – Close Out (Not in this Scope of Work)

1.4 DESCRIPTION OF PROJECT ELEMENTS

Detailed descriptions of the Project Elements are presented below.

1.4.1 PROJECT ELEMENT 1 – DEMOLITION

A. The construction of the Sodium Bisulfite Station requires the demolition of certain existing equipment that include, but may not be limited to the following:

1. Storage tanks (1 x 4,000 gal. temporary tank (use as a temporary tank during construction and demo after new system is operational) and 3 x 13,000 gal. existing tanks)
2. Chemical feed pumps (6), including motors and drives
3. Chemical piping in the containment area
4. Power panels

5. Flow meters and tank level sensors
6. Emergency shower/eyewash stations (5 stations)
- B. The construction of the Anionic Polymer Station requires the demolition of certain existing equipment that include, but may not be limited to the following:
 1. Polymer mix tank inlet valves and actuators (2 valves and 2 actuators)
 2. Mix tank drain valve and actuator
 3. Pump control panels (4)
 4. Magnetic flowmeters (2)
 5. Physical chem 480V starter rack
 6. Mix tank drain valve and actuator
 7. PLC processor and RIO panels 21HFCP001 and 21HFCP002.

1.4.2 PROJECT ELEMENT 2 – SODIUM BISULFITE STATION

- A. The Sodium Bisulfite Station equipment for intermittent operation shall include:
 1. FRP tank(s)
 2. Chemical feed pumps
 3. Chemical piping in the containment area, including valves and actuators
 4. Chemical feed pump control panel with VFDs
 5. Chemical truck loading panel
 6. Tank insulation with heat tracing system
 7. Recirculation system
 8. Flushing system
 9. 480V and 120/208V panel boards and transformer
 10. Area Lighting
 11. Reuse existing RIO panel with new UPS feed from our regional UPS system from EPSA Standby Power building to replace/demo the existing portable UPS unit.
 12. Flow meters
 13. Tank level transmitters and sensors
 14. Emergency shower/eyewash station(s)
 15. Concrete repair in containment area
 16. Handrails and FRP gratings repair
 17. Replace canopy
- B. Assumptions for Level of Effort
 1. For the purpose of estimating the predesign and design phase levels of effort, the CONSULTANT shall make the following assumptions regarding this project element:
 - a. The size, capacity, and quantity of the new FRP tank(s) shall be determined.
 - b. The new pumps shall meet the minimum/maximum flow requirements: 0.1 to 2.5 gallons per minute (gpm). Chemical dosage calculation shall be verified.

- c. The new Sodium Bisulfite Station equipment shall be able to maintain the chemical in a liquid state.
- d. No emergency generator plug will be required for the Sodium Bisulfide Station.

1.4.3 PROJECT ELEMENT 3 – ANIONIC POLYMER STATION

- A. The Anionic Polymer Station equipment replacement of the following:
 - 1. Polymer mix tank inlet valves and actuators (21HNV454 and 21HNV464); provide remote control station in accessible locations next to the valves/MOVs.
 - 2. Mix tank drain valve and actuator (21HLV455).
 - 3. Emulsion Control Panel 21HFCP001. Replace this panel with new ABB PLC per OC SAN Standards. The existing FCP001 is out of service, not currently functioning, and can be demolished at any time.
 - 4. Polymer Control Panel 21HFCP002. This existing panel includes Modicon Quantum PLC with 800 series input/output modules, polymer mixing and batching controls, and annunciators. The new control panel shall utilize ABB RIO input/output modules per OC SAN Standards, and this new panel will go outside. The existing panel has control devices and displays for the polymer system. HAND-OFF-REMOTE controls switches and indicating lights will be located on the motor starter panels and JOG and E-STOP devices will be located in the field for each motor per OC SAN latest standards. The new FCP001 and FCP002 will have no pushbuttons, selectors switches, indicating lights, digital displays, HMIs, etc. mounted on the front panels, they will be completely blank. No new HMIs will be provided, operators will utilize HMIs in nearby buildings.
 - 5. Magnetic flowmeters and transmitter (21HFE412/21HFT412 and 21HFE422/21HFT422)
 - 6. 480 V motor wall-mounted motor starters:
 - a. Tank Mixer 21HTUB340
 - b. Tank Mixer 21HTUB360
 - c. Polymer Transfer Pump 21HTUB390
 - d. Polymer Transfer Pump 21HTUB400
 - 7. 480V motor starters (wall mounted) and Polymer Feed Control Panels 21HFCP003 and 21HFCP004 (located adjacent to the polymer pumps and includes two 480V pump VFDs per panel) with individual VFD control panels per pump with local controls:
 - a. Polymer Pump A 21HTUB410
 - b. Polymer Pump B 21HTUB420
 - c. Polymer Pump C 21HTUB430
 - d. Polymer Pump S 21HTUB440
 - 8. 480V-120/240V transformer and associated primary breaker and panelboard (Panel LP-RB) located adjacent to the 480V motor starters in the Polymer Pump Room. Panel LP-RB may be demolished with the loads refeed from the existing 120/240V Panel LP-H, located adjacent electrical room, if there is capacity.
- B. Convert the polymer batching system from level to flow control. Install additional flow meter and MOVs to existing Baseline P&ID 21H-NP-120:
 - 1. Provide new FIT after 21HBV395 for flow control to the mix tanks.

2. Replace 21HBV370B and 21HBV380B and provide with MOVs for Solution Polymer tanks 1 and 2 for automatic switching between the tanks.

C. Assumptions for Level of Effort

1. For the purpose of estimating the predesign and design phase levels of effort, the CONSULTANT shall make the following assumptions regarding this project element:
 - a. The replacement of the existing electrical and instrumentation equipment shall be phased to maintain operation of the existing polymer system.
 - b. One phasing option to consider is to temporarily refeed the existing Polymer Feed Control Panels 21HFCP003 and 21HFCP004 from MCC-H2 from circuit breakers H453 and H454 (located in the adjacent electrical room). Determine if the existing 30A circuit breakers need to be replaced with 20A circuit breakers. Replace the existing two tank mixer starters and two transfer pump starters with new NEMA 4X starters located outdoors. Demolish the existing polymer feed pump starters. Replace LP-RB and the associated transformer or refeed the existing 120/240V loads. Provide a new ABB controller control panel in the electrical room in place of Emulsion Polymer Control Panel CP-EP in the electrical room. Provide a new ABB RIO panels and new polymer feed pump VFD control panels in the polymer pump room. Phase the work and commissioning to maintain operations.
 - c. No annunciator drawings or exhibits will be developed.
 - d. Select and provide appropriate PLC/RIO panel layout drawings from OC SAN Standard templates based on OC SAN feedback. Remove all other O SAN Standard templates that are not needed for the Project.
 - e. No new UPS will be required.

1.4.4 PROJECT ELEMENT 4 – UTILITIES

- A. Utility system connections required for the Sodium Bisulfite Station include:
1. Plant water piping
 2. Plant air piping
- B. Assumptions for Level of Effort
1. For the purpose of estimating the predesign and design phase levels of effort, the CONSULTANT shall make the following assumptions regarding this project element:
 - a. New plant water piping and plant air piping will connect from Hunt Tunnel to the Sodium Bisulfite Station.

1.4.5 PROJECT ELEMENT 5 – SEISMIC RETROFIT FOR THE ANIONIC POLYMER FEED PUMP FACILITY

- A. Seismic retrofits to the Polymer Feed Pump Facility building described in this project element may be required. However, since this facility was not evaluated as part of the PS15-06, Seismic Evaluation of Structures at Plant Nos. 1 and 2, the extent of deficiencies and subsequent remedial repairs is not currently identified.
- B. Assumptions for Level of Effort
1. For the purpose of estimating the predesign and design phase levels of effort, the CONSULTANT shall make the following assumptions regarding this project element:
 - a. Remedial repairs will be limited to modifications of the above-grade structure and/or structure-to-foundation connection only. No ground improvements will be performed.
 - b. This project will not include measures to mitigate lateral spread or liquefaction.

- c. Level of effort shall be determined based on the scope described in Section 2.1.4.

1.4.6 TEMPORARY FACILITIES DURING CONSTRUCTION

A. In certain cases, construction sequencing constraints may require the contractor to construct a temporary facility to be used during a certain portion of the construction period.

CONSULTANT shall identify in what instances such facilities are required or reasonably warranted and present those instances with implementation plans and construction sequencing constraints to OC SAN for consideration. When such facilities are found to be either required or reasonably warranted, CONSULTANT shall provide sufficiently detailed drawings and specifications to be included in the Bid Documents that bidders understand what is required to provide and potentially operate the temporary facilities and that the reliability and performance of the facilities will meet OC SAN's needs and reasonably mitigate construction risks. Examples of potential facilities include:

1. Temporary piping to phase the replacement of the utilities in the tunnels.
2. Temporary anionic polymer facilities.
3. Temporary standby power to accommodate the transfer of electrical loads from existing electrical equipment to new electrical equipment.

1.5 PROJECT SCHEDULE

1.5.1 GENERAL

A. The table below lists the time frames associated with each major project deliverable and with OC SAN's review and approval of those deliverables. CONSULTANT shall comply with the deadlines indicated in that table.

B. OC SAN's Project Manager will issue a Preliminary Design NTP. OC SAN's Project Manager will also issue a Final Design NTP upon OC SAN's acceptance of the final Preliminary Design Report.

C. The time frames specified below are used to estimate the actual milestone dates based on the assumed NTP date, as shown in **Exhibit 8 - Project Schedule Calculation**.

D. OC SAN will consider an alternative CONSULTANT-proposed schedule provided it is consistent with OC SAN resources and schedule constraints and adds value to OC SAN.

PROJECT MILESTONE AND DEADLINES	
MILESTONE	DEADLINE
Kickoff Meeting	The kickoff meeting will be scheduled to coincide with the Preliminary Design NTP.
Preliminary Design NTP	
Submit draft Preliminary Design Report (PDR)	80 workdays from the Preliminary Design NTP. CONSULTANT shall establish a schedule with the OC SAN PM for separately submitting working drafts of each Design Memo for OC SAN review prior to completing the draft PDR. This schedule shall factor in the logical sequence for completing the memos as well as both CONSULTANT and OC SAN resources.

PROJECT MILESTONE AND DEADLINES	
MILESTONE	DEADLINE
OC SAN Review of draft PDR	20 workdays from receipt of Draft PDR.
Submit final Preliminary Design Report	20 workdays from receipt of OC SAN comments on Draft PDR.
Final Design NTP	CONSULTANT's schedule shall allow 10 working days from submittal of the final PDR to receipt of the Design Phase NTP.
Submit Design Submittal 1 (DS1)	50 workdays from Design Phase NTP.
OC SAN Review of DS1	20 workdays from receipt of DS1.
Submit Design Submittal 2 (DS2)	65 workdays from receipt of OC SAN comments on DS1.
OC SAN Review of DS2	20 workdays from receipt of DS2.
Submit Design Submittal 3 (DS3)	80 workdays from receipt of OC SAN comments on DS2.
OC SAN Review of DS3	20 workdays from receipt of DS3.
Submit Final Design Submittal (FDS)	30 workdays from receipt of OC SAN comments on DS3. CONSULTANT shall stop work upon submission of DS3, except as required to participate in OC SAN meetings, until receipt of OC SAN comments on DS3.
OC SAN Review of FDS	15 workdays from receipt of FDS.
Final Technical Specifications and Plans	20 workdays from receipt of OC SAN comments on FDS.

2. PHASE 2 – PRELIMINARY DESIGN

The preliminary design phase will define the project. The final deliverable of this phase will be a Preliminary Design Report (PDR) with the basis of design for all elements of the project.

2.0 PRELIMINARY DESIGN PRODUCTION

2.0.1 GENERAL

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

2.0.2 DESIGN MEMOS

A. The CONSULTANT shall produce Design Memos as indicated below in accordance with **Exhibit 1 - Preliminary Design Report Requirements**. The CONSULTANT shall discuss the combining of design memos with OC SAN and develop a design memo submittal list.

☒ **Process Design Configuration**

- ☒ Design Configuration
- ☒ Redundancy
- ☐ Monitoring and Sampling
- ☒ Process Flow Diagrams
- ☒ Operating Philosophies
- ☒ Site and Facility Layouts
- ☐ Preliminary Load Criticality Ranking Table

☐ **Hydraulic Analysis**

[Limits of Modeling: ...]

- ☐Hydraulic Analysis
- ☐Hydraulic Profile
- ☒**Demolition**
 - ☒Describe Demolition Requirements
 - ☒Demolition List
 - ☒Demolition Plans
 - ☒Demo EID
- ☐**Rehabilitation Requirements**
- ☐**Geotechnical Data Report**
 - ☐Review of Existing Data - Preliminary Geotechnical Report
 - ☐Geotechnical Data Report and Recommendations
- ☒**Civil Design Parameters**
 - ☒General Civil
 - ☐Drainage Requirements
 - ☐Corrosion Protection Requirements
- ☒**Utility Requirements**
- ☒**Structural Design Parameters**
- ☐**Architectural Design Parameters**
- ☒**Process Mechanical Design Parameters**
- ☐**Building Mechanical Design Parameters**
- ☐**Fire Protection**
 - ☐Fire Protection Requirements
 - ☐Fire Water Flow Analysis
 - ☐Fire Protection Requirements for Existing Facilities
- ☒**Electrical**
 - ☒Codes/standards. Brief description of electrical system. Electrical drawings.
 - ☒Identify Electrical System Impacts
 - ☒Report – Data Collection and Verification
 - ☒Preliminary Load List
 - ☐Preliminary Standby Power Requirements
 - ☐ETAP – Preliminary Short Circuit Analysis and Load Flow/Voltage Drop Studies
 - ☐ETAP – Provide Data. OC SAN will perform ETAP studies.
 - ☐Preliminary Analysis for cable pull calcs, ductbank cable derating, cable tray fill calcs.
 - ☒Hazardous Area Classification Requirements
- ☒**Instrumentation and Control**
 - ☒Instrumentation and Control System
 - ☐Specialty Safety Systems
 - ☒Preliminary SAT
 - ☒PLC and RIO Panel Location Map
 - ☐CCTV Coverage Map
- ☐**Landscaping**
 - ☐Landscaping Requirements
 - ☐Develop alternative concepts for review and acceptance
- ☒**Plant Utility Investigation Findings**
- ☒**Design Safety Requirements**
 - ☒Design Safety Requirements
 - ☒Identify all potential project specific safety issues
 - ☒Identify all potential Cal OSHA and OC SAN safety issues
 - ☒Identify construction safety hazards

- ☒ Use Sample Full Project Safety Review Plan to verify safety elements
- ☒ Risk Management Check List to verify safety elements
- ☐ HAZOP
- ☐ **Public Impacts**
- ☐ **Environmental and Regulatory Requirements**
 - ☐ CEQA Part of Programmatic EIR
 - ☒ CEQA work consists of a Notice of Exemption (NOE). The NOE will be filled by OC SAN.
 - ☐ Determine project environmental and regulatory requirements
 - ☐ Matrix of CEQA and Permit Requirements
 - ☐ Mitigation, Monitoring and Reporting List
- ☐ **Permit Requirements**
 - ☐ List of Permits Required
 - ☐ Oil Well Abandonment
- ☐ **Stormwater Requirements**
- ☐ **Hazardous Material Survey, Mitigation and Control**
- ☒ **Maintainability**
 - ☒ Define Maintainability Requirements
 - ☐ Maintainability Requirements Plan Drawings
 - ☐ Define Maintainability Rules
 - ☒ Define Maintainability Information for Project Specific Equipment
- ☒ **Facility Operation and Maintenance**
 - ☒ Facility O&M Requirements
 - ☒ Operating Philosophies
 - ☐ Preliminary Assessment of O&M Staffing Requirements
- ☒ **Implementation Plan**
 - ☐ Identification of Adjacent Projects
 - ☒ Preliminary Commissioning Checklist
 - ☒ Preliminary Construction Sequencing Plan
 - ☒ Review of Constructability Issues
 - ☒ Temporary Handling of Flow
 - ☒ Temporary Facilities During Construction
- ☐ **Construction Odor Monitoring and Mitigation**
- ☒ **Preliminary Technical Specification List**

2.0.3 PROJECT SPECIFIC DESIGN MEMOS

Preparation of the following project specific Design Memo is required as part of the preliminary design activities. The content of this Design Memo is further described under the corresponding Preliminary Design Activities task.

1. Condition Assessment

2.0.4 PRELIMINARY DESIGN DRAWINGS

A. The CONSULTANT shall produce the following Preliminary Design Report drawings in accordance with **Exhibit 1 - Preliminary Design Report Requirements**.

- ☒ General
- ☒ Demolition
- ☒ Civil
- ☐ Landscape
- ☒ Structural
- ☐ Architectural
- ☒ Mechanical

- ☒ Electrical
- ☒ Instrumentation and Control

2.0.5 PRELIMINARY DESIGN REPORT (PDR) PRODUCTION, CONTENTS AND ORGANIZATION

- A. Preliminary Design Report (PDR) Production involves the preparation of design memos, drawings, calculations, and other supporting material resulting in the PDR.
- B. The CONSULTANT shall combine the materials described below into a draft PDR. 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, 2, 3, etc.

List of Proposed Specification Sections

Volume 2 – Drawings (see Preliminary Design Drawings list below)

Volume 3 – Submittal Documentation

Calculations

Equipment Data & Catalog Cuts

Decision Log

Meeting Minutes

- C. The Executive Summary shall summarize the conclusions of the Memos included in the report, and specifically include a summary construction schedule and construction cost estimate.
- D. The draft PDR and final PDR shall be submitted in searchable PDF format legible on-screen and as a hard copy. The number of hard copies is indicated in **Exhibit 9 - Deliverables Quantities**. The labeling and organization of the PDF submittal shall be in accordance with **Exhibit 14 - Bluebeam Designer Training for Submission**.
- E. Each evaluation memo and design memo shall be a separate file.
- F. The OC SAN Project Manager may request that the CONSULTANT submit an electronic proof set of the Draft PDR and Final PDR prior to hard copy production in order to initially confirm that the submittal is ready for printing.

2.0.6 PRELIMINARY DESIGN COST ESTIMATE

- A. The CONSULTANT shall provide a cost estimate for the associated PDR submittal indicated below in accordance with **Exhibit 1 - Preliminary Design Report Requirements**.

2.1 PRELIMINARY DESIGN ACTIVITIES

The following services shall be provided by the CONSULTANT or an appropriately qualified subconsultant. In any case, the CONSULTANT shall be responsible for managing all subconsultants, including reviewing their work products prior to submission to OC SAN.

2.1.1 CONDITION ASSESSMENT

- A. CONSULTANT shall conduct a field inspection and prepare a Condition Assessment Report including remedial recommendations for the facilities listed below.
 - 1. Sodium Bisulfite Station containment area concrete
 - 2. Sodium Bisulfite Station canopy structure
- B. This task shall be documented under the corresponding Project Specific Design Memo.

2.1.2 EASEMENTS, PROPERTY BOUNDARIES AND WORK AREA LIMITS

- A. Not in this SOW.

2.1.3 TOPOGRAPHIC SURVEY

- A. Not in this SOW.

2.1.4 SEISMIC VULNERABILITY ASSESSMENT

- A. Review existing structural and geotechnical data (Exhibit 19- P2-98 Geotechnical Data Report) to understand the existing conditions of the Anionic Polymer Feed Pump Facilities and identify data gaps in the existing information.
- B. Conduct performance-based seismic evaluation of the structure using ASCE41-17 Guidelines and other applicable codes and standards. At a minimum, a Tier 1 structural analysis should be performed for the structure. A Tier 2 or 3 evaluation (as required) should also be budgeted for as part of this evaluation.
- C. Identify structural deficiencies and respective mitigation measures to achieve the target performance level of life safety (BSE-1E) and collapse prevention (BSE-2E). These mitigation measures shall be incorporated as part of the work performed under Project Element 5.

2.1.5 GEOTECHNICAL INVESTIGATION

- A. Not in this SOW.

2.1.6 UTILITY INVESTIGATION

- A. To better manage the risks associated with construction excavation, CONSULTANT shall perform a thorough search of all utilities impacted by the work for all applicable Project Elements of this Scope of Work, regardless of size and all other facilities above or below ground. Utilities include all in-plant and other interferences. The search shall include the records and plans of OC SAN.
- B. Review of OC SAN Records
 - 1. OC SAN's "As-built/Record" plans may be incomplete or inaccurate with respect to the routing of individual utilities, pipelines, etc. in the vicinity of the project. CONSULTANT shall check OC SAN records against those of the other agencies, companies, and utilities. These may include, but not be limited to, oil, gas, fuel, water, and sewer pipelines, traffic control facilities, telephone and electrical conduit and duct banks, storm drains, manholes, and other structures.
 - 2. CONSULTANT shall contact USA and request a Substructure listing for the project area.
- C. On-Site Inspection
 - 1. An on-site inspection shall be made in the project area. During the on-site inspection, a senior-level CONSULTANT representative shall walk the site accompanied by OC SAN's Project Engineer and Supervising Inspector. The CONSULTANT representative shall be experienced in the location and identification of utilities in the field. During the on-site inspection the CONSULTANT shall document all visible features that indicate utilities within the project area and compare them with the available utility plans.
- D. Subsurface Utility Investigations
 - 1. Investigation of existing utilities shall be in accordance with the respective ASCE guidelines, except as amended by this Scope of Work. A brief description of the ASCE guidelines defines the Quality Level of detail for researching subsurface utilities as follows:
 - a. **Quality Level D:** Information derived from existing records or oral recollections.
 - b. **Quality Level C:** Information obtained by surveying and plotting visible above-ground utility features and by using professional judgment in correlating this information to Quality Level D information.
 - c. **Quality Level B:** Information obtained through the application of appropriate surface geophysical methods to determine the existence and approximate position of

subsurface utilities. Quality Level B data shall be reproducible by surface geophysics, such as ground penetrating radar, at any point of their depiction. This information is surveyed to applicable tolerances and reduced onto plan documents.

d. **Quality Level A:** Precise horizontal and vertical location of utilities obtained by the actual exposure (or verification of previously exposed subsurface and surveyed utilities) and subsequent measurement of subsurface utilities, usually at a specific point. Minimally intrusive excavation equipment is typically used to minimize the potential for utility damage. A precise horizontal and vertical location, as well as other utility attributes, is shown on the plan documents. Accuracy is typically set to 15-mm vertical and to applicable horizontal survey and mapping accuracy.

2. Refer to CI/ASCE 38-02, Standard Guidelines for Collection and Depiction of Existing Subsurface Utility Data for details.

3. CONSULTANT shall determine all utilities impacted by the work for all applicable Project Elements of this Scope of Work. Utilities include all in-plant utilities. All utilities encountered during the preliminary design shall be shown on the plans.

4. Subsurface investigation for all utilities in and around the work area shall be performed to Quality Level D and Quality Level C. All utilities shall be plotted both in plan and profile on a scaled drawing that can later be incorporated into scaled (1" = 40') plan drawings.

5. CONSULTANT shall submit, for acceptance by OC SAN, recommendations on which utilities should be investigated to Quality Level A and where Quality Level B investigations should be performed. As part of the submittal, a Potholing Plan and a Geophysical Investigation Plan shall be developed including proposed pothole locations and type of geophysical investigation.

6. Prior to OC SAN's acceptance of the Potholing Plan/Geophysical Investigation Plan, a project field walk by the CONSULTANT Project Manager, OC SAN Project Engineer, Supervising Inspector, and other designated OC SAN personnel shall be performed.

E. Potholes and Geophysical Investigation

1. CONSULTANT shall secure the services of a subcontractor to perform the pothole work and geophysical investigation (including ground-penetrating radar).

2. CONSULTANT shall "pothole" and perform geophysical investigation on all utilities described and shown in the accepted Potholing Plan/Geophysical Investigation Plan. CONSULTANT's staff shall be on-site during potholing to provide direction to potholing crew. OC SAN staff shall also be present during potholing. Field investigations include visiting the project work site and each utility to verify the location of all interferences.

3. CONSULTANT shall provide all the related work necessary, including, but not limited to:

- a. Documentation of information
- b. Notification of USA's "Dig Alert"
- c. Providing field survey
- d. Obtaining required permits
- e. Submission of traffic control plans
- f. Setting up traffic control
- g. Soft dig potholing
- h. Ground-penetrating radar
- i. Excavating
- j. Backfilling

k. Repairing pavement to local jurisdiction requirements

4. "Soft" excavation potholing methods such as vacuum extraction is preferred; however, excavation methods shall be chosen to adequately define the utility. Crosscut trenches may be preferred for defining some utility locations. Hydro-jetting soft dig should be avoided in sandy, wet, and contaminated soil conditions.
5. Potholing subcontractor shall measure and document the depth of pavement and of base material at each pothole, and every five feet along crosscut trenches.
6. Work conducted within OC SAN's treatment plants shall comply with the requirements of the OC SAN Stormwater Management Plan. Work conducted outside OC SAN's treatment plant shall comply with the requirements of the local jurisdiction.
7. CONSULTANT shall provide a licensed land surveyor or hire a licensed survey subcontractor(s) to field-locate the actual horizontal and vertical location of the constructed potholes. Survey controls shall be set and coordinated with the survey controls used on previous construction drawings. OC SAN control points shall be checked; northing, easting and elevation data for each pothole shall be shown on the Contract Drawings; and physical tie-ins provided in order to easily re-establish pothole locations after construction. CONSULTANT shall supply and supervise survey work and subcontractors needed to perform the pothole work. Survey datum differences shall also be reconciled.
8. The results of potholing and geophysical efforts shall be summarized in a field findings report.
9. CONSULTANT shall backfill and repair potholes consistent with the requirements of the local jurisdiction. If CONSULTANT is unable to determine local jurisdiction requirements prior to the proposal, CONSULTANT shall assume the following requirements:
 - a. The materials removed from the excavation may not be used for backfill, unless approved by the local jurisdiction. If approved, excavated material used to fill potholes shall be placed with a maximum lift thickness of four inches and mechanically compacted.
 - b. If not approved, the CONSULTANT shall be responsible for hauling off and disposing of excavated pothole material. In this case, excavation holes shall be filled with a cement slurry mix from the bottom up. The excavated materials shall be tested for hazardous materials and disposed of offsite accordingly. Testing shall be the minimum required for classifying the materials. The potholing samples shall be tested by a California Environmental Laboratory Accreditation Program (ELAP) certified laboratory to identify characteristics of hazardous waste. A substance shall be considered hazardous if it possesses properties of toxicity, ignitability, corrosivity and/or reactivity per California Code of Regulations Title 22, Section 66261. In addition, Minimum the laboratory testing shall include an on-site Organic Vapor Analyzer (OVA) test for potential hydrocarbon contaminants. Should the OVA reading be equal to or greater than 45 ppm, further laboratory Minimum testing shall be performed to include Benzene, Toluene, Ethyl Benzene, and Xylene (BTEX) test per EPA guideline 8020 and Total Hydrocarbons (TPH) tests per EPA guideline. should the OVA reading be equal to or greater than 45 ppm.
 - c. AC pavement shall be replaced to full depth or the structural section (AC & Base) plus two inches with hot mix asphalt unless otherwise required by the City of Huntington Beach. Cold mix shall only be allowed when the patch will be replaced by the project and where approved by the City of Huntington Beach.
 - d. Concrete pavement shall be replaced to full depth plus two inches with Portland cement unless otherwise required by the City of Huntington Beach.

F. Quantitative Assumptions

1. CONSULTANT's fee proposal shall include a cost for potholes and unit cost for additional potholes. The cost shall provide for a minimum of 2 potholes during preliminary design and 2 potholes during final design.
2. CONSULTANT's fee proposal shall include a cost for geophysical investigation. The cost shall provide for a minimum of 3,000 square feet during preliminary design.

G. Depiction of Utilities and Potholes on Plans

1. All utilities encountered during the preliminary design shall be shown on the Plans. Project work that requires other agencies to relocate existing utilities shall be coordinated during the design by CONSULTANT. Each subsurface utility shown on the drawings shall include the Quality Level to which it was investigated as required by CI/ASCE 38-02. Pothole locations shall be shown on drawings with survey information.

H. Relocation of Existing Utilities

1. Project work that requires other agencies to relocate existing utilities shall be coordinated during design by CONSULTANT.

2.1.7 PERMITTING ASSISTANCE

- A. Not in this SOW.

2.1.8 PROJECT MANAGEMENT

- A. CONSULTANT shall be responsible for managing CONSULTANT's project execution, schedule, budget, subconsultants, and coordination with other projects. The CONSULTANT shall perform the project management requirements in accordance with **Exhibit 3 - Project Management Requirements** with the project specific options identified below.

B. Project Management Plan (PMP):

- ☒ Not required
- ☐ Required
- ☐ PMP approval prior to beginning technical work on the project.

C. Project Logs

- ☐ Major Decision Log
- ☒ Project Decision Log
- ☒ Action Item Log
- ☒ Decision Issues Log
- ☒ Meeting Log
- ☒ Risk Management Log

D. Progress Report

- ☐ Not required
- ☒ Required

E. Project Invoices

1. Estimating earned value, tasks shall be further broken down to subtasks of no more than \$100,000.
2. Costs for invoicing shall be grouped into the following work packages:

Work Package	Description	Tasks
3146	Preliminary Design	All Phase 2 tasks, except those listed above.
3251	Design Submittal 1	Tasks 3.1 through 3.3, divided into effort by design submittal. FDS is charged against DS3.
3252	Design Submittal 2	
3253	Design Submittal 3	
3254	Bid Support Services	Task 3.4

2.1.9 RISK MANAGEMENT

A. When required below, CONSULTANT shall provide risk management in accordance with **Exhibit 4 - Risk Management Requirements** with the project specific options identified below.

B. Risk Management:

☐ Not required

☒ Required

☒ Initial Risk Workshop

a. PDR Risk Management Workshop: 1 hour (held 4 weeks prior to draft PDR at OC SAN).

C. Moderator

1. CONSULTANT will moderate the risk management meetings defined in **Exhibit 4 – Risk Management Requirements**.

2.1.10 QUALITY CONTROL

A. The CONSULTANT shall provide quality control requirements in accordance with **Exhibit 6 - Quality Control Requirements**.

2.2 PDR WORKSHOPS AND MEETINGS

2.2.1 GENERAL

A. Workshop and meeting planning, requirements, agendas, and meeting minutes shall be in accordance with **Exhibit 5 - Workshop and Meeting Requirements**.

2.2.2 PDR PRODUCTION WORKSHOPS

A. Predesign Kickoff Workshop

1. A two-hour project kick-off meeting shall be held with OC SAN staff to introduce principal members of OC SAN and CONSULTANT's teams. The discussion topics shall include OC SAN responsibilities, CONSULTANT's responsibilities, invoice procedures, personnel badges, parking, site access, CONSULTANT's Scope of Work, detailed project schedule with milestones, Work Breakdown Structure requirements, and OC SAN confined space and other safety policy trainings.

B. PDR Production Workshops shall be held during Preliminary Design to discuss the topics listed below. PDR Production Workshops shall be held to discuss topics to facilitate preparation of design memos and are separate from PDR Design Memo Workshops and PDR Review Workshops which are described further in the following sections. The list below indicates the number of PDR Production Workshop topics anticipated to be held to cover the specific topic. Unless otherwise noted, each workshop shall be 2 hours in length.

Workshops may be combined as needed and additional workshops may be held as needed to facilitate PDR production. Some workshops may be held as technical progress meetings.

PDR PRODUCTION WORKSHOPS	
TOPIC	NUMBER OF WORKSHOPS
PDR Production Kickoff	1
PDR Production Workshops	
Design Parameters	1
Facility Operation and Maintenance (Project-wide issues)	2
Electrical	3
Instrumentation and Control	3
Utility Investigations	1
Implementation Plan and Sequencing Constraints	2

2.2.3 DESIGN MEMO WORKSHOPS

A. CONSULTANT shall hold workshops to present and review the Design Memos as required in **Exhibit 5 - Workshop and Meeting Requirements**.

Task No.	Topic	Description
2.1.3	Condition Assessment (1 workshop – can be combined with another PDR Production Workshop)	Condition Assessment. CONSULTANT shall present the findings of the condition assessments for the concrete and canopy and summarize the recommendations for addressing deficiencies. The workshop shall occur prior to submitting the related evaluation memo.

2.2.4 PDR REVIEW WORKSHOPS

A. CONSULTANT shall hold the following workshops to review the draft Preliminary Design Report as required in **Exhibit 5 - Workshop and Meeting Requirements**:

1. Draft PDR Presentation Workshop
2. Draft PDR Review Workshop
3. PDR Validation Workshop

2.2.5 MAINTAINABILITY WORKSHOPS

A. A maintainability workshop shall be held after draft floor plans have been developed to:

1. Review the working space around equipment, accessibility requirements, specific activities required to be performed by maintenance staff, ease of servicing for equipment and devices, means to removing equipment from the point of installation to a location outside the facility.

2. The workshop shall be used to develop a set of project maintainability design rules based on the requirements in Chapter 7 of the Engineering Design Guidelines, coordination with OC SAN staff, lessons learned from prior projects, CONSULTANT staff expertise, and manufacturer data.
 3. The CONSULTANT shall research and provide the following maintainability information for the workshop:
 - a. Sodium Bisulfite Station
 - b. Anionic Polymer Station
 4. Operations and Maintenance (O&M) staff including staff from Maintenance Reliability and Planning must be involved in the establishment of the maintainability design rules.
- B. The maintainability workshop shall be held at OC SAN's facilities and shall generally be 2 hours in length. OC SAN and CONSULTANT staff shall attend this workshop.
- C. A follow up maintainability workshop shall be held at OC SAN's facilities to review the draft project maintainability design rules.
- D. The project maintainability design rules shall be followed during detailed design.
- E. CONSULTANT shall be responsible for completing the following tasks relative to the workshop:
1. Prepare package for the maintainability workshop participants. The package shall consist of plans, process flow diagrams, P&IDs and other information selected by CONSULTANT.
 2. Prepare presentation on the project.
 3. Summarize the maintainability review workshop comments and action taken on each comment in a memorandum.
 4. All comments and recommendations of the workshop and the project maintainability design rules shall be incorporated into the Maintainability Design Memo and the bid documents.

2.2.6 PDR CONSTRUCTABILITY WORKSHOP

- A. A constructability workshop shall be held after the draft PDR submittal review to identify any fatal flaws in the design relative to constructability. Some of the subjects that shall be covered in this workshop include the following: conflicts between design disciplines, geotechnical considerations, construction sequencing, power outages, equipment shutdowns, viability of equipment relocation, safety, operational requirements, access for maintenance, size-critical equipment requirements and constraints, permitting, public nuisance issues, other local conditions and constraints.
- B. This workshop shall be held at OC SAN facilities and shall generally be 2 hours in length. OC SAN and CONSULTANT staff shall attend this workshop.
- C. CONSULTANT shall be responsible for completing the following tasks relative to the workshop:
1. Prepare package for constructability review workshop participants. The package shall consist of detailed plans and specifications and other information selected by CONSULTANT.
 2. Prepare presentation on the project.
 3. Summarize the constructability review workshop comments and action taken on each comment in a memorandum.

4. All comments and recommendations of the workshop shall be incorporated into Implementation Plan Design Memo and the Bid Documents.

2.2.7 TECHNICAL PROGRESS MEETINGS

A. Technical Progress Meetings shall be held once a month to review various issues with OC SAN's project team. The CONSULTANT shall coordinate with the OC SAN Project Manager to determine what topics will be covered in what meetings, and what OC SAN and CONSULTANT team members are required for each.

2.2.8 FOCUSED MEETINGS

A. Focused meetings shall be held throughout preliminary design to discuss specific issues in detail and generate comments and direction from OC SAN staff. The following tentative list of topics may be covered in these meetings:

1. Site utility coordination
2. Process Flow diagram/Operating Philosophy (several meetings as needed)
3. Permits
4. OC SAN Safety Standards, confined space and other safety requirements
5. Utilities and utility tie-ins
6. Technical Definitions/equipment data sheets
7. Control concepts
8. Instrumentation and control upgrades
9. Sample P&ID; basis for equipment tag numbering
10. Sample control descriptions
11. Sample EID database
12. Sample SAT database
13. Data network block diagram/network connection diagram
14. I/O relocation plan
15. Electrical distribution system, system controls and the related upgrades
16. Single-line diagrams and electrical demolition
17. Construction sequencing
18. Temporary Chemical Systems
19. Coordination with other projects
20. Additional meetings as necessary

B. Meeting lengths shall be as required to cover the topic in question. Depending on subject matter and attendees, one meeting may cover multiple subjects. CONSULTANT shall determine how many meetings will be needed to cover these topics. CONSULTANT may suggest additional topics as necessary. Supplementary meetings may be scheduled with OC SAN staff, as necessary to allow coordination between CONSULTANT and OC SAN staff.

3. PHASE 3 – DESIGN

3.0 BID DOCUMENTS

3.0.1 GENERAL

A. 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; cable, conduit and cable tray schedules; commissioning plan materials; equipment and instrumentation database (EID); SCADA Administration Tool (SAT); and bypassing plans.

3.0.2 ENGINEERING DESIGN GUIDELINE UPDATES

A. All changes in OC SAN's Engineering Standards, OC SAN's Design Guidelines, and/or changes in design concepts and facility layouts as a result of OC SAN comments that may occur up to transmittal of OC SAN comments on Design Submittal 2, shall be incorporated into the Design by CONSULTANT with no increase in CONSULTANT's Not-to-Exceed upper limit on fees.

3.0.3 GENERAL REQUIREMENTS AND ADDITIONAL GENERAL REQUIREMENTS

A. The following are the minimum Additional GRs topics required for this project:

- ☒ Summary of Work
- ☒ Work Sequence
- ☒ Work Restrictions
- ☒ Permits
- ☒ Environmental Restrictions and Controls
- ☒ Measurement and Payment (includes Mobilization/Demobilization)
- ☒ Seismic Design Criteria (for those restraints, supports, etc. to be design by the Contractor)
- ☒ Shipping, Storage and Handling
- ☒ Project Control Management System (PMWeb construction management software)
- ☒ Equipment Service Manuals
- ☒ Equipment and Instrument Database (EID)
- ☒ Commissioning
- ☒ Training of OC SAN Personnel
- ☒ Hazardous Materials Mitigation and Controls
- ☐ Mold Remediation and Controls

3.0.4 DESIGN SUBMITTALS

A. The CONSULTANT shall produce the following design submittals as indicated below in accordance with **Exhibit 2 - Design Requirements**. If a design submittal is eliminated, then the design submittal shall include the requirements associated with the required design submittal along with the requirements associated with the previous unchecked design submittals.

- ☒ Design Submittal 1
- ☒ Design Submittal 2
- ☒ Design Submittal 3
- ☒ Final Design Submittal

B. Continuing Work After Design Submittal Submission

- ☒ CONSULTANT is expected to continue design work on the project while OC SAN staff reviews Design Submittal 1 and Design Submittal 2. For Design Submittal 3, CONSULTANT shall stop all design work until receipt of OC SAN comments on that submittal.
- ☐ CONSULTANT is expected to stop design work on the project until OC SAN staff completes the review of each Design Submittal.

3.0.5 CABLE AND CONDUIT SCHEDULE

- ☒CONSULTANT shall put the cable and raceway schedule on the drawings. CONSULTANT may utilize an Excel spreadsheet and copy the spreadsheet onto the drawings.
- ☐CONSULTANT shall utilize OC SAN's Microsoft Access Cable and Raceway Schedule database electronic format. See exhibit titled "Cable Conduit and Tray Schedule Database".

3.0.6 COMMISSIONING PLAN MATERIALS

- A. The CONSULTANT shall provide commissioning plan materials in accordance **Exhibit 2 - Design Requirements.**
- B. Specification Section 01810, Commissioning and Specification Section 01810, Attachment A Commissioning Procedures
 - ☐OC SAN will prepare Section 01810
 - ☒CONSULTANT shall prepare Section 01810 Attachment A
 - ☒CONSULTANT shall edit Section 01810
- C. The CONSULTANT shall provide a commissioning plan FAT Narrative in accordance **Exhibit 2 - Design Requirements.**
 - ☒CONSULTANT shall prepare FAT Narrative/Commissioning Plan (for all Systems)
- D. ORT Procedures
 - ☒OC SAN will prepare ORT procedures for standard templates
 - ☐CONSULTANT shall prepare ORT procedures using OC SAN's ORT procedure generator
 - ☐CONSULTANT shall prepare new ORT procedures (not in standard templates)
- E. Pre-FAT Procedures
 - ☐Pre-FAT procedures not required
 - ☒OC SAN will prepare Pre-FAT procedures
 - ☐CONSULTANT shall prepare Pre-FAT procedures
- F. FAT Procedures
 - ☐OC SAN will prepare FAT procedures
 - ☒CONSULTANT shall prepare FAT procedures
 - ☒CONSULTANT shall prepare FAT Narratives
- G. RAT Procedures
 - ☐RAT tables not required
 - ☐OC SAN will prepare RAT tables
 - ☒CONSULTANT shall prepare RAT tables
- H. PAT Procedures
 - ☒PAT procedures not required
 - ☐OC SAN will prepare PAT procedures
 - ☐CONSULTANT shall prepare PAT procedures

3.0.7 EQUIPMENT AND INSTRUMENTATION DATABASE (EID)

- ☐EID is not required.
- ☐OC SAN will develop the EID in accordance **Exhibit 2 - Design Requirements.**
- ☒CONSULTANT shall develop EID in accordance **Exhibit 2 - Design Requirements.**

3.0.8 SCADA ADMINISTRATION TOOL (SAT)

- ☐SAT is not required.
- ☐OC SAN will develop the SAT in accordance **Exhibit 2 - Design Requirements.**

☒CONSULTANT shall develop the SAT in accordance **Exhibit 2 - Design Requirements.**

3.0.9 CONSTRUCTION SUBMITTAL ITEMS LIST

☐OC SAN will develop the Construction Submittal Items List in accordance with **Exhibit 2 - Design Requirements.**

☒CONSULTANT shall develop the Construction Submittal Items List in accordance with **Exhibit 2 - Design Requirements.**

3.0.10 TEMPORARY FACILITIES DURING CONTRUCTION

☒Temporary facilities and bypass pumping are required.

3.1 DESIGN SUPPORT DOCUMENTATION

3.1.1 DESIGN SUBMITTAL SUPPORT DOCUMENTATION

A. The CONSULTANT shall provide a Design Submittal Support Documentation in accordance **Exhibit 2 - Design Requirements.**

B. Design Information

1. CONSULTANT shall include the following material with each Design Submittal:

- a. CONSULTANT shall maintain the Project Logs specified under Phase 2 Project Management through Phase 3. Current copies of all logs shall be included with each Design Submittal.
- b. Written response log to OC SAN comments on the previous submittal.
- c. Calculations
- d. Proposed list of suppliers to be named in the specifications for major equipment
- e. Draft or final Field Findings Reports not submitted in the previous submittal and those revised since the previous submittal.
- f. Equipment data sheets
- g. Equipment catalog cuts and vendor quotations.
- h. Commissioning Package List: The Preliminary Commissioning Package List first developed in the PDR Production Phase shall be updated in each Design Submittal and used as a starting point to develop the list of commissioning procedures.
- i. All memos that may be prepared since the previous submittal was delivered.

C. Facility Operation and Maintenance

☐Not required.

☒Update operating philosophies

☐Update estimates of Operation and Maintenance staffing requirements

D. Electrical Deign Documentation

☐Electrical design documentation not required.

☐Updated Electrical Load Criticality Table

☐Electrical Analysis Report

☒Load list for all equipment

☒Equipment sizing from three manufacturers for motor control centers, switchgear, transformers, and power panels

☒Lighting calculations

☐Standby generator sizing calculations

☐ Ductbank cable pulling tension, derating, and cable tray fill calculations

E. Power System Studies

☒ ETAP not required.

☐ Plant ETAP model for the project performed by OC SAN.

☐ Plant ETAP model for the project performed by CONSULTANT.

☐ Electrical Systems Analysis Report performed by CONSULTANT.

3.1.2 CONSTRUCTION COST ESTIMATE

A. The CONSULTANT shall provide a cost estimate for the associated design submittal indicated below in accordance with **Exhibit 2 - Design Requirements**.

☒ Design Submittal 1

☒ Design Submittal 2

☒ Design Submittal 3

☒ Final Design Submittal

3.1.3 CONSTRUCTION SCHEDULE

A. The CONSULTANT shall provide a Preliminary Construction Schedule for the associated design submittal indicated below in accordance with **Exhibit 2 - Design Requirements**.

☐ Construction Schedule is not Required

☒ Design Submittal 1

☒ Design Submittal 2

☒ Design Submittal 3

☒ Final Design Submittal

3.1.4 PROCUREMENT ALTERNATIVES

A. The CONSULTANT shall recommend the appropriate procurement alternatives as described in **Exhibit 2 - Design Requirements**.

☒ Procurement alternatives not required

☐ Procurement alternatives required

B. Equipment that may be needed to be obtained from a sole source supplier for this project includes:

1. Modicon Quantum input and output modules.

3.2 DESIGN ACTIVITIES

The following services shall be provided by the CONSULTANT or an appropriately qualified subconsultant. In any case, the CONSULTANT shall be responsible for managing all subconsultants, including reviewing their work products prior to submission to OC SAN.

3.2.1 UTILITY INVESTIGATION

A. CONSULTANT services related to Utility Investigation on the project are specified in Phase 2 – Preliminary Design and those services shall continue during Phase 3 – Design as required. CONSULTANT shall allocate the budgeted hours between Phase 2 and Phase 3 based on when these services will be required.

3.2.2 PROJECT MANAGEMENT

A. CONSULTANT shall be responsible for managing CONSULTANT's project execution, schedule, budget, subconsultants, and coordination with other projects. CONSULTANT services related to Project Management on the project are specified in Phase 2 – Preliminary Design and those services shall continue during Phase 3 – Design as required. CONSULTANT shall allocate the budgeted hours between Phase 2 and Phase 3 based on when these services will be required.

3.2.3 RISK MANAGEMENT

A. CONSULTANT shall provide risk management in accordance with **Exhibit 4 - Risk Management Requirements**. Moderator shall be as specified for Phase 2 – Preliminary Design.

B. Risk Management:

☐ Not required

☒ Required

☐ DS1 Risk Workshops: 1 hour (held during OC SAN's review of DS1 at OC SAN)

☒ DS2 Risk Workshops: 1 hour (held during OC SAN's review of DS2 at OC SAN)

☒ DS3 Risk Workshop: 1 hour (held during OC SAN's review of DS3 at OC SAN)

3.2.4 QUALITY CONTROL

A. The CONSULTANT shall provide Quality Control requirements in accordance with **Exhibit 6 - Quality Control Requirements**.

☒ Independent Multi-Discipline Design Workshop is not required.

☐ Independent Multi-Discipline Design Workshop is required.

3.3 DESIGN WORKSHOPS AND MEETINGS

3.3.1 GENERAL

A. Workshop and meeting planning, requirements, agendas, and meeting minutes shall be in accordance with **Exhibit 5 - Workshop and Meeting Requirements**.

3.3.2 DESIGN PHASE WORKSHOPS

A. The focus of workshops is to review project progress to date and the technical decisions that have been made in focused meetings. CONSULTANT shall conduct the workshops listed below in Phase 3 – Design for each design submittal, except FDS. The CONSULTANT shall allow the following time for each workshop:

DESIGN PHASE WORKSHOPS	
WORKSHOP TYPE	DURATION
Design Kickoff Workshop	1 hour
Design Review Meetings	2 hours per discipline
Design Validation Meeting	1 hour

B. The following Design Review Meetings shall include the following topics, as applicable to the project:

1. Electrical and I&C
2. Civil/Yard
3. Construction Sequencing
4. Maintainability

3.3.3 DESIGN PHASE MEETINGS

A. Technical Progress Meetings (not in SOW)

B. Focused Meetings

1. Focused meetings shall be held throughout preliminary design to discuss specific issues in detail and generate comments and direction from OC SAN staff. The following tentative list of topics may be covered in these meetings:

- a. Site utility coordination
- b. Process Flow diagram/Operating Philosophy
- c. Safety and hazardous area requirements
- d. Survey
- e. Utilities and utility tie-ins
- f. Technical Definitions/equipment data sheets
- g. Control concepts
- h. Instrumentation and control upgrades
- i. Sample P&ID; basis for equipment tag numbering
- j. Sample control descriptions
- k. Sample EID database
- l. Sample SAT database
- m. Data network block diagram/network connection diagram
- n. I/O relocation plan
- o. Electrical distribution system, system controls and the related upgrades
- p. Single-line diagrams and electrical demolition
- q. Modes and analyses cases for electrical studies
- r. Construction sequencing, constraints, and outage requirements

2. Each meeting shall generally be one to two hours in length. CONSULTANT shall determine how many meetings will be needed to cover these topics. CONSULTANT may suggest additional topics as necessary. Supplementary meetings may be scheduled with OC SAN staff, as necessary to allow coordination between the CONSULTANT and OC SAN staff.

3.3.4 COMMISSIONING TEAM MEETINGS

A. Design phase commissioning team meetings shall be held on a monthly basis after completion of OC SAN's review DS1.

B. Meetings will generally be 2 hours in length. CONSULTANT shall determine how many meetings shall be needed to cover these topics and organize the topics accordingly. CONSULTANT may suggest additional topics as necessary. Supplementary meetings may be scheduled with OC SAN staff, as necessary, to allow coordination between CONSULTANT and OC SAN staff.

C. The Commissioning Team meetings shall cover the following subjects:

1. Provide a detailed review of the proposed construction sequencing plan and make recommendations for improvements. These recommendations shall be incorporated into the plans and specifications as appropriate. Possible incentives for the Contractor to finish the project early shall be explored.
2. Identify procedures, testing requirements and sequencing for commissioning.
3. Develop a detailed outline of a commissioning plan based on the results of the recommended construction sequencing plan.

4. Prepare testing requirements and plan to prove process performance relative to design criteria developed in the PDR. Testing shall be performed after the RAT and supervised by the CONSULTANT.
5. Identify timing within the construction contract schedule when commissioning activities are required, including hold points for testing and inspection.
6. Identify roles and responsibilities of the Project Manager, Resident Engineer, Inspector, Project Engineer, PCI, Engineering support, Design CONSULTANT and Contractor.
7. Develop a timeline of commissioning
8. Develop a commissioning specification
9. Develop standard forms for testing and commissioning documentation
10. Electrical, mechanical and process tie-ins
11. Startup requirements and testing
12. O&M training

3.3.5 CONSTRUCTION SUBMITTAL ITEMS LIST MEETING

- A. Meet with OC SAN between DS2 and DS3 to review the CONSULTANT's approach to developing the project Construction Submittal Items List using **Exhibit 18 - Not Used** and the CONSULTANT-provided specifications and discuss the grouping of submittals in commissioning packages and phases.

3.4 BID PHASE SUPPORT SERVICES

3.4.1 BID PHASE SUPPORT SERVICES

- A. CONSULTANT shall provide the following bid period services:
 1. Participate in the pre-bid meeting.
 2. Prepare project drawing set and project specification addenda to provide clarification and resolve errors and omissions identified prior to bid opening.

3.4.2 BID EVALUATION ASSISTANCE

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

3.4.3 CONFORMED DOCUMENT PREPARATION

- A. 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).

4. PHASE 4 – CONSTRUCTION AND INSTALLATION SERVICES

Not in this Scope of Work.

5. PHASE 5 – COMMISSIONING SERVICES

Not in this Scope of Work.

6. PHASE 6 – CLOSE OUT

Not in this Scope of Work.

7. GENERAL REQUIREMENTS

7.0 GENERAL

7.0.1 OC SAN ENGINEERING DESIGN GUIDELINES AND STRATEGIC PLAN

A. CONSULTANT shall refer to and adhere to the requirements of OC SAN Safety Standards, OC SAN Engineering Design Guidelines, any deviations to the Engineering Design Guidelines listed below, and other OC SAN's Design Standards referenced therein. OC SAN Engineering Design Guidelines and Standards is a complete set of the OC SAN Safety Standards and OC SAN Design Standards, the latest edition at the time of the design proposal stage.

B. The Engineering Guidelines define what plant design concepts/tools/methods and project management requirements shall be adhered to and in what manner they shall be used/provided by the CONSULTANT e.g., requirements regarding design concepts, submittals, documentation details, use of OC SAN Master Specifications, and other related OC SAN Standards, etc.

C. Refer also to Section "CONSULTANT's Responsibilities" in OC SAN Engineering Design Guidelines Chapter 01. Refer to "Master Specifications Instructions for Use" that mandates rules and conventions to be used in all OC SAN project specifications.

D. The project Scope of Work defines whether or not each specific deliverable described in the Guidelines shall be part of the project and when each task shall take place.

E. The project Scope of Work also includes requirements that supplement and/or modify the Guidelines requirements for this project.

F. The project Scope of Work and OC SAN Engineering Design Guidelines impact CONSULTANT's project cost.

G. Except as specified in this Scope of Work, design of all facilities shall conform to the recommendations of the currently approved Master Plan for OC SAN facilities. The project shall also incorporate all applicable mitigation measures included in associated environmental documents and site-specific local requirements.

H. In addition, OC SAN will require the CONSULTANT to follow subsequent revisions of OC SAN Safety Standards, OC SAN Engineering Design Guidelines, and other OC SAN Design Standards up to transmittal by OC SAN of comments on Design Submittal 2, shall be incorporated into the Design by CONSULTANT with no increase in CONSULTANT's Not-to-Exceed upper limit on fees.

I. OC SAN may update OC SAN's Master Specifications and/or add new OC SAN Master Specifications up to transmittal by OC SAN of comments on Design Submittal 2. The CONSULTANT shall utilize the new and/or modified Master Specifications for the DS3 submittal.

J. The CONSULTANT shall not begin editing the project specifications until the project team meets with OC SAN's Design Standards Custodian to discuss and receive comments regarding the CONSULTANT's proposed list of project specifications. This meeting will be used to determine which specifications are to use OC SAN's master specifications, and where other sources will be utilized.

7.0.2 PROJECT PHASES AND TASKS

A. Project tasks and deliverables shall include the requirements described in this Scope of Work. CONSULTANT shall also refer to Appendix A of OC SAN Engineering Design Guidelines for the level of detail requirements for individual deliverables in each Phase of the project not covered in the Scope of Work.

7.0.3 CONSTRUCTION SEQUENCING AND CONSTRAINTS

A. CONSULTANT shall develop with OC SAN staff and include in the Bid Documents detailed requirements for construction sequencing and constraints. These shall ensure safe and reliable operation and maintenance of OC SAN facilities. The facilities must be kept on-line and fully operational with minimal interruptions throughout construction.

7.0.4 WORKING HOURS

A. Meetings with OC SAN staff shall be scheduled from Monday through Thursday between the hours of 8:00 AM and 4:00 PM. Any CONSULTANT staff working on-site shall conform to OC SAN work schedules. CONSULTANT shall refer to the Engineering Design Guidelines, Chapter 01, Section 01.3.5 "CONSULTANT Inspection of Treatment Facilities" for further requirements.

7.0.5 STANDARD DRAWINGS AND TYPICAL DETAILS

A. All the details used in the project (OC SAN's Standard Drawings and CONSULTANT-developed typical details) shall be shown on the Plans.

7.0.6 SOFTWARE

A. The CONSULTANT is expected to develop and provide the deliverables using the standard software currently approved for use by OC SAN. The standard OC SAN software includes, but is not limited to, the following:

B. Any software that the CONSULTANT needs to comply with these standards shall be purchased and maintained by the CONSULTANT at no additional cost to OC SAN. In the event OC SAN provides the CONSULTANT with access to OC SAN software and hardware at an OC SAN facility in order to facilitate performance of their work, all software shall remain the property of OC SAN. Only software licensed to OC SAN shall be installed on OC SAN equipment. In addition, only OC SAN IT Department staff will perform the installation of this software.

C. Refer to Chapters 10 and 11 and Appendix A of OC SAN Engineering Design Guidelines for requirements on preparation of Criticality Tables and ETAP, SAT, and EID databases. Refer to OC SAN CAD Manual and to Chapter 11 and Appendix A of OC SAN Engineering Design Guidelines for requirements regarding P&ID drawings.

7.0.7 SUBMITTAL REVIEW USING BLUEBEAM

A. OC SAN has standardized on the use of Bluebeam Revu for reviewing and providing comments to PDF files. PDF files will be hosted in a Bluebeam cloud-based studio session for review. See **Exhibit 15 - Bluebeam Designer User Training** for a detailed explanation on how Bluebeam will be used to provide, validate, and close submittal review comments.

B. Prior to submitting electronic PDF files, format them as indicated in **Exhibit 14 - Bluebeam Designer Training for Submission** and "OC SAN CAD Standards Manual" prior to submission.

C. A one-hour training session on the use of Bluebeam and custom status menu will be provided by OC SAN. All Consultant team members responsible for quality control and reconciliation of submittal comments shall attend.

7.0.8 WORD TRACK CHANGES

A. Specifications documents and other MS-Word based deliverables will be hosted in OC SAN Teams environment for review. The guidelines for reviewing and commenting on MS-Word files, including Specifications reviews, can be found in **Exhibit 16 - Spec Review using Microsoft Word and Teams**.

7.0.9 GIS SUBMITTALS

A. CONSULTANT shall provide the following GIS deliverables propagated from approved design submittals after the design submittal is accepted. These GIS submittals will not be reviewed or presented by CONSULTANT. The purpose is to provide project specific GIS layers that could be used to visualize interproject dependencies and conflicts.

1. Electronic Submittal
 - a. Kmz files for use with Google Earth
2. Final PDR
 - a. Single project boundary (Polygon)
 - (1) Boundary to encompass all new facilities and existing to be modified including:
 - Buildings\Structures
 - Tunnels
 - Utilities
 - Pavement
 - Street boundary (ROW to ROW) of possible alignment
 - b. Structures (Polygon)
 - New structure outline
 - Additions to existing structures
 - Structure label
3. DS1
 - a. Project boundary - *updated from PDR*
 - b. Structures - *updated from PDR*
 - c. Utilities (Polyline)
 - (1) Utility alignment
 - d. Manholes (Point)
 - e. Excavation of pits (Polygon)
 - (1) Pits that will stay open for extended duration
 - (2) CIPP
 - (3) Tunnel - jacking and receiving
 - (4) All pits should be labeled
4. DS2, DS3, and FDS
 - a. Project boundary - updated from previous DS
 - b. Structures - updated from previous DS
 - c. Utilities - updated from previous DS
 - d. Manholes - updated from previous DS
 - e. Excavation of pits - updated from previous DS
 - f. Critical (as defined by Dig Alert) utility crossings (Point)
 - (1) Crossing of Dig Alert critical utilities
 - (2) Critical utility label
 - Natural gas

- Fuel pipeline
- 12 kV Electrical
- g. Asphalt (Polygon)
 - (1) Asphalt to be replaced

7.0.10 PCSA, PDSA, AND TASK ORDERS – PMWEB PROCEDURES

A. This Agreement shall utilize PMWeb as the Project Control Management System (PCMS) for overall management of the Agreement. All PCMS related documents requiring formal signatures shall be digital, and all copies digitally distributed. The PCMS conforms to the requirements set forth in California Government Code section 16.5 regarding digital signatures; therefore, digital signatures are in full force and effect and are legally the same as a hand-written signature. At least one PCMS account shall have the authority to approve Amendments.

B. OC SAN shall maintain the PCMS and serve as the administrator for the duration of this Agreement. OC SAN will provide the CONSULTANT with user access for approved personnel as needed for the duration of the Agreement. OC SAN shall control access to the PCMS by assigning user profiles and login credentials. Notify OC SAN of any changes to personnel. Access modifications shall be coordinated as needed throughout the Agreement. Do not to share PCMS account passwords with anyone inside or outside of the company.

C. Routine maintenance of the PCMS system may be required during the Agreement. Access to the PCMS system may be restricted or unavailable at these times and will be scheduled outside of typical working hours whenever possible.

D. The PCMS is a web-based environment and is therefore subject to the inherent speed and connectivity problems of the Internet. The CONSULTANT is responsible for its own connectivity to the Internet. PCMS response time is dependent on the CONSULTANT's equipment, including processor speed, Internet access speed, Internet traffic, etc.

E. OC SAN will not be liable for any delays associated with the utilization of the PCMS including, but not limited to: slow response time, down time periods, connectivity problems, or loss of information.

F. The OC SAN will provide a one-time free training session of up to two (2) hours to train CONSULTANT's designated staff on general system requirements, procedures, and methods.

G. Automated system notifications generated via PCMS (e.g., in-system notices, system generated email, or email with attachment) shall constitute a formal written notification in compliance with the Professional Design Service Agreement (PDSA), Professional Construction Service Agreement (PCSA), or Task Order (TO) Agreement.

7.0.11 CONSULTANT TRAINING

- A. The CONSULTANT shall attend the following OC SAN training before starting any design:
- a. P&ID Development: 1 hour
 - b. EID Development and/or Demolition: 1 hour
 - c. CAD Training: 2 hours

- d. OC SAN Tagging Procedures Training: 2 hours
- e. Commissioning Package List Training: 1 hour
- f. Bluebeam Training/Refresher for Design Submittal Comments: 2 hours
- g. PCI SAT Training: 2 hours

8. PROJECT-SPECIFIC DEVIATIONS FROM OC SAN DESIGN GUIDELINES

A. None in this SOW.

9. STAFF ASSISTANCE

OC SAN staff members or designees assigned to work with CONSULTANT on the design of this project is Cindy Murra at (714) 593-7327, e-mail to: CMURRA@OCSAN.GOV and/or Christie Shiang at (714) 593-7499, e-mail to: CSHIANG@OCSAN.GOV.

10. EXHIBITS

Exhibit 1 - Preliminary Design Report Requirements

Exhibit 2 - Design Requirements

Exhibit 3 - Project Management Requirements

Exhibit 4 - Risk Management Requirements

Exhibit 5 - Workshop and Meeting Requirements

Exhibit 6 - Quality Control Requirements

Exhibit 7 - Design Submittal Requirements Matrix

Exhibit 8 - Project Schedule Calculation

Exhibit 9 - Deliverables Quantities

Exhibit 10 - Sample Construction Cost Estimate Format

Exhibit 11 - Sample Full Project Safety Review Plan

Exhibit 12 - Sample Risk Management Check List

Exhibit 13 - Sample MMRP Log

Exhibit 14 - Bluebeam Designer Training for Submission

Exhibit 15 - Bluebeam Designer User Training

Exhibit 16 - Spec Review using Microsoft Word and Teams

Exhibit 17 - OC SAN Engineering Design Guidelines and Standards

Exhibit 18 - Not Used

Exhibit 19 - Project Reference Material

- OC SAN Plant 2 Wastewater Process Map– October 2021
- OC SAN Plant 2 Plant and Reclaimed Water Map- February 2022
- J-87 Short Term Ocean Outfall Bacteria Reduction Drawings– November 2002
- P2-36 Advanced Primary Treatment Chemical Addition Facilities Drawings– August 1986

- **P2-98 A-Side Primary Clarifiers Replacement at Plant 2- Geotechnical Data Report- July 2018**

Exhibit 20 - Sample Criticality Data Table

Exhibit 21 - Commissioning Procedure Training

Exhibit 22 - ORT Procedure Examples

Exhibit 23 - Pre-FAT Procedure Examples

Exhibit 24 - Sample FAT Procedure

Exhibit 25 - Sample RAT Procedure

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