

PROFESSIONAL DESIGN SERVICES AGREEMENT

This PROFESSIONAL DESIGN SERVICES AGREEMENT, (hereinafter referred to as "Agreement"), is made and entered into to be effective the 23rd day of July, 2025 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 **Industrial Control System and IT Data Center Relocation at Plant No. 1, Project No. P1-138**; and to provide professional design services for preliminary and final design services, (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 July 23, 2025 the Board of Directors, by Minute Order, accepted the recommendation of the Operations Committee pursuant to OC SAN's current Purchasing Ordinance 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 Two Million Three Hundred Fifty-Four Thousand Four Hundred Eighty-Five Dollars (\$2,354,485). 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 <https://www.gsa.gov/travel/plan-book/per-diem-rates>.

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.
- E. 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.

- F. 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 Five Million Dollars (\$5,000,000) 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. Cyber Liability

CONSULTANT shall maintain in full force and effect, throughout the term of this Agreement, cyber liability 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. Coverage shall be sufficiently broad to respond to the duties and obligations as is undertaken by CONSULTANT in this Agreement and shall include, but not be limited to, claims involving infringement of intellectual property, including but not limited to infringement of copyright, trademark, trade dress, invasion of privacy violations, information theft, damage to or destruction or alteration of electronic information, release of private or confidential information (including but not limited to personally identifiable information), extortion and network security liability arising from the unauthorized use of, access to, or tampering with computer systems or from the introduction of a computer virus into or otherwise causing damage to CONSULTANT or OC SAN's computer system or network and the data, programs, and software. Such policy shall cover costs associated with restoring, updating, or replacing data, as well as costs associated with a privacy breach.

If the policy of insurance is maintained on a "claims made" basis, CONSULTANT shall maintain such coverage for an additional three (3) years following termination or expiration of this Agreement.

CONSULTANT shall provide to OC SAN a certificate of insurance in a form acceptable to OC SAN indicating any 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.

I. Proof of Coverage

The CONSULTANT shall furnish OC SAN with original certificates and amendatory endorsements effecting coverage. Said policies and endorsements shall conform to the requirements herein stated. All certificates and endorsements are to be received and approved by OC SAN before work commences. OC SAN reserves the right to require, 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 The combination of (ISO Forms)
 (General Liability) 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.

J. 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
18480 Bandilier Circle
Fountain Valley, CA 92708
Attention: Contracts, Purchasing & Materials Management Division

K. 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.

L. Separation of Insured

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

M. Non-Limiting (if applicable)

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

N. Deductibles and Self-Insured Retentions

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

O. Defense Costs

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.

P. Subconsultants

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

Q. Limits Are Minimums

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

8. SCOPE CHANGES

In the event of a change in the Scope of Work 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
18480 Bandilier Circle
Fountain Valley, CA 92708
Attention: Irene Green, Contracts Administrator
Copy: Scott Ahn, Project Manager

Notices shall be mailed to CONSULTANT at:

Lee + Ro, Inc.
1199 South Fullerton Road
City of Industry, CA 91748
Attention: Jay Jung, PE

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).

D. California Air Resources Board Mobile Source Regulations

CONSULTANT and its subconsultants and subcontractors shall comply with the following California Air Resources Board Mobile Source Regulations:

- Advanced Clean Fleet (ACF): 13 CCR 2013-2013.4; 13 CCR 2015-2015.6
- Truck & Bus Regulation (T&B): 13 CCR 2025
- Clean Truck Check (CTC): 13 CCR 2195-2199.1
- Off-Road Diesel Amendments (ORD): 13 CCR 2449-2449.2

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.

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 _____
Ryan P. Gallagher
Board Chairman

By _____ Date _____
Kelly A. Lore
Clerk of the Board

By _____ Date _____
Kevin Work
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 Summaries
Attachment "J" – Not Attached
Attachment "K" – Minor Subconsultant Hourly Rate Schedules
Attachment "L" – Contractor Safety Standards
Attachment "M" – Not Attached
Attachment "N" – Not Attached

IG:tk:ms

ATTACHMENT "A"

SCOPE OF WORK

Industrial Control System and IT Data Center Relocation at Plant No. 1
Project No. P1-138

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1. PROJECT REQUIREMENTS

1.0 SUMMARY

1.0.1 PROFESSIONAL DESIGN ENGINEERING SERVICES

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

1. Preliminary Design Report
2. Environmental documentation services
3. Permitting assistance
4. Preparation of bid documents

1.0.2 PROFESSIONAL LICENSING REQUIREMENTS

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

1.1 BACKGROUND

Existing Power Building 3A (PB-3A) is over 30 years old, and with increasing IT and networking demands, the server room inside PB-3A does not have enough space to accommodate the demand. P1-105 Headworks Rehabilitation at Plant No. 1 is constructing new Power Building 3 (PB-3) to replace existing Power Building 3A. PB-3 will include an empty server room shown in Figure 1 below. This project will furnish the new server room with IT equipment provided by OC SAN, creating a new network and IT hub for Plant No. 1.

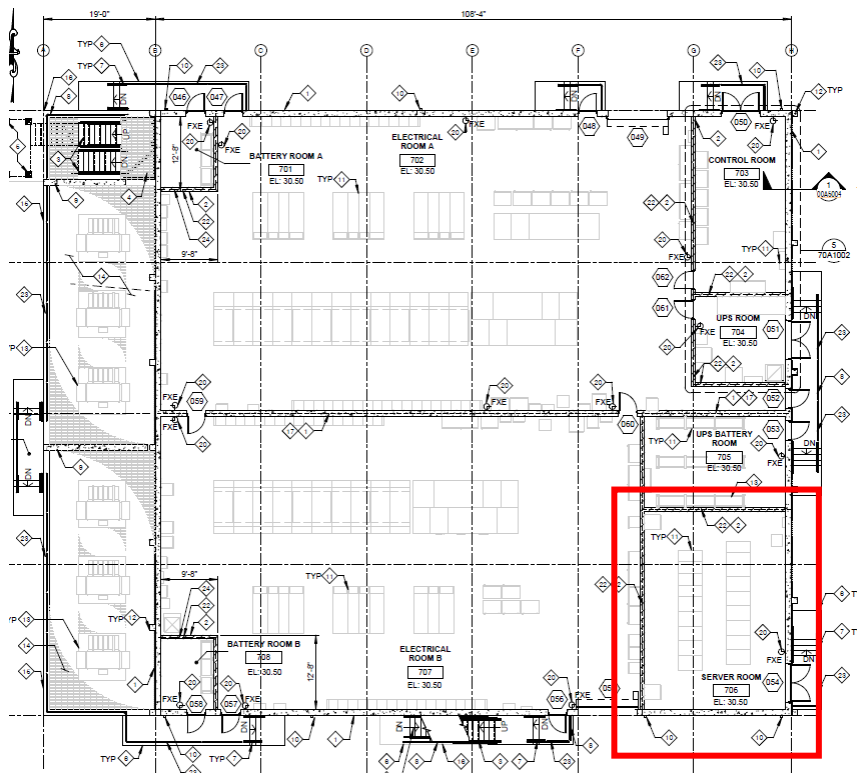


Figure 1. Ground floor plan of future Power Building 3. The server room is inside the red square

1.2 GENERAL PROJECT DESCRIPTION

All servers, storage appliances, network equipment, and other computer equipment that will be located in the server room will be furnished by OC SAN and installed by the P1-138 Contractor. This project will re-route all fiber optics and add additional cabling as needed for new equipment. This project will also install a new HVAC system for the server room. This project will replace or relocate existing functioning electrical/controls systems equipment required to remain in service for Plant No. 1 continuous operation and reroute all necessary utilities, including, but not limited to existing fire alarm systems, public address systems, information technology (IT), industrial control system (ICS) and other networks etc. located in or near the existing PB-3A. Once new PB-3 server room is fully commissioned, the project will demolish PB-3A and convert the P1 Control Center server room to office space.

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 – RELOCATE ICS AND ICS-DMZ NETWORK

Modify Plant No. 1 (P1) ICS network to use Power Building 3 as the primary ICS core switch and ICS-DMZ location.

Assumptions for level of effort:

1. Control Center, which is currently the primary ICS hub, will remain in service to address the needs of Control Center functionality, but will no longer be the primary hub after the project.
2. All new ICS network equipment will be connected via single mode fiber to multiple locations in P1:
 - All other ICS core switches:
 - P1 T&D Building
 - Plant No. 2 (P2) OOBS (via P1 SALS and P1 T&D Building)
 - P2 Centrifuge Building (via P1 SALS and P1 T&D Building)
 - All P1 ICS distribution switches:
 - Digesters 11-14 Control Room
 - DAFT Control Room
 - Blower Building 1 Control Room
 - Control Center Terminal Room (Basement)
 - Power Building 3A distribution switch relocate to Power Building 3
 - P2 ICS-DMZ (via SALS and P1 T&D Building)

- Pump Station Wide Area Network (WAN) (via P1 MPOE) - router will be located in Power Building 3, the telco termination at P1 MPOE. Fiber needs to connect the two ends.

3. This project will integrate OC SAN's provided ICS and ICS-DMZ network equipment into existing network systems.

4. Replace existing switch inside PB-3A connected to both P1 ICS cores (PB-3 and T&D) as well as to all ICS access switches connected to distribution switch at PB-3A. There will be approximately 10-15 locations throughout P1 that will need to be reconnected to this replaced distribution switch.

1.4.2 PROJECT ELEMENT 2 – IT DATA CENTER AND CAMPUS NETWORKS RELOCATION

Modify P1 office network to use PB-3 as IT's P1 campus core switch location, IT's P1 data center network location, and P1 DMZ location.

Assumptions for level of effort:

1. The IT campus network and IT data center work equipment will need to be connected via single mode fiber to these locations, but not limited to:

- All P1 IT campus distribution switches:
 - Headquarters Building MDF
 - Blower Building 1 Control Room
 - Control Center Terminal Room (basement)
- Control Center Server Room distribution switch relocated to Power Building 3
 - All downstream access switches (15) also need new fiber to re-route together.
- P2 Data Center at OOBS (via SALS and P1 T&D Building)
- Various WAN and other service provider networks (via P1 MPOE)

2. This project will implement integration of OC SAN's provided IT computer network equipment into the overall computer network system.

3. Replace existing switch inside PB-3A connected to IT campus distribution switches as well as to several IT campus access switches connected to the mini distribution switch at PB-3A. There will be approximately 10-15 locations throughout P1 that will need to be reconnected to this replaced mini distribution switch.

1.4.3 PROJECT ELEMENT 3 – SUBSTATION LAN/LOAD SHED SYSTEM RELOCATION

Relocate Load Shed hardware from P1 Co-Gen server room to PB-3 server room and add antennas for multiple GPS clock dependent devices.

Assumptions for level of effort:

1. J-98 Electrical Power Distribution System Improvements will implement a load shedding system hardware, which includes but not limited to controllers, control cabinets, GPS clock, and load shed HMIs.
2. Provide raceways, conduits and wiring system to reconnect Power Distribution equipment to load shedding system controllers and control cabinets and restore its functionality.

1.4.4 PROJECT ELEMENT 4 – NEW COMPUTER AND NETWORK EQUIPMENT

Install OC SAN furnished servers, storage appliances, network equipment, and other computer equipment inside PB-3 server room.

Assumptions for level of effort:

1. Provide power and data connections to all new equipment.
2. Provide overhead cable tray for routing communications between cabinets. Replace inter-cabinet cables installed by P1-105 routed via new cable tray.

1.4.5 PROJECT ELEMENT 5 – REROUTE FIBER OPTIC CABLING

Install fiber optic cable connections between P1 Facilities and new PB-3 equipment, including equipment provided by OC SAN and relocated load shed equipment.

Assumptions for level of effort:

1. Existing spare tube cell pathways shall be used where feasible. Otherwise, provide new.
2. Existing air blown fiber optic cabling shall be used where feasible. Otherwise, provide new.
 - Assume that 40% of the total fiber optic cabling is new.
3. Existing and new raceway systems shall be used (load shed systems and other systems).
4. Fiber Optic connections between new and existing network equipment shall be done via single mode fiber optic cabling.

1.4.6 PROJECT ELEMENT 6 – NEW HVAC SYSTEM FOR POWER BUILDING 3 SERVER ROOM

Provide adequate, redundant, and maintainable heating and cooling for the server room including condenser, air handling unit, ducting, and humidity control.

Assumptions for level of effort:

1. Provide all electrical equipment and devices to operate the HVAC system.
2. P1-105 designed four roof-mounted HVAC units to be installed in the future for the server room.

1.4.7 PROJECT ELEMENT 7 – INSTALL NEW EQUIPMENT BACK UP POWER

Install a standalone UPS for IT server equipment and provide feeds to UPS and downstream 120 and 208 VAC feeds.

Assumptions for level of effort:

1. The UPS unit is to be equipped with power distribution units (PDUs) in accordance with OC SAN's design guidelines and standards.
 - Incoming power to PDUs shall be through an automatic transfer switch with normal power fed from UPS source and standby power fed from a local normal power source.
2. UPS shall be sized accordingly to provide 60-minute back up time to the IT server loads.
3. All alarms from the UPS system shall be per OC SAN's design guidelines and standards.

1.4.8 PROJECT ELEMENT 8 – DEMOLISH POWER BUILDING 3A

Demolish Power Building 3A (Figure 2) including an underground storage tank (UST).

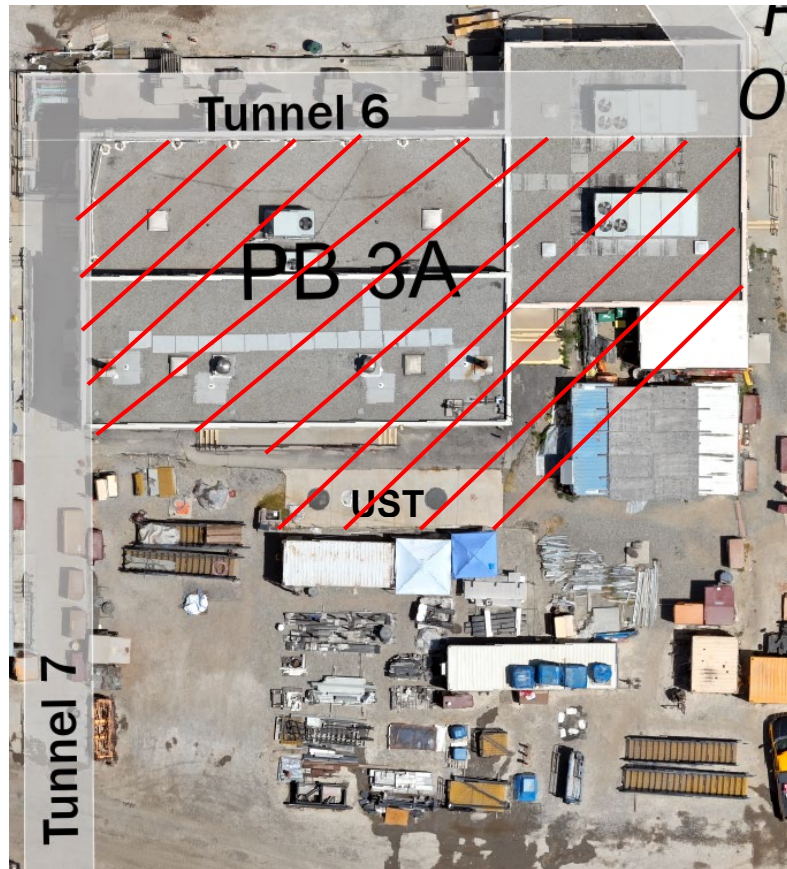


Figure 2. Aerial photo of Power Building 3A

Assumptions for level of effort:

1. Shoring will be required to protect adjacent Tunnel 6 & 7.
 - The stairway access to Tunnel 6 shall be reconstructed.
 - Walls shall be constructed to isolate the area from the PB-3A basement.
2. In addition to existing fiber optic system routing through Power Building 3A and its basement, there are other systems present, including but not limited to, building power and HVAC, analog telephone system (plantwide), public address system, fire alarm system, substation LAN, and utilities. The existing systems shall be maintained and remain in operation during and after demolition of PB-3A.
3. Demolition of an underground storage tank (UST) shall be coordinated and permitted with applicable agencies. Hazardous soil may be present.
4. The excavation shall be backfilled with structural backfill in accordance with the requirements of the existing Geotechnical Baseline Report. Prior to backfill, slabs will be perforated to allow for drainage through the slab.

1.4.9 PROJECT ELEMENT 9 – CONVERT EXISTING SERVER ROOM IN PLANT 1 CONTROL CENTER

The existing Server Room (Figure 3) in the main floor of the Plant 1 Control Center (P1 CC) shall be converted into a usable office space.

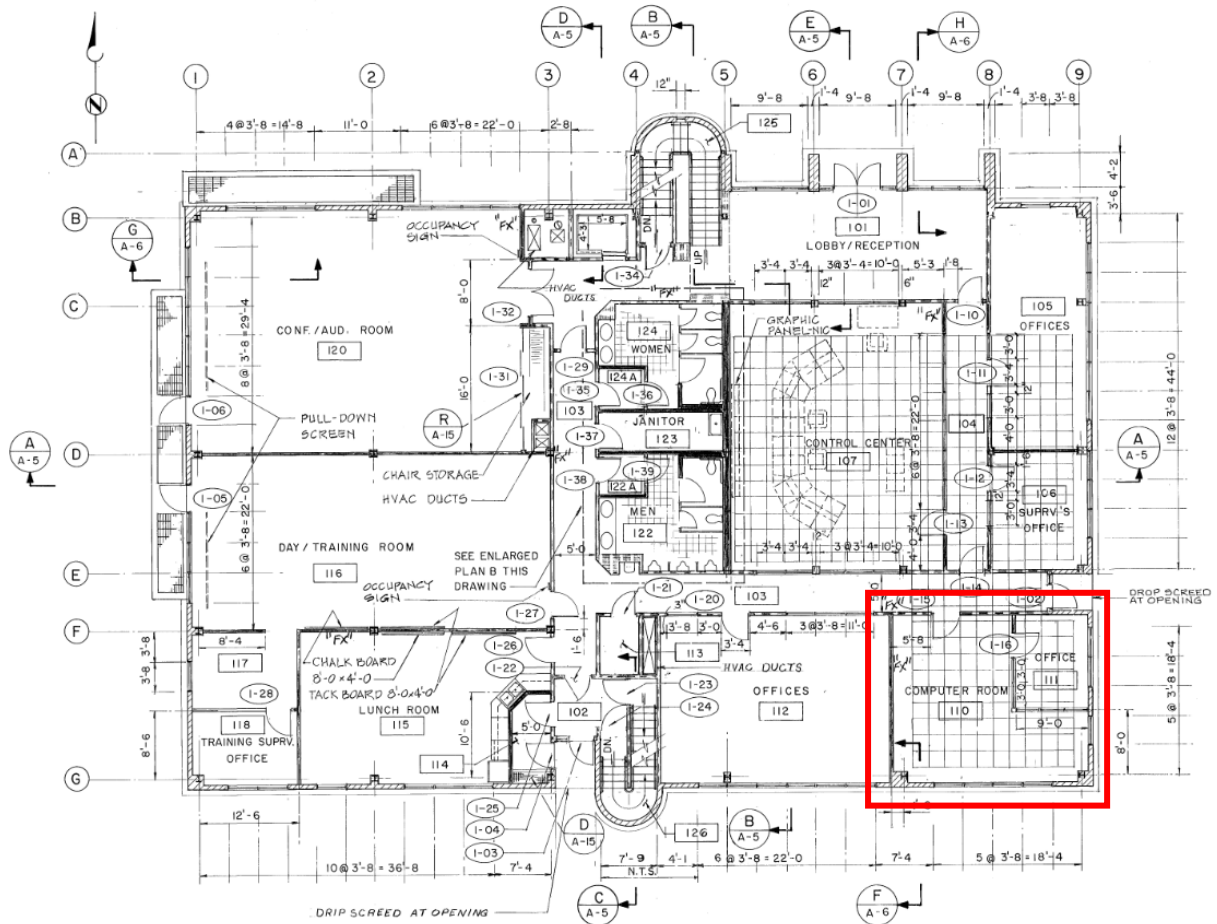


Figure 3. Ground floor plan of Plant 1 Control Center. The server room is inside the red square

Assumptions for level of effort:

1. All existing network/server equipment and appurtenances (such as conduit/wiring, racks, supports, cabinets, existing raised flooring, dedicated air conditioning (AC) system, fire suppression system, etc.) shall be demolished.
2. New raised flooring system shall match the one being installed under project J-120A.

1.4.10 TEMPORARY FACILITIES DURING CONSTRUCTION

Project shall identify the facilities that require temporary network connections or temporary back up power during construction sequencing implementation and provide detailed drawings and specifications to be included in the Bid Documents that bidders understand what is required to provide and potentially operate to allow for reliability and performance of the OC SAN's facilities and reasonably mitigate construction risks. Project shall develop plan for temporary network connections and backup power for new and existing equipment.

1.4.11 COORDINATION WITH OTHER PROJECTS

The following projects may impact or require coordination with this project:

1. P1-105, Headworks Rehabilitation at Plant 1. This project will construct new Power Building 3 and demolish some equipment inside the Power Building 3A. Also, P1-105 needs to relocate P1 Headworks PLC located inside PB-3A prior to the demolition. The project is expected to be completed in summer of 2028.

2. J-98, Electrical Power Distribution System Improvements. This project will implement a load shedding system at Plant No. 1 at P1 Co-Gen server room, and P1-138 will have to relocate the load shed controllers and GPS clock. The project is expected to be completed in late 2028.
3. P1-140, Activated Sludge-1 Rehabilitation at Plant No. 1. This project will rehabilitate Blower Building 1 and demolish Power Building 2 and 12 kV Distribution Center. Project is expected to be completed in late 2033.
4. P1-141, Administrative Facilities Demolition. This will relocate distribution switch for IT's campus network inside Administration Building. The location is yet to be determined. The project is expected to be completed in late 2026.
5. FE23-10, 12 kV Switchgear Replacement for Power Building 5 at Plant No. 1. This project will require the standby generators inside PB-3A to remain active until the project's completion in late 2028.
6. J-120A, Control Room Reconfiguration at Plant No.1. This project is currently in design and will replace the existing raised flooring in the Plant 1 Control Room (located in the main floor of the Control Center), adjacent hallways and offices to the east of the Control Room. The project is expected completed in early 2026.

1.5 DESIGN CONSIDERATIONS

The following design considerations shall be carried from Preliminary Design through Final Design.

1.5.1 TECHNOLOGY AND CONFIGURATION CHOICES

The project elements in this facility shall be achieved using proven technologies. Alternative means of accomplishing the project elements must be reviewed and accepted by OC SAN prior to detailed evaluation. All alternative technologies proposed should be currently operating in other wastewater treatment facilities of similar capacity.

1.5.2 DESIGN DECISIONS

Design decisions shall be agreed upon by OC SAN prior to any work being performed by the CONSULTANT in preliminary and detailed design. All design decisions shall be documented.

1.5.3 DESIGN SELECTION CRITERIA

Design selection shall consider construction, lifecycle, operation, and maintenance costs as well as process benefits and overall quality. When design recommendations are presented to OC SAN, the design selection criteria shall be clearly identified with the recommendation.

The life cycle cost analysis for the options proposed, shall include costs for engineering, construction, start-up, and operational and maintenance, and future rehabilitation and replacement. Life cycle cost analysis is described in Chapter 1 of the Engineering Design Guidelines. See **Exhibit 17 - OC SAN Engineering Design Guidelines and Standards – Available** online at [Document Central | Orange County Sanitation District \(OC SAN.gov\)](https://documentcentral.ocsan.gov/DocumentCentral/OrangeCountySanitationDistrict/OC%20SAN.gov)

The construction cost estimate shall be as described in the Engineering Design Guidelines, Chapter 15 Construction Cost Estimates.

1.5.4 PROJECT ELEMENT DESCRIPTION REVISIONS

CONSULTANT shall review and revise the Project Element Descriptions using track changes at the end of Preliminary Design and at each design submittal. Changes shall be submitted to OC SAN for review.

1.5.5 CONSTRUCTION COST ESTIMATE

The construction cost estimate shall be as described in the Engineering Design Guidelines, Chapter 15 Construction Cost Estimates.

1.6 PROJECT SCHEDULE

1.6.1 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)	120 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.
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 15 working days from submittal of the final PDR to receipt of the Design Phase NTP.
Submit Design Submittal 1 (DS1)	60 workdays from Design Phase NTP.
OC SAN Review of DS1	20 workdays from receipt of DS1.
Submit Design Submittal 2 (DS2)	100 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)	40 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	20 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

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

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**

- ☐ Hydraulic Analysis
- ☐ Hydraulic Profile

☒ **Demolition**

- ☒ Describe Demolition Requirements
- ☒ Demolition List
- ☒ Demolition Plans
- ☒ Demo EID

☐ **Rehabilitation Requirements**

☒ **Geotechnical Data Report**

- ☒ Review of Existing Data – P1-105's Geotechnical Baseline Report and Recommendations
- ☒ 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, duct bank 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 up to three alternative concepts for review and acceptance
- ☒ **Plant Utility Investigation Findings**
- ☐ **Vibration Analysis**
- ☐ **Collections Basis of Design**
 - ☐ Codes and Standards
 - ☐ Hydraulic Analysis
 - ☐ Pipeline Basis of Design
 - ☐ Manhole Basis of Design
 - ☐ Hydraulic Profiles
- ☐ **Collections Rehabilitation Alternatives**
 - ☐ Pipeline Rehabilitation
 - ☐ Manhole Rehabilitation
- ☐ **Collections Pipeline Design**
 - Assume 3 viable alignment options
 - ☐ Design Memo Items 1-12
 - ☐ Open-cut vs. Trenchless Technologies
 - ☐ Trenchless Technologies at Major Closings
- ☐ **Collections Utility Investigation Findings**
- ☐ **Collections Conceptual Traffic Control**
 - ☐ AHJ and Traffic Control Identification
 - ☐ Basis for Traffic Control Strategy
 - ☐ Traffic Analysis
 - ☐ Traffic Control Plans
- ☒ **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
 - ☒ Project Safety Checklist (**Exhibit 11**) and Full Project Safety Review Plan (**Exhibit 12**) to verify safety elements
 - ☐ HAZOP
- ☐ **Public Impacts**
- ☒ **Environmental and Regulatory Requirements**
 - ☐ CEQA Part of Programmatic EIR
 - ☒ CEQA work consists of review of existing CEQA documents

- ☒ 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
- ☐ **Construction Odor Monitoring and Mitigation**
- ☒ **Preliminary Technical Specification List**

2.0.3 PROJECT SPECIFIC DESIGN MEMOS

Not in this Scope of Work.

2.0.4 PRELIMINARY DESIGN DRAWINGS

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

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

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

Exhibit 11 - Project Safety Checklist

Exhibit 12 – Full Project Safety Review Plan

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.

The draft PDR and final PDR shall be submitted in searchable PDF format legible on-screen.

The labeling and organization of the PDF submittal shall be in accordance with **Exhibit 14 – Bluebeam Designer Training for Submission**.

Each evaluation memo and design memo shall be a separate file.

2.0.6 PRELIMINARY DESIGN COST ESTIMATE

The CONSULTANT shall provide a cost estimate for the associated PDR submittal per **Engineering Design Guidelines, Chapter 15 Construction Cost Estimates**.

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 EASEMENTS, PROPERTY BOUNDARIES AND WORK AREA LIMITS

Not in this SOW.

2.1.2 TOPOGRAPHIC SURVEY

Not in this SOW.

2.1.3 GEOTECHNICAL INVESTIGATION

A. Not in this SOW

2.1.4 UTILITY INVESTIGATION

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, utility company-owned and public agency-owned piping, duct banks, and other interferences. The search shall include utilities within the public right-of-way, and those located on private property and OC SAN property impacted by the proposed project. The search shall include the records and plans of OC SAN and all respective public and private companies and utilities.

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; telephone and electrical conduit and duct banks, storm drains, manholes, and other structures.

- OC SAN uses Planet IRM software to track existing Fiber Optic system network at Plant Nos. 1 and 2. The record database has not been updated to as-built condition to include the below listed projects:
 - (1) P1-105 Headworks Rehabilitation at Plant No. 1
 - (2) P1-128A Headquarters Complex at Plant No. 1
 - (3) FE20-01 Wastehauler Station Safety and Security Improvements
 - (4) P1-126 Primary Sedimentation Basins 3-5 Replacement
 - (5) J-124 Digester Gas Facilities Replacement
 - (6) J-98 Electrical Power Distribution System Improvements
 - (7) J-117A Interplant Effluent Pipeline Rehabilitation
 - (8) FE17-05 ICS Network Extension
 - (9) P1-101 Sludge Dewatering and Odor Control at Plant No. 1
 - (10) FE12-10 IT Server Room Cooling Improvements
 - (11) J-120A Control Room Reconfiguration at Plant No. 1
- For OC SAN records that are not tracked in Planet IRM, Project Fiber Optic Network diagrams should be referred to for all installed connections. OC SAN also maintains a Fiber Optic Cable and Tube Cable tracking index for Fiber Optic and Tube Cable routing locations and patch panel landings. Patch connection terminations are not recorded in this database.
- There are other IT Data Connection Requests that make use of existing Fiber Optic Cable pathways that have used available patch connections on existing routes. If any existing pathways are to be used on the project, this should be coordinated with OC SAN and field verified for available connections.
- CONSULTANT shall secure the services of a subcontractor to perform the field verification of existing spare tube cell pathways to P1 Facilities specified in Project Element 5.

On-Site Inspection

2. 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.

Utilities for Adjacent Properties

3. CONSULTANT shall investigate all utilities serving properties adjacent to the work, and submit a spreadsheet at the end of the utility research accounting for all anticipated utilities for OC SAN review, with the following information:

- List all utilities anticipated or each adjacent property.
- Indicate whether or not each such utility was found on as-built drawings of any agency, with an identification of the agencies identifying such utility.
- Indicate whether or not the utility was field located by utility through USA process, and, if so, by which agency.

Subsurface Utility Investigations

4. 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:

- **Quality Level D:** Information derived from existing records or oral recollections.
- **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.
- **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.
- **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.

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

6. 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, duct banks, and other interferences**. All utilities encountered during the preliminary design shall be shown on the plans.

7. 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.

8. 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 Geophysical Investigation Plan shall be developed including proposed pothole locations and type of geophysical investigation.

9. 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.

Potholes and Geophysical Investigation

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

11. 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.

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

- Documentation of information
- Notification of USA's "Dig Alert"

- Providing field survey
- Obtaining required permits
- Submission of traffic control plans
- Setting up traffic control
- Soft dig potholing
- Ground-penetrating radar
- Excavating
- Backfilling
- Repairing pavement to local jurisdiction requirements

13. "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.

14. Potholing subcontractor shall measure and document the depth of pavement and of base material at each pothole, and every five feet along crosscut trenches.

15. 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.

16. 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.

17. The results of potholing and geophysical efforts shall be summarized in a field finding report.

18. CONSULTANT shall backfill and repair potholes consistent with the requirements of the local jurisdiction.

Quantitative Assumptions

19. The assumptions for potholing or other exploratory testing will be negotiated upon selection of the most qualified CONSULTANT. The Request for Proposal may include a requirement to list assumptions used for the fee estimate.

Depiction of Utilities and Potholes on Plans

20. 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.

2.1.5 FIRE PROTECTION SERVICES

CONSULTANT shall secure the services of a Subconsultant to determine the fire protection requirements and prepare preliminary design and final plans and specifications for the selected plan and assist OC SAN in obtaining approval from the fire authority.

2.1.6 ELECTRICAL LOAD MEASUREMENTS

CONSULTANT shall perform preliminary calculations of existing equipment (i.e. panelboards and motor control centers) early in PDR, prior to taking any load measurements to determine if there is adequate spare capacity for the new loads included but not limited to new UPS and HVAC.

CONSULTANT shall develop a list of loads load measurements that need to be taken to perform load calculation.

CONSULTANT shall take electrical measurements per Engineering Design Guidelines, Chapter 10, Section 10.2.1.4 "Report- Load Measurement and Recording".

The load measurements data shall be compiled in a Load Measurement and Recording Report included as an attachment to the Electrical Design Memo.

2.1.7 SPECIALTY SERVICE

Not in this Scope of Work.

2.1.8 EVALUATION

CONSULTANT shall evaluate and provide recommendations to the tasks below to supplement the corresponding design memo submittals:

1. Evaluate and select a location for the ICS Distribution Switch and IT Campus Distribution Switch inside existing PB-3A. A minimum of 2 locations should be considered, including PB-3 as one of the options. The CONSULTANT shall consider, at a minimum, network resiliency and the cost of reconnecting to the access layer.
2. Evaluate and select a location for the IT Campus Network Switch inside Control Center. A minimum of 2 locations should be considered, including PB-3 as one of the options. The CONSULTANT shall consider, at a minimum, network resiliency and the cost of reconnecting to the access layer.
3. A portion of the engineering services for existing load shed system will be performed by Schweitzer Engineering Laboratories (SEL) under J-98. The CONSULTANT shall assume 120 hours to coordinate with SEL to develop a migration plan to relocate load shed system to PB-3.
 - a. Recommissioning the load shed system in PB-3 will require SEL's support, which will be procured by OC SAN as a standalone contract.
4. Develop cabinet elevation drawings and detail layout of for new IT equipment to be installed in PB-3 server room.
 - a. Develop a solution to route data patch cables between cabinets in the same row and across rows.
5. Evaluate OC SAN's existing documentation and Fiber optic cabling management software, Planet IRM, to establish the routing for single mode fiber optic cable via existing and new fiber optic tubes/fiber optic cables, location of fiber optic termination units (FTUs) and location of existing ICS/DMZ and Computer network equipment along with connection points to new equipment:
 - a. Established routing will require field verification by Project to ensure feasibility and constructability.
 - b. Investigate if there are existing fiber optic cabling routes passing via PB-3 and its basement. Project shall provide descriptions of their findings for the fiber routing passing through Power Building 3 basement and continuing to other buildings. Project shall include re-routing or replacement of such fiber optic cables into overall single mode fiber optic cable routing.

- c. Project shall develop cutover sequence for new and existing network equipment to minimize downtime for OC SAN's facilities. In case cutover work requires to be done outside normal working hours, cutover sequence shall clearly state so.
- 6. Identify all destinations for the P1 ICS and P1 office networks that will be connected via single-mode fiber.
- 7. Perform a field verification of existing spare tube cell pathways and spare strands in existing fiber optic cables, then provide a detailed design that incorporates both new and existing fiber cabling.
- 8. Regarding the HVAC system for the PB-3 server room,
 - a. Review P1 Control Center server room cooling system under FE12-10 to implement a similar system.
 - b. P1-105 anticipated 4 x 15-ton packaged rooftop Computer Room Air Conditioning units to be installed for the server room. CONSULTANT to verify based on cooling load calculations.
 - c. Evaluate existing 480V MCC breakers reserved under P1-105 Project to ensure adequacy for new HVAC power supply.
- 9. Regarding the HVAC system for the Control Center server room conversion to new office space,
 - a. Review P1 Control Center existing server room air conditioning systems and evaluate their suitability to supply air conditioning for the new office space.
 - b. Select and design (including modifications, if applicable) the air conditioning system that is suitable for the office space (number of occupants and equipment in the office space to be determined during pre-design).
- 10. Determine physical location of new UPS system inside the PB-3.
- 11. Regarding the P1 CC's Server Room conversion,
 - a. Conduct all field investigations necessary to determine all systems that need to be demolished in this room.
 - i. Verify if the existing HVAC system located in the basement of the building supplies adequate cooling to the server room.
 - ii. Verify if the dedicated chiller for the server room outside of the P1 CC can be demolished.
 - b. Perform all coordination necessary for the new flooring needed in this room.
- 12. Regarding the PB-3A demolition,
 - a. Perform field investigations to identify extents of all systems, including but not limited to, fiber optic, existing remaining power, lighting and control panels and 480V MCCs re-fed from new Power Building 3 under P1-105, HVAC, cabinets, power sources, networking, safety equipment, and utilities. Provide a summary of findings.
 - i. In addition to the devices inside PB-3A that are connected to fiber optic strands, there are passive fiber patch connections at PB-3A to provide continuity for optical connections passing through PB-3A. These connections include, but are not limited to, remote input/output (RIO) networks, fire alarm system network, and public address. Evaluate each connection and provide alternate connectivity that bypasses PB-3A.
 - ii. Propose rerouting plans to ensure existing systems' functionalities are active after the demolition of PB-3A.
 - b. Evaluate the extent to which PB-3A's basement shall be demolished and provide recommendations.

- c. Evaluate the hazardous materials survey, groundwater quality testing, and soil testing data, which will be performed by OC SAN, to develop hazardous mitigation and demolition plans.
- d. Verify that P1-105's Geotechnical Baseline Report is adequate for developing the demolition plan.

2.1.9 ENVIRONMENTAL DOCUMENTATION

CONSULTANT services related to Environmental Documentation may span across Phase 2 – Preliminary Design and Phase 3 - Design. When such services are required, they shall be based on the requirements of Section III – Project Schedule and based on the following requirements. The CONSULTANT shall allocate the budgeted hours between the Environmental Documentation services in Phase 2 and Phase 3 based on when these services will be required.

Review of Existing CEQA Documentation

OC SAN has adopted the CEQA documentation in the course of various programs and projects. These CEQA documents may cover or impact the proposed work on this project.

- P1-105 Headworks Rehabilitation at Plant 1, Final Mitigated Negative Declaration (MND) State Clearinghouse No. 2019049152

CONSULTANT shall identify features of the proposed Project Work as described in the Preliminary Design Report that would require revisions to these CEQA documents. CONSULTANT shall also recommend what further studies or CEQA work would be warranted by the changes.

CONSULTANT shall review and incorporate the mitigation measures identified in the CEQA documents in the preliminary and final design.

Review of Hazardous Materials Survey

CONSULTANT shall review and incorporate the mitigation measures identified in the hazardous materials survey around existing PB-3A conducted by OC SAN's subcontractor.

2.1.10 PERMITTING ASSISTANCE

CONSULTANT services related to Permitting Assistance may span across Phase 2 – Preliminary Design and Phase 3 - Design. When such services are required, they will be based on the requirements of Section III – Project Schedule and the schedule constraints associated with each particular permit. The CONSULTANT shall allocate the budgeted hours between the Environmental Documentation services in Phase 2 and Phase 3 based on when these services will be required.

For all applicable Project Elements of this Scope of Work, CONSULTANT shall provide Bid Documents that ensure that the facility features and the facility performance, and construction procedures comply with all conditions of existing permits and permits required to construct this project. Construction drawings, specifications and supplemental drawings shall be prepared, as necessary, in the format required to obtain all permits.

CONSULTANT shall assist OC SAN in obtaining permits. This assistance shall include completing application forms provided by OC SAN, preparing supporting documentation for the permit applications as required by the issuing agency, furnishing the required number of copies of all construction drawings and exhibits, and attending meetings with permitting agencies at the request of OC SAN.

With the exception of construction Contractor-furnished permits, OC SAN staff will execute all applications. All permit fees will be paid directly by the OC SAN and will not be part of CONSULTANT's fee.

CONSULTANT shall submit all supporting documentation in a timely fashion for all permits required for this project as described below.

SCAQMD Rule 1403 Asbestos Removals and Demolition

1. CONSULTANT shall assist in preparing asbestos and demolition notifications to the SCAQMD accordance with Rule 1403
2. The CONSULTANT shall assume **two** meetings at **one** hour each.

Cal OSHA asbestos/lead abatement notification

1. CONSULTANT shall assist in preparing asbestos and lead notifications to Cal OSHA.
2. The CONSULTANT shall assume **two** meetings at **one** hour each.

OC Health Care Agency

1. CONSULTANT shall assist in preparing permit applications to the OC Health Care Agency for the UST removal.
2. CONSULTANT shall assume **two** meetings at **one** hour each

2.1.11 PROJECT SAFETY REVIEW

CONSULTANT shall prepare **Exhibit 11 Project Safety Check List** and **Exhibit 12 – Full Project Safety Review Plan** for review with OC SAN Risk Management during the Preliminary Safety Review Plan Workshop. The workshop shall be held at OC SAN offices and no more than 2 hours. (held 4 weeks prior to draft PDR).

2.1.12 PROJECT MANAGEMENT

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.

Project Management Plan (PMP):

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

Project Logs

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

Progress Report

- ☐ Not required
- ☒ Required

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.
3250	Design Submittal 1	Tasks 3.1 through 3.3, divided into effort by design submittal. FDS is charged against DS3.
	Design Submittal 2	
	Design Submittal 3	
	Bid Support Services	Task 3.4

2.1.13 RISK MANAGEMENT

CONSULTANT shall provide risk management in accordance with Exhibit 4 – Risk Management Requirements.

2.1.14 QUALITY CONTROL

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

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

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 safety policy training.

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 also indicates the number of workshops to be held to cover the specific to. Unless otherwise noted, each workshop shall be 2 hours in length.

PDR PRODUCTION WORKSHOPS	
TOPIC	NUMBER OF WORKSHOPS
PDR Production Kickoff	1
PDR Production Workshops	
Electrical	2
Instrumentation and Control	5
Demolition	3
Plant Utility Investigation Findings	1

PDR PRODUCTION WORKSHOPS	
TOPIC	NUMBER OF WORKSHOPS
Building Mechanical & Maintainability	1
Implementation plan and sequencing constraints	2

2.2.3 DESIGN MEMO WORKSHOPS

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

2.2.4 PDR REVIEW WORKSHOPS

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 EQUIPMENT AND PROCESS REDUNDANCY WORKSHOP

Not in this Scope of Work

2.2.6 MAINTAINABILITY WORKSHOPS

Not in this Scope of Work

2.2.7 PDR CONSTRUCTABILITY WORKSHOP

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 for demolition of the existing structures, 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.

This workshop shall be held at OC SAN facilities and shall generally be 4 hours in length. OC SAN and CONSULTANT staff shall attend this workshop.

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.

2.2.8 TECHNICAL PROGRESS MEETINGS

Technical Progress Meetings shall be held once a month during Preliminary Design Phase 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.

2.2.9 FOCUSED MEETINGS

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. Demolition
3. Quality control plan
4. OC SAN Safety Standards, confined space and other safety requirements
5. Fire Department requirements
6. Technical Definitions/equipment data sheets
7. Instrumentation and control upgrades; Sample P&ID, Tagging, EID, and SAT
8. Data network block diagram/network connection diagram
9. Electrical distribution system, system controls and the related upgrades
10. Single-line diagrams and electrical demolition
11. Construction sequencing
12. P1 Control Center server room conversion
13. Additional meetings as necessary

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.

2.2.10 COORDINATION WITH OTHER PROJECTS MEETINGS

The project shall be a complete and fully functional facility that is integrated with existing facilities and coordinated with other construction projects. CONSULTANT shall coordinate potential conflicts with the following adjacent projects and participate in the number of meetings indicated in the following table:

PROJECT COORDINATION MEETINGS		
PROJECT	PROJECT DESCRIPTION	COORDINATION MEETINGS
P1-105	P1-105 will construct new PB-3 and demolish some equipment inside PB-3A	2 meetings @ 1 hour
J-98	J-98 will implement a load shedding system at P1 by Co-Gen server room	2 meetings @ 1 hour
P1-140	P1-140 will rehabilitate the Activated Sludge Facility No. 1 at Plant No. 1	1 meetings @ 1 hour
P1-141	P1-141 will demolish Administration Building and relocate IT's campus network	1 meetings @ 1 hour
FE23-10	FE23-10 will replace 12 kV switchgear inside Power Building 5	1 meetings @ 1 hour

2.2.11 STORMWATER COMPLIANCE MEETING

A formal meeting shall be held with OC SAN's stormwater compliance staff to review the project scope and identify all issues during and after construction affecting compliance with stormwater regulatory requirements and OC SAN's policies and practices.

3. PHASE 3 – DESIGN

3.0 BID DOCUMENTS

3.0.1 GENERAL

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

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

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

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
- ☐ Final Technical Plans and Specifications

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 a commissioning plan materials in accordance **Exhibit 2 - Design Requirements**.
- B. Specification Section 01810, Commissioning
 - ☐ OC SAN will prepare Section 01810
 - ☒ CONSULTANT shall edit Section 01810
- C. ORT Procedures
 - ☒ OC SAN will prepare ORT procedures
 - ☐ CONSULTANT shall prepare ORT procedures using OC SAN's ORT procedure generator
 - ☐ CONSULTANT shall prepare new ORT procedures
- D. Pre-FAT Procedures
 - ☐ Pre-FAT procedures not required
 - ☒ OC SAN will prepare Pre-FAT procedures
 - ☐ CONSULTANT shall prepare Pre-FAT procedures

E. FAT Procedures

- ☐ OC SAN will prepare FAT procedures
- ☒ CONSULTANT shall prepare FAT procedures

F. RAT Procedures

- ☐ RAT procedures not required
- ☐ OC SAN will prepare RAT procedures
- ☒ CONSULTANT shall prepare RAT procedures

G. 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 not required.
- ☐ Temporary facilities and bypassing during construction are required, as described under the
- ☒ Detailed plans and work sequence for temporary facilities during construction, as described under the "Temporary Facilities During Construction" paragraph under the Project Elements.

3.1 DESIGN SUPPORT DOCUMENTATION

3.1.1 DESIGN SUBMITTAL SUPPORT DOCUMENTATION

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

Design Information

1. CONSULTANT shall include the following material with each Design Submittal:
 - 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.
 - Written response log to OC SAN comments on the previous submittal.
 - CEQA and Regulatory Compliance Matrix. This matrix shall list each applicable CEQA mitigation requirement and all known permit requirements with the corresponding description of how each requirement is to be satisfied. Measures to

satisfy requirements might be in the GRs, Additional GRs, particular specification requirements, or actions taken separately from the construction contract.

- Calculations
- Draft or final Geotechnical Reports not submitted in the previous submittal and those revised since the previous submittal.
- Proposed list of suppliers to be named in the specifications for major equipment
- Draft or final Fire Protection Reports not submitted in the previous submittal and those revised since the previous submittal.
- Draft or final Field Findings Reports not submitted in the previous submittal and those revised since the previous submittal.
- Equipment data sheets
- Equipment catalog cuts and vendor quotations.
- 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.
- All memos that may be prepared since the previous submittal was delivered.

Facility Operation and Maintenance

- ☐ Not required.
- ☐ Update operating philosophies
- ☒ Update estimates of Operation and Maintenance staffing requirements

Electrical Design 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

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

The CONSULTANT shall provide a cost estimates for the associated design submittal indicated below in accordance with the **Engineering Design Guidelines, Chapter 15 Construction Cost Estimates**.

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

- ☒ IFB
- ☒ Post-Bid Evaluation

3.1.3 CONSTRUCTION SCHEDULE

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

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

- ☒ Procurement alternatives not required
- ☐ Procurement alternatives required

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

1. Air-blown fiber optic by Sumitomo Electric
2. 480V Motor Control Center modifications by Siemens
3. Network switches by Cisco
4. Load Shedding Equipment modifications by SEL

Equipment to be pre-qualified will include:

5. Not in this Scope of Work.

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 EASEMENTS, PROPERTY BOUNDARIES AND WORK AREA LIMITS

Not in this Scope of Work.

3.2.2 TOPOGRAPHIC SURVEY

Not in this Scope of Work.

3.2.3 GEOTECHNICAL BASELINE REPORT

Refer to Section 2.1.8 Evaluation bullet no. 9 regarding the P1-105's geotechnical baseline report evaluation

3.2.4 UTILITY INVESTIGATION

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.

Final Design Submittal Utility Coordination Reviews

1. During DS3 submittal review, the CONSULTANT shall meet with outside agencies to verify any changes made by agency during final design period and compare them with the Contract Drawings. CONSULTANT shall follow through with due diligence on utilities that do not participate in the USA program, unknown owner of a facility and/or abandoned utilities.
2. During DS3 submittal review, 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's 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 Contract Drawings.

3.2.5 FIRE PROTECTION SERVICES

CONSULTANT shall secure the services of a Subconsultant to determine the fire protection requirements, prepare final plans and specifications for the selected plan and assist OC SAN in obtaining approval from the fire authority.

3.2.6 NOISE EVALUATION SERVICES

Not in this Scope of Work.

3.2.7 TRAFFIC CONTROL SERVICES

Not in this Scope of Work.

3.2.8 PUBLIC RELATIONS

Not in this Scope of Work.

3.2.9 SPECIALTY SERVICE

Not in this Scope of Work.

3.2.10 ENVIRONMENTAL DOCUMENTATION

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

3.2.11 PERMITTING ASSISTANCE

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

3.2.12 PROJECT SAFETY REVIEW

CONSULTANT shall update Exhibit 11 – Project Safety Check List and Exhibit 12 – Full Project Safety Review Plan for review with OC SAN Risk Management during Project Safety Review Plan Workshops

Project Safety Workshops:

- ☐ DS1 Project Safety Review Workshop: 1 hour (held during OC SAN's review of DS1 at OC SAN)
- ☒ DS2 Project Safety Review Workshop: 1 hour (held during OC SAN's review of DS2 at OC SAN)
- ☒ DS3 Project Safety Review Workshop: 2 hours (held during OC SAN's review of DS3 at OC SAN)

3.2.13 PROJECT MANAGEMENT

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.

3.2.14 RISK MANAGEMENT

CONSULTANT shall provide risk management in accordance with **Exhibit 4 – Risk Management Requirements**.

3.2.15 QUALITY CONTROL

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. (minimum duration of 4 days)

3.3 DESIGN WORKSHOPS AND MEETINGS

3.3.1 GENERAL

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

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 Review Meetings	2 hours
Design Validation Meeting	2 hours per discipline

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

1. Electrical
2. I&C
3. Network and Server
4. Civil/Demolition
5. Construction
6. Maintainability

CONSULTANT shall conduct one 2-hour Design Kickoff Workshop at the beginning of Phase 3 – Design.

During final design, design review and validation workshops shall be held after each design submittal, except FDS.

3.3.3 POST-DS2 CONSTRUCTABILITY WORKSHOP

A constructability workshop shall be held prior to the DS2 submittal and shall be a 2-day workshop. The constructability review is intended to provide OC SAN with an objective third-party review of the Bid Documents for effectiveness in communicating information to prospective bidders. The review shall determine if the Bid Documents have sufficient information needed to bid and construct the project and avoid misunderstandings and misinterpretations that may lead

to conflict, confusion or claims during construction. This review is not a comprehensive plan check, a dimensional check or a value engineering assignment. Further, it is recognized that comments may only be given on the level of detail provided at this level of design.

Constructability review participants shall include highly experienced individuals from construction companies, OC SAN construction management staff and CONSULTANT construction management staff. Specialty CONSULTANT's and discipline engineers may also be included.

Each constructability review participant shall receive a package at least two weeks in advance. The package shall include plans and specifications, general conditions, the CPM schedule, the construction cost estimate, permits, and other pertinent information. The confirmation statements regarding the size-critical equipment as required in the Engineering Design Guidelines, Chapter 01, "Size-Critical Equipment" shall also be included in the review package.

The constructability review shall be held on-site.

Day 1 shall start with a site visit, for the reviewers to acquaint themselves with the site conditions. After the site visit, the CONSULTANT shall make a short presentation, followed by a question-and-answer period. This is anticipated to take about 1/2 day. The second half of Day 1, the first half of Day 2 shall be individual workdays for the Constructability Review Team. The CONSULTANT shall not attend, although one designated individual from the CONSULTANT's Design Team shall remain to answer questions and gather additional information that the constructability review team might need.

On the afternoon of Day 2, the CONSULTANT shall return and listen to comments from the Constructability Review Team. A designated individual shall record the comments, and take notes from the workshop, to document the process.

Topics the Constructability Review Team must consider shall include:

1. Project consistency, discrepancies, and constructability issues
2. Contradictions, bid package strategies, and biddability issues
3. Power outages and equipment shutdowns
4. Construction methods and mitigating impacts
5. Viability of equipment relocation
6. Operational requirements
7. Interim Control Plan
8. Access for maintenance
9. Access to make proper connections
10. User-friendliness and safety
11. Coordination with other projects
12. Draft Commissioning Plan
13. Risk sharing
14. Construction sequencing and schedule, materials storage and work zone accessibility
15. Clarity of the scope of work, and interface activities
16. Impacts on existing operation
17. Access
18. Cost control
19. Partnering with Contractor

20. Other local conditions and constraints

The Constructability Review Team shall provide a list of comments and the CONSULTANT shall respond to each comment, selecting those comments to be included in the final plans and specifications.

To facilitate the Constructability Review Workshop, CONSULTANT shall complete the following tasks:

21. Prepare package for constructability review participants. The package shall consist of detailed plans and specifications and other information selected by CONSULTANT. The package shall be delivered to participants at least one week prior to the workshop.
22. Prepare presentation on the project for the Constructability Review Team.
23. Meet with Constructability Review Team to receive comments.
24. Provide listing of constructability review comments and action taken on each comment. (The summary report of constructability review comments shall be prepared by the Constructability Review Team.)

All comments and recommendations of the workshop shall be incorporated into the Bid Documents at no additional cost to OC SAN.

Prior to DS3, the Commissioning Team shall also conduct an additional constructability review of the final Bid Documents to review clarity of the bid package, project completeness, and other issues, as necessary.

3.3.4 DESIGN PHASE MEETINGS

Technical Progress Meetings

1. Not in this Scope of Work

Focused Meetings

2. 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:
 - Site utility coordination
 - Demolition
 - Quality control plan
 - OC SAN Safety Stands, confined space and other safety requirements
 - Fire Department requirements
 - Technical Definitions/equipment data sheets
 - Instrumentation and control upgrades; Sample P&ID, Tagging, EID, and SAT
 - Data network block diagram/network connection diagram
 - Electrical distribution system, system controls and the related upgrades
 - Single-line diagrams and electrical demolition
 - Construction sequencing
 - Coordination with other projects
 - P1 Control Center server room conversion
 - Additional meetings as necessary

3. Each meeting shall generally be 2 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.

3.3.5 COMMISSIONING TEAM MEETINGS

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

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.

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, IT, 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

3.3.6 PROJECT SAFETY MEETING

CONSULTANT shall prepare and meet with OC SAN Risk Management personnel at PDR to review Exhibit 11 Project Safety Checklist and Exhibit 12 Full Project Safety Review Plan.

CONSULTANT shall update Exhibits 11 and 12 throughout the design phases. CONSULTANT shall provide OC SAN Risk Management with the final copies of Exhibit 11 and Exhibit 12 at completion of the Design Project.

3.3.7 CONSTRUCTION SUBMITTAL ITEMS LIST MEETING

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 - Master Construction Submittal Items List** and the CONSULTANT-provided specifications and discuss the grouping of submittals in commissioning packages and phases.

3.3.8 STORMWATER COMPLIANCE MEETING

A formal meeting shall be held with OC SAN's stormwater compliance staff to review the project scope and identify all issues during and after construction affecting compliance with stormwater regulatory requirements and OC SAN's policies and practices.

3.4 BID PHASE SUPPORT SERVICES

3.4.1 BID PHASE SUPPORT SERVICES

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. Identify cost impacts associated with addenda changes.

3.4.2 BID EVALUATION ASSISTANCE

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

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

If the lowest bidder exceeds the engineer's estimate by 10%, the CONSULTANT is required to conduct a confidential bid evaluation within two weeks from the bid due date. This evaluation shall include a detailed analysis of the deviation, providing reasons for the variance.

3.4.3 CONFORMED DOCUMENT PREPARATION

Within two weeks of the bid date, prepare conformed documents set (drawings, databases, specifications and other required materials) that incorporates the addenda.

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

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. **Exhibit 17 - 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.

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 CONSULTANT, e.g., requirements regarding design concepts, submittals, documentation details, use of OC SAN Master Specifications, and other related OC SAN Standards, etc.

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.

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.

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

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

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.

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.

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.

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

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

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

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, for further requirements.

7.0.5 STANDARD DRAWINGS AND TYPICAL DETAILS

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

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:

- o Windows Professional
- o Esri software (fGDB, pGDB or shapefile formats)
- o Microsoft Internet Explorer
- o AutoCAD Plant 3D (for P&ID drawings only)
- o Autodesk software (AutoCAD, AutoCAD Map3D or compatible dwg file format)
- o Microsoft Office
- o Bluebeam Revu eXtreme
- o Primavera P6 for scheduling

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.

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

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.

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.

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

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

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
 - Kmz files for use with Google Earth
2. Final PDR

- 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
 - Structures (Polygon)
 - New structure outline
 - Additions to existing structures
 - Structure label
3. DS1
- Project boundary - *updated from PDR*
 - Structures - *updated from PDR*
 - Utilities (Polyline)
 - (1) Utility alignment
 - Manholes (Point)
 - 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
- Project boundary - updated from previous DS
 - Structures - updated from previous DS
 - Utilities - updated from previous DS
 - Manholes - updated from previous DS
 - Excavation of pits - updated from previous DS
 - 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
 - Asphalt (Polygon)
 - (1) Asphalt to be replaced

8. PROJECT-SPECIFIC DEVIATIONS FROM OC SAN DESIGN GUIDELINES

None.

9. STAFF ASSISTANCE

OC SAN staff member or designee assigned to work with CONSULTANT on the design of this project is Scott Ahn at (714) 593-7219, e-mail to: SAHN@OC.SAN.GOV and/or Natalia Bassett at (714) 593-7071, email to: NBASSETT@OC.SAN.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 Formats

Exhibit 11 - Project Safety Check List

Exhibit 12 - Full Project Safety Review Plan

Exhibit 13 - MMRP Log Template

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 – Available online at <https://www.ocsd.com/about-us/transparency/document-central/-folder-917>

Exhibit 18 - PMWeb

Exhibit 19 - Project Reference Material

- **P1-105 – Headworks Rehabilitation and Plant 1**
 - Final MND
 - Geotechnical Baseline Report
 - Volume 5B Architectural and Structural Drawing Set
 - Volume 5C Mechanical and Fire Protection Drawing Set
 - Volume 5D Electrical Drawing Set
 - Volume 5E Instrumentation Drawing Set
- **J-98 – Electrical Power Distribution System Improvements**
 - Electrical Drawing Set
 - Instrumentation Drawing Set
- **FE12-10 – IT Server Room Cooling Improvements**

Exhibit 20 - Commissioning Procedure Training

Exhibit 21 - ORT Procedure Examples

Exhibit 22 - Pre-FAT Procedure Examples

Exhibit 23 - Sample FAT Procedure

Exhibit 24 - Sample RAT Procedure

Exhibit 25 - Project J-47 Cable Tray Improvements Preliminary Design Report

- Volume 1 Plant 1 Reports
- Volume 3 Plant 1 Drawings

Exhibit 26 - Cable Conduit and Tray Schedule Database

SA:nb:am:mk:mk:vr:lb