PROFESSIONAL DESIGN SERVICES AGREEMENT

This PROFESSIONAL DESIGN SERVICES AGREEMENT, (hereinafter referred to as "Agreement"), is made and entered into to be effective the 27th day of July, 2022 by and between the ORANGE COUNTY SANITATION DISTRICT, (hereinafter referred to as "OC SAN"), and DUDEK, (hereinafter referred to as "CONSULTANT").

WITNESSETH:

WHEREAS, OC SAN desires to engage CONSULTANT for **Fairview Trunk Rehabilitation**, **Project No. 6-20**; and to provide professional design services for rehabilitation of approximately 9,500 linear feet of VCP, replacement of thirty-six manholes, rehabilitation of nine manholes, and performing six spot repairs on the Fairview Trunk system, (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 27, 2022 the Board of Directors, by Minute Order, accepted the recommendation of the Operations Committee pursuant to OC SAN's Ordinance No. OC SAN-56 to approve this Agreement.

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

1. SCOPE OF WORK

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

A. The CONSULTANT shall be responsible for the professional quality, technical accuracy, completeness, and coordination of all design, drawings, specifications, and other services furnished by the CONSULTANT under this Agreement, including the work performed by its subconsultants (Subconsultants). Where approval by OC SAN is indicated, it is understood to be conceptual approval only and does not relieve the CONSULTANT of responsibility for complying with all laws, codes, industry standards, and liability for damages caused by errors, omissions, noncompliance with industry standards, and/or negligence on the part of the CONSULTANT or its Subconsultants.

B. CONSULTANT is responsible for the quality of work prepared under this Agreement and shall ensure that all work is performed to the standards of best engineering practice for clarity, uniformity, and completeness. CONSULTANT shall respond to all of OC SAN's questions, comments, suggestions, corrections,

and recommendations (i.e., DS1, DS2, DS3, and FDS). All comments shall be incorporated into the design prior to the next submittal deadline or addressed, in writing, as to why the comment has not been incorporated. CONSULTANT shall ensure that each submittal is 100% accurate for the level of work submitted (i.e., correct references, terms, capitalization, or equal status, spelling, punctuation, etc.)

C. In the event that work is not performed to the satisfaction of OC SAN and does not conform to the requirements of this Agreement or any applicable industry standards, the CONSULTANT shall, without additional compensation, promptly correct or revise any errors or deficiencies in its designs, drawings, specifications, or other services within the timeframe specified by the Project Engineer/Project Manager. OC SAN may charge to CONSULTANT all costs, expenses and damages associated with any such corrections or revisions.

D. All CAD drawings, figures, and other work shall be produced by CONSULTANTS and Subconsultants using OC SAN CAD Manual. Conversion of CAD work from any other non-standard CAD format to OC SAN format shall not be acceptable in lieu of this requirement.

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

Electronic files shall be subject to an acceptance period of thirty (30) calendar days during which OC SAN shall perform appropriate reviews and including CAD Manual compliance. CONSULTANT shall correct any discrepancies or errors detected and reported within the acceptance period at no additional cost to OC SAN.

E. The CONSULTANT shall ensure that all plans and specifications prepared~~,~~ or recommended under this Agreement allow for competitive bidding. The CONSULTANT shall design such plans or specifications so that procurement of services, labor or materials are not available from only one source, and shall not design plans and specifications around a single or specific product, piece of major equipment or machinery, a specific patented design or a proprietary process, unless required by principles of sound engineering practice and supported by a written justification that has been approved in writing by OC SAN. The CONSULTANT shall submit this written justification to OC SAN prior to beginning work on such plans and specifications. Whenever the CONSULTANT recommends a specific product or equipment for competitive procurement, such recommendation shall include at least two brand names of products that are capable of meeting the functional requirements applicable to the project.

F. All professional services performed by the CONSULTANT, including but not limited to all drafts, data, correspondence, proposals, reports, and estimates compiled or composed by the CONSULTANT, pursuant to this Agreement, are for the sole use of OC SAN, its agents and employees. Neither the documents nor their contents shall be released to any third party without the prior written consent of OC SAN. This provision does not apply to information that (a) was

publicly known, or otherwise known to the CONSULTANT, at the time that it was disclosed to the CONSULTANT by OC SAN, (b) subsequently becomes publicly known to the CONSULTANT other than through disclosure by OC SAN.

2. COMPENSATION

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

A. Total Compensation

Total compensation shall be in an amount not to exceed One Million Two Hundred Thousand Dollars ($1,200,000). Total compensation to CONSULTANT including burdened labor (salaries plus benefits), overhead, profit, direct costs, and Subconsultant(s) fees and costs shall not exceed the sum set forth in Attachment “E” - Fee Proposal.

B. Labor

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

C. Overhead

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

D. Profit

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

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

E. Subconsultants

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

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

F. Direct Costs

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

G. Other Direct Costs

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

H. Reimbursable Direct Costs

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

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

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

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

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

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

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

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

I. Limitation of Costs

If, at any time, CONSULTANT estimates the cost of performing the services described in CONSULTANT’s Proposal will exceed seventy-five percent (75%) of the not-to-exceed amount of the Agreement, including approved additional compensation, CONSULTANT shall notify OC SAN immediately, and in writing. This written notice shall indicate the additional amount necessary to complete the services. Any cost incurred in excess of the approved not-to-exceed amount, without the express written consent of OC SAN’s authorized representative shall be at CONSULTANT’s own risk. This written notice shall be provided separately from, and in addition to any notification requirements contained in the CONSULTANT’s invoice and monthly progress report. Failure to notify OC SAN that the services cannot be completed within the authorized not-to-exceed amount is a material breach of this Agreement.

3. REALLOCATION OF TOTAL COMPENSATION

OC SAN, by its Director of Engineering, shall have the right to approve a reallocation of the incremental amounts constituting the total compensation, provided that the total compensation is not increased.

4. PAYMENT

A. Monthly Invoice: CONSULTANT shall include in its monthly invoice, a detailed breakdown of costs associated with the performance of any corrections or revisions of the work for that invoicing period. CONSULTANT shall allocate costs in the same manner as it would for payment requests as described in this Section of the Agreement. CONSULTANT shall warrant and certify the accuracy of these costs and understand that submitted costs are subject to Section 11 - AUDIT PROVISIONS.

B. CONSULTANT may submit monthly or periodic statements requesting payment for those items included in Section 2 - COMPENSATION hereof in the format as required by OC SAN. Such requests shall be based upon the amount and value of the work and services performed by CONSULTANT under this Agreement and shall be prepared by CONSULTANT and accompanied by such supporting data, including a detailed breakdown of all costs incurred and project element work performed during the period covered by the statement, as may be required by OC SAN.

Upon approval of such payment request by OC SAN, payment shall be made to CONSULTANT as soon as practicable of one hundred percent (100%) of the invoiced amount on a per-project-element basis.

If OC SAN determines that the work under this Agreement, or any specified project element 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 project element.

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 project element 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-project-element 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 Five Hundred Thousand Dollars ($500,000). A statement on an insurance certificate will not be accepted in lieu of the actual additional insured endorsement.

E. Drone Liability Insurance

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

F. Workers' Compensation Insurance

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

G. Errors and Omissions/Professional Liability

CONSULTANT shall maintain in full force and effect, throughout the term of this Agreement, standard industry form professional negligence errors and omissions insurance coverage in an amount of not less than Two Million Dollars ($2,000,000) with limits in accordance with the provisions of this paragraph. If the policy of insurance is written on a "claims made" basis, said policy shall be continued in full force and effect at all times during the term of this Agreement, and for a period of five (5) years from the date of the completion of the services hereunder.

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

In the event the present policy of insurance is written on an "occurrence" basis, said policy shall be continued in full force and effect during the term of this Agreement or until completion of the services provided for in this Agreement, whichever is later. In the event of termination of said policy during this period, new coverage shall be obtained for the required period to insure for the prior acts of CONSULTANT during the course of performing services under the term of this Agreement.

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

H. Proof of Coverage

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

• Certificate of Insurance	ACORD Form 25 or other equivalent certificate of insurance form
• Additional Insurance (General Liability)	The combination of (ISO Forms) CG 20 10 and CG 20 37 All other additional insured endorsements must be submitted for approval by OC SAN, and OC SAN may reject alternatives that provide different or less coverage to OC SAN.
• Additional Insured (Automobile Liability)	Submit endorsement provided by carrier for OC SAN approval.
• Waiver of Subrogation	Submit workers' compensation waiver of subrogation endorsement provided by carrier for OC SAN approval.
• Cancellation Notice	No endorsement is required. However, CONSULTANT is responsible for notifying OC SAN of any pending or actual insurance policy cancellation, as described in Article I. Cancellation and Policy Change Notice, below.

I. Cancellation and Policy Change Notice

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

Said notices shall be mailed to OC SAN at:

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

J. Primary Insurance

The general and automobile liability policies shall contain a Primary and "Non-Contributory" clause. Any other insurance maintained by OC SAN shall be excess and not contributing with the insurance provided by CONSULTANT.

K. Separation of Insured

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

L. Non-Limiting (if applicable)

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

M. Deductibles and Self-Insured Retentions

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

N. Defense Costs

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

O. Subconsultants

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

P. Limits Are Minimums

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

8. SCOPE CHANGES

In the event of a change in the Scope of Work or other terms in the Agreement, as requested by OC SAN, the parties hereto shall execute an amendment to this Agreement setting forth with particularity all terms of the new Agreement, including, but not limited to, any additional CONSULTANT's fees. CONSULTANT hereby agrees to use any and all procedures, programs, and systems required by OC SAN to process and execute such Amendment(s), including, but not limited to, computer programs and systems.

9. PROJECT TEAM AND SUBCONSULTANTS

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

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

10. ENGINEERING REGISTRATION

The CONSULTANT's personnel are comprised of registered engineers and a staff of specialists and draftsmen in each department. The firm itself is not a registered engineer but represents and agrees that wherever in the performance of this Agreement requires the services of a registered engineer, such services hereunder will be performed under the direct supervision of registered engineers.

11. AUDIT PROVISIONS

A. OC SAN retains the reasonable right to access, review, examine, and audit, any and all books, records, documents, and any other evidence of procedures and practices that OC SAN determines are necessary to discover and verify that the CONSULTANT is in compliance with all requirements under this Agreement. The CONSULTANT shall include OC SAN's right as described above, in any and all of their subcontracts, and shall ensure that these rights are binding upon all Subconsultants.

B. OC SAN retains the right to examine CONSULTANT's books, records, documents and any other evidence of procedures and practices that OC SAN determines are necessary to discover and verify all direct and indirect costs, of whatever nature, which are claimed to have been incurred, or

anticipated to be incurred or to ensure CONSULTANT's compliance with all requirements under this Agreement during the term of this Agreement and for a period of three (3) years after its termination.

C. CONSULTANT shall maintain complete and accurate records in accordance with generally accepted industry standard practices and OC SAN's policy. The CONSULTANT shall make available to OC SAN for review and audit, all project related accounting records and documents, and any other financial data within 15 days after receipt of notice from OC SAN. Upon OC SAN's request, the CONSULTANT shall submit exact duplicates of originals of all requested records to OC SAN. If an audit is performed, CONSULTANT shall ensure that a qualified employee of the CONSULTANT will be available to assist OC SAN's auditor in obtaining all project related accounting records and documents, and any other financial data.

12. LEGAL RELATIONSHIP BETWEEN PARTIES

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

13. NOTICES

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

Notices shall be mailed to OC SAN at:

ORANGE COUNTY SANITATION DISTRICT
10844 Ellis Avenue, Fountain Valley, CA 92708-7018
Attention: Brandon Garcia, Contracts Administrator
Copy: Victoria Pilko, Project Manager

Notices shall be mailed to CONSULTANT at:

DUDEK
27372 Calle Arroyo, San Juan Capistrano, California 92675
Attention: Russ Bergholz

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

14. TERMINATION

OC SAN may terminate this Agreement at any time, without cause, upon giving thirty (30) days written notice to CONSULTANT. In the event of such termination, CONSULTANT shall be entitled to compensation for work performed on a prorated basis through and including the effective date of termination.

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

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

15. DOCUMENTS AND STUDY MATERIALS

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

16. COMPLIANCE

A. Labor

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

B. Air Pollution

CONSULTANT and its subconsultants and subcontractors shall comply with all applicable federal, state and local air pollution control laws and regulations.

C. Iran Contracting Act

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

17. AGREEMENT EXECUTION AUTHORIZATION

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

18. DISPUTE RESOLUTION

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

19. ATTORNEY'S FEES, COSTS AND NECESSARY DISBURSEMENTS

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

20. PROGRESS REPORTS

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

21. WARRANTY

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

22. INDEMNIFICATION

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

(A) the active negligence or willful misconduct of the Indemnified Parties; or

(B) a natural disaster or other act of God, such as an earthquake; or

(C) the independent action of a third party who is neither one of the Indemnified Parties nor the CONSULTANT, nor its principal, officer, agent, employee, nor CONSULTANT's supplier, CONSULTANT, Subconsultant, subcontractor, nor anyone employed directly or indirectly by any of them.

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

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

23. DUTY TO DEFEND

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

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

24. CONSULTANT PERFORMANCE

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

25. COMPLIANCE WITH OC SAN POLICIES AND PROCEDURES

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

26. CLOSEOUT

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

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

i. Give the CONSULTANT a final Agreement Acceptance: or

ii. Advise the CONSULTANT in writing of any outstanding item or items which must be furnished, completed, or corrected at the CONSULTANT's cost.

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

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

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

27. ENTIRE AGREEMENT

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

[THIS SECTION INTENTIONALLY LEFT BLANK]

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

CONSULTANT: DUDEK

By _____ _____
Date

_____
Printed Name & Title

ORANGE COUNTY SANITATION DISTRICT

By _____ _____
Chad P. Wanke Date
Board Chairman

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

By _____ _____
Ruth Zintzun Date
Purchasing & Contracts Manager

Attachments: Attachment “A” – Scope of Work
Attachment “B” – NOT USED
Attachment “C” – NOT USED
Attachment “D” – Allowable Direct Costs
Attachment “E” – Fee Proposal
Attachment “F” – NOT USED
Attachment “G” – NOT USED
Attachment “H” – NOT USED
Attachment “I” – Cost Matrix and Summary
Attachment “J” – NOT USED
Attachment “K” – Minor Subconsultant Hourly Rate Schedule
Attachment “L” – Contractor Safety Standards
Attachment “M” – Iran Contracting Act Verification

WC:BG:ms

ATTACHMENT “A”

SCOPE OF WORK

Fairview Trunk Rehabilitation, Project No. 6-20

Professional Design Services Agreement

Attachment A - Scope of Work

TABLE OF CONTENTS

1. PROJECT REQUIREMENTS

1.0 SUMMARY

1.0.1 PROFESSIONAL DESIGN ENGINEERING SERVICES

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

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

1.0.2 PROFESSIONAL LICENSING REQUIREMENTS

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

1.1 BACKGROUND

The Fairview Trunk system alignment is in Fairview Road in the City of Costa Mesa. The system consists of two interconnected sewers; the Fairview Trunk (FT) is the western alignment, and the Fairview Relief Trunk (FRT) is the eastern alignment. Originally the sewers served the Santa Ana Army base which is now the Orange County Fair and Event Center (OC Fair). In addition to the OC Fair, the sewers in the area serve Orange Coast Community College, Costa Mesa High School, the Jack R. Hammett Sports Complex, large residential apartment complexes as well as single family residences, and numerous businesses. The initial segments of the Fairview Trunk were originally constructed in 1952 under Project 6-G (**Exhibit 19A – Project 6-G Record Drawings**) and 6-5 (**Exhibit 19B – Project 6-5 Record Drawings**). In 1999, the Fairview Relief Trunk was constructed under Project 6-12 (**Exhibit 19C – Project 6-12 Record Drawings**). The purpose of the Fairview Relief Trunk was to alleviate capacity issues along the Fairview Trunk and to that end the parallel trunks are connected via diversion manholes that allow the flow to be conveyed to either trunk utilizing board settings within the manhole. Project 6-12 was preceded by the construction of the Baker-Gisler Interceptor under Projects 14-1-1A (**Exhibit 19D – Project 14-1-1A Record Drawings**) and 14-1-1B (**Exhibit 19E – Project 14-1-1B Record Drawings**) which connects the Fairview Trunk system to the Baker-Gisler Interceptor and ultimately conveys flows to Resource Recovery Plant No. 1 located in Fountain Valley.

The 2019 Collections Capacity Evaluation Study (**Exhibit 19F – Collections Capacity Evaluation Study Final Report**) found that the Fairview Trunk system experiences minor surcharging during large wet weather events; however, the surcharging does not necessitate a project at this time. In fact, although historically the system was identified as a potential candidate for pipeline upsizing, the local sewer agency, Costa Mesa Sanitary District, has been successful at reducing the amount of inflow and infiltration that enters the system and continues to work diligently toward that end.

The characteristics of the Fairview Trunk are typical for sewer systems built during the 1950's and include shorter pipe segments between manholes and connections to manholes that potentially serve single developments. The pipe segments consist of vitrified clay pipe (VCP) ranging in size from 12-inch to 24-inch. Most manhole structures on the Fairview Trunk are 48-inch brick manholes that have been coated (**Exhibit 19G – Fairview Trunk Manhole Sampling and Assessment Report)**. Newer manholes along the alignment were built as part of Project 6-12 and are typically 60-inch or larger, made of concrete, and lined. Two of the manholes are diversion manholes (Diversion 105, and 94; **Exhibit 19H – Diversion 94, 104, and 105 Record Drawings**) that can be utilized to convey flow north to the downstream connection with the Fairview Relief Sewer or east to the upper portion of the same. The Fairview Relief Trunk characteristics are typical of more modern construction methods. The pipe segments consist of 24-inch and 27-inch VCP. The manholes are spaced at greater distances, are larger in diameter, and are lined concrete manholes. One manhole is a diversion manhole (Diversion

104; **Exhibit 19H – Diversion 94, 104, and 105 Record Drawings**) conveys flow north to the Baker-Gisler Interceptor or west to the parallel Fairview Trunk.

Pipeline CCTV inspection records for the original Fairview Trunk date back to 2007, with the most recent pipeline and manhole CCTV inspections being completed in 2020 (**Exhibit 19I – 2020 Pipeline CCTV Reports; Exhibit 19J – 2020 Manhole CCTV Reports**). Recent pipeline CCTV inspections have identified significant fractures, and longitudinal cracks that continue to develop and worsen over time. In addition, some multiple fractures have been discovered in a few segments of the Fairview Relief Trunk.

1.2 GENERAL PROJECT DESCRIPTION

This project will rehabilitate approximately 9,500 linear feet of VCP; replace, rehabilitate, or abandon thirty-six manholes; partially rehabilitate nine manholes; and perform six spot repairs on the Fairview Trunk system (**Exhibit 18 – 6-20 Fairview Trunk Rehabilitation Project Elements Map**). All the facilities to be rehabilitated or replaced are in the City of Costa Mesa, in Fairview Road between the Paularino Channel to the north and Newport Boulevard to the south. Pipeline rehabilitation methods consists of installing cured in place pipe (CIPP); manhole rehabilitation or replacement methods will be evaluated and determined through the design process. Hydraulic modeling will be conducted to determine structural liner thickness, bypass flows, and verify minimal impacts to system hydraulics.

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 – REHABILITATION OF FAIRVIEW TRUNK SEWER

A. Rehabilitate the segments of pipeline shown in green on **Exhibit 18 – Fairview Trunk Rehabilitation Projects Element Map**.

1. Cured in place pipe (CIPP) approximately 525 LF of 27-inch VCP
2. CIPP approximately 100 LF of 24-inch VCP
3. CIPP approximately 4,335 LF of 21-inch VCP
4. CIPP approximately 90 LF of 18-inch VCP
5. CIPP approximately 3,600 LF of 15-inch VCP
6. CIPP approximately 790 LF of 12-inch VCP

B. Assumptions for Level of Effort

1. For the purpose of estimating the predesign and design phase levels of effort, the CONSULTANT shall make the following assumptions regarding this project element:

a. Pumped bypass required for segments from Newport Blvd to Wilson Street. All other pipe segments are assumed to lineable by bypassing all upstream flows to the Fairview Relief Sewer. Bypassing of Costa Mesa lateral inflows will be designed with preference on gravity diversions over pumping. Detailed bypass plans showing the work area for routing of the bypass line(s) is required at each location. Detailed traffic control plans are required for bypass system installation in coordination with traffic control plans required for sewer rehabilitation. Upstream bypass of all laterals connecting to manholes is required and shall be shown on the bypass plans.

1.4.2 PROJECT ELEMENT 2 – REPLACE, REHABILITATE, OR ABANDON FAIRVIEW TRUNK MANHOLES

A. Replace, rehabilitate, or abandon thirty-six 48-inch brick manholes. Manholes are shown in yellow on **Exhibit 18 – Fairview Trunk Rehabilitation Project Elements Map**.

B. Assumptions for Level of Effort

1. For the purpose of estimating the predesign and design phase levels of effort, the CONSULTANT shall make the following assumptions regarding this project element:

a. Up to 31 manholes may be abandoned as part of the project. CONSULTANT to schedule for coordination of Manhole Abandonment with workshop with OCSan operations staff before condition assessment (2.3.2.2). Manholes recommended for abandoned do not need condition assessment.

b. Manholes not abandoned (up to 10 manholes) will be rehabilitated with internal structural liner.

c. Up to 13 new manholes will be constructed to improve operations and maintenance and/or constructability of the project. The manholes will be designed to meet OC San standards.

1.4.3 PROJECT ELEMENT 3 – REHABILITATION OF FAIRVIEW TRUNK AND FAIRVIEW RELIEF TRUNK MANHOLES

A. Partial rehabilitation of nine manholes shown in red on **Exhibit 18 – Fairview Trunk Rehabilitation Project Elements Map**.

B. Assumptions for Level of Effort

1. For the purpose of estimating the predesign and design phase levels of effort, the CONSULTANT shall make the following assumptions regarding this project element:

a. The concrete manhole structures on the FRS are in good condition. Non-structural rehabilitation is assumed for manhole rehabilitation.

1.4.4 PROJECT ELEMENT 4 – SPOT REPAIRS ON FAIRVIEW RELIEF TRUNK SEWER

A. Spot repair on the segments of pipeline shown in blue on **Exhibit 18 – Fairview Trunk Rehabilitation Project Elements Map**. The spots repairs are necessary to fix pipe fractures of different severity levels; however, lengthy longitudinal cracking is also prevalent along the pipeline segments.

1. Spot repair approximately 120 LF of the 27-inch VCP pipe segment between BKR0145-0055 and BKR0145-0060.

2. Spot repair approximately 130 LF of 27-inch VCP pipe segment between BRK0145-0060 and BKR0145-0065

3. Spot repair approximately 90 LF of 24-inch VCP pipe segment between BRK0145-0090 and BKR0145-0095

4. Spot repair approximately 250 LF of 24-inch VCP pipe segment between BRK0145-0095 and BKR0145-0100

5. Spot repair approximately 120 LF of 24-inch VCP pipe segment between BRK0145-0105 and BKR0145-0110

6. Spot repair approximately 200 LF of 24-inch VCP pipe segment between BRK0145-0110 and BKR0145-0115

B. Assumptions for Level of Effort

1. For the purpose of estimating the predesign and design phase levels of effort, the CONSULTANT shall make the following assumptions regarding this project element:

a. Trenchless methods will be used to perform spot repairs.

b. Gravity bypass of flows to FTS assumed for four (4) segments. Pumped bypass assumed for two (2) segments. Detailed bypass plans showing the work area for temporary pumping and the routing of the bypass line(s) are required at each location. Detailed traffic control plans are required for bypass system installation in coordination with traffic control plans required for sewer rehabilitation. Upstream bypass of all laterals connecting to manholes is required and shall be shown on the bypass plans. Flexible scheduling to accommodate restrictions and avoid wet weather will be considered to minimize required pump volumes. Additional hydraulic modeling will be conducted to simulate up to six (6) gravity or pumped bypass scenarios.

1.4.5 PROJECT ELEMENT 5 - TEMPORARY FACILITIES DURING CONSTRUCTION

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

1. Temporary odor control facilities (due to CIPP curing process)

a. Coordinate with OC SAN personnel to develop odor control plan to mitigate for fugitive odors during construction.

2. Bypass pumping to rehabilitate pipeline segments

B. CONSULTANT shall design measures for the temporary handling of flows to be implemented by the Contractor during construction considering OC SAN's goal of zero sewage spills. Consideration for mitigation odors during CIPP curing process will be included.

1.4.6 COORDINATION WITH OTHER PROJECTS

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

1. **City of Costa Mesa Paving Project at Intersection of Fairview Road and Wilson Street** This project may initiate a paving moratorium (the project schedule is unknown at this time) and will require additional coordination with the City to determine work restrictions and/or paving requirements.

2. **PS20-02 Collection System Flow Level Monitoring Study** This study will install a level flow monitor in a manhole along Fairview Relief Trunk. Depending on the finalized construction scheduling the removal of the level monitor may be necessary to facilitate the project bypass strategy. Also, detailed information regarding the timing of diversion setting changes will need to be coordinated with the project so the level information is not compromised.

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

A. 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.

B. The cost estimate shall consist of a life cycle cost analysis for the options proposed, including costs for engineering, construction, start-up, and operational and maintenance, and future rehabilitation and replacement.

C. The construction cost estimate shall be as described in Engineering Design Guidelines Section 01.4.6 included as **Exhibit 17 - OC SAN Engineering Design Guidelines and Standards – Available online at https://www.OC SAN.com/about-us/transparency/document-central/-folder-917**. Life cycle cost analysis is described in Section 01.2.19 of the Guidelines.

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 COST MODEL

A. CONSULTANT shall prepare the cost model to be used to demonstrate the true cost of major project decisions. With each major project decision, the CONSULTANT shall review and update the cost model. The cost model shall be a living document between the CONSULTANT and OC SAN to ensure that all changes are being acknowledged in the overall project cost. CONSULTANT shall assume 3 (three) cost model revisions in addition to the cost estimates developed for the preliminary design and each design submittals.

B. The cost model shall show the implications of the decisions on the life cycle costs and shall be used in the decision-making process. After decisions are made, the updated construction costs, and life cycle costs, shall be submitted for project records.

C. The cost model shall be used to track project changes through final design.

D. The construction cost estimate shall be as described in Engineering Design Guidelines Section 01.4.6 included as **Exhibit 17 - OC SAN Engineering Design Guidelines and Standards – Available online at https://www.OC SAN.com/about-us/transparency/document-central/-folder-917**.

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. OCSAN's Project Manager will issue a Preliminary Design NTP. OCSAN's Project Manager will also issue a Final Design NTP upon OCSAN'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**
Preliminary Design NTP/Kick off meeting	The kickoff meeting will be scheduled to coincide with the Preliminary Design NTP.
Submit draft Preliminary Design Report (PDR)	200 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 OCSAN 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	50 workdays from receipt of OC SAN comments on Draft PDR.
Final PDR Review	15 workdays from receipt of OC SAN comments on Final PDR.
Revise and Submit Final PDR	10 workdays from receipt of OC SAN comments
Final Design NTP	CONSULTANT's schedule shall allow 5 working days from submittal of the final PDR to receipt of the Design Phase NTP.
Submit Design Submittal 1 (DS1)	N/A
OC SAN Review of DS1	N/A
Submit Design Submittal 2 (DS2)	60 workdays from Design Phase NTP
Review of DS2	20 workdays from receipt of DS2
Submit Design Submittal 3 (DS3)	80 workdays from receipt of OC SAN comments on DS2.
OC SAN Review of DS3	20 workdays from receipt of DS3
Submit Final Design Submittal (FDS)	50 workdays from receipt of OC SAN comments on DS3. CONSULTANT shall stop work upon submission of DS3, except as required to participate in OC SAN meetings, until receipt of OC SAN comments on DS3.
OC SAN Review of FDS	15 workdays from receipt of FDS
Final Technical Specifications and Plans	20 workdays from receipt of OC SAN comments on FDS.

2. PHASE 2 – PRELIMINARY DESIGN

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

2.0 PRELIMINARY DESIGN EXECUTION (NOT USED)

2.1 PREDESIGN EVALUTION STUDIES (NOT USED)

2.2 PRELIMINARY DESIGN PRODUCTION

2.2.1 GENERAL

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

2.2.2 DESIGN MEMOS

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

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

☐**Hydraulic Analysis**
- ☐Hydraulic Analysis
- ☐Hydraulic Profile

☐**Demolition**
- ☐Describe Demolition Requirements
- ☐Demolition List
- ☐Demolition Plans
- ☐Demo EID

☐**Rehabilitation Requirements**

☒**Geotechnical Data Report**
- ☒Review of Existing Data - Preliminary Geotechnical Report
- ☒Geotechnical Data Report and Recommendations

☐**Civil Design Parameters**
- ☐General Civil
- ☐Drainage Requirements
- ☐Corrosion Protection Requirements

☐**Utility Requirements**

☐**Structural Design Parameters**

☐**Architectural Design Parameters**

☐**Process Mechanical Design Parameters**

☐**Building Mechanical Design Parameters**

☐**Fire Protection**
- ☐Fire Protection Requirements
- ☐Fire Water Flow Analysis
- ☐Fire Protection Requirements for Existing Facilities

☐**Electrical**

☐Codes/standards. Brief description of electrical system. Electrical drawings.
☐Identify Electrical System Impacts
☐Report – Data Collection and Verification
☐Preliminary Load List
☐Preliminary Standby Power Requirements
☐ETAP – Preliminary Short Circuit Analysis and Load Flow/Voltage Drop Studies
☐ETAP – Provide Data. OC SAN will perform ETAP studies.
☐Preliminary Analysis for cable pull calcs, ductbank cable derating, cable tray fill calcs.
☐Hazardous Area Classification Requirements

☐**Instrumentation and Control**
☐Instrumentation and Control System
☐Specialty Safety Systems
☐Preliminary SAT
☐PLC and RIO Panel Location Map
☐CCTV Coverage Map

☐**Landscaping**
☐Landscaping Requirements
☐Develop 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
☒Manhole Rehabilitation versus Replacement
☒Spot Repair Rehabilitation
☒**Additional Design Memo Scope:** Include the recommendations from the manhole abandonment evaluation preliminary design activity.

☐**Collections Pipeline Design**
☐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
☒Use Sample Full Project Safety Review Plan to verify safety elements
☒Risk Management Check List to verify safety elements

☐HAZOP
☒**Public Impacts**
☐**Environmental and Regulatory Requirements**
☐CEQA Part of Programmatic EIR
☐CEQA work consists of
☐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**
☒**List Of Stakeholders including but not limited to cities, agencies, residents, businesses, schools, etc. Required**

2.2.3 PRELIMINARY DESIGN DRAWINGS

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

☒General
☐Demolition
☒Civil
☐Landscape
☒Bypass

☐Structural
☒Traffic Control
☐Mechanical
☐Electrical
☐Instrumentation and Control

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

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

B. The CONSULTANT shall combine the materials described below into a draft PDR. The PDR shall be structured as outlined below, with the contents corresponding to the tasks listed in this Scope of Work.

Volume 1 – Preliminary Design Report Technical Memos
Executive Summary
Design Memos
Design Memo 1, 2, 3, etc.
List of Proposed Specification Sections
Volume 2 – Drawings (see Exhibit 1 - Preliminary Design Report Requirements)
Volume 3 – Submittal Documentation
Calculations
Equipment Data & Catalog Cuts
Decision Log
Meeting Minutes

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

D. The draft PDR and final PDR shall be submitted in searchable PDF format legible on-screen and as a hard copy. The number of hard copies is indicated in **Exhibit 9 - Deliverables Quantities**. The labeling and organization of the PDF submittal shall be in accordance with **Exhibit 14 - Bluebeam Designer Training for Submission**.

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

F. The OC SAN Project Manager may request that the CONSULTANT submit an electronic proof set of the Draft PDR and Final PDR prior to hard copy production to initially confirm that the submittal is ready for printing.

2.2.5 PRELIMINARY DESIGN COST ESTIMATE

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

2.3 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.

2.3.1 HYDRAULIC MODELING

A. Perform hydraulic modeling to determine the following:

1. Implications to the hydraulic profile of both the Fairview Trunk and Fairview Relief Trunk due to the proposed project elements.

2. The maximum acceptable CIPP liner thickness for each segment of the Fairview Trunk.

3. The design criteria for spot repairs on the Fairview Relief Trunk.

4. The bypass flow and recommended diversion settings for each bypass setup.

2.3.2 MANHOLE CONDITION ASSESSMENT

A. Review CCTV of all forty-five manholes.

B. Perform a confined space entry and condition assessment on up to thirty-six manholes shown in yellow on **Exhibit 18 – Project Elements Map**. CONSULTANT shall recommend the type and extent of effort required to complete the manhole condition assessment in accordance

the NASSCO Manhole assessment Certification Program (MACP). CONSULTANT shall provide required traffic control and coordinate with the City of Costa Mesa to acquire required permits. Include the results in the Collections Rehabilitation Alternatives Design Memo.

2.3.3 MANHOLE ABANDONMENT EVALUATION

A. Determine which of the thirty-six manholes shown in yellow on **Exhibit 18 – Project Elements Map** can be abandoned as part of this project. The final determination will depend on adherence to OC SAN design standards (length of sewer between manholes, change in diameter, etc.), operations and maintenance requirements, and condition assessment requirements. CONSULTANT shall coordinate closely with OC SAN Collection Facilities Division when making the final recommendation. Seven of the existing manholes have local permitted connections. Include evaluation and recommendation in the Collections Rehabilitation Alternative Design Memo.

2.3.4 SPOT REPAIR EVALUATION

A. Review CCTV of the Fairview Relief Trunk Sewer pipeline segments shown as blue in **Exhibit 18 – Project Elements Map** to determine the length of the pipeline needing repair. Include evaluation and recommendation in the Collections Rehabilitation Alternative Design Memo.

2.3.5 EASEMENTS, PROPERTY BOUNDARIES AND WORK AREA LIMITS

A. Unless otherwise directed, the Consultant shall identify, survey, and show all property boundaries, and all existing and proposed easements, within and/or adjacent to the project boundaries.

B. Consultant shall show and explicitly identify the limits of work for all portions of the project, including any restrictions to the work allowed in any area, e.g., whether the area can be used for parking or laydown.

C. All survey research and survey field work shall be performed by a Professional Land Surveyor licensed by the State of California.

2.3.6 TOPOGRAPHIC SURVEY

A. Control Surveys for Collection Systems

1. General: Topographical information used on the construction plans shall be generated from an aerial mapping process. CONSULTANT shall provide for the aerial and field surveys necessary for the mapping process for all applicable Project Elements of the project Scope of Work and shall provide for the aerial mapping. Providing for the process includes paying for, and coordinating and designing the aerial and horizontal/vertical control surveying for the preliminary and final design. CONSULTANT's responsibilities for the surveys include generating any subconsultant scopes of work, data interpretation and preliminary design. All survey work is to be done under the direction and control of a Professional Land Surveyor, licensed by the State of California.

2. Aerial Survey: The aerial photography shall have sufficient coverage for the digital topographic mapping. The photo scale of the aerial photography shall not be more than 100 feet per inch for pipeline work or 20-feet per inch for pump stations. Stereo pairs of photographs shall be furnished to OC SAN.

3. Phasing of Work: Other than the aerial and topographic survey work, the balance of the survey work shall not commence until the design phase of the project has been authorized or concurred to by OC SAN.

4. Field Survey Aerial: A field survey shall be used to establish both horizontal and vertical control for the project. Control shall meet or exceed NGVD 88 requirements and shall be based on California State Plan Coordinates (NAD 83) including the 1995 O.C. surveyor's adjustments. A sufficient number of points shall be used to accurately complete

the digital topographic modeling. No less than five control points per stereo model shall be used.

5. Aerial Field Survey Inclusions: The field survey shall include all survey monuments, topographic features, easements, property lines, culture, and elevations on the plan and profile sheets. All covers, including the existing sewer manholes, storm drain manholes, and utility and valve vaults shall be identified and marked in the field.

6. OC SAN Review Aerial Survey Line: The general location and alignment of the survey line shall be submitted to OC SAN prior to performing the field survey. Survey work shall not commence until authorized or concurred to by OC SAN. CONSULTANT shall be responsible for obtaining and paying for the field survey services.

7. Field Survey Base Line: The field survey shall establish a base line for construction purposes for pipeline work equal to or greater than 500-feet in length. The line will be used to define the proposed design, in terms of station and offset, and to establish the bearings for right-of-way. The survey line shall be set on 100-foot stations and shall be tied to the established aerial control. The field survey shall tie in all controlling monuments within the map limits and all street centerline intersections. The ties shall be express in both State Plane Coordinates and as station and offset.

8. Manhole Information: The field survey shall also include the measurement of the invert and manhole rim elevations of all existing sewers within the project reach. The size, orientation and invert of any pipe connections shall also be recorded.

9. Base Map: The base map index contours shall be spaced at five feet (5') vertically and the immediate contours shall be spaced at one-foot (1') contour intervals. The mapping shall include digital topographic mapping. The digital format shall be compatible with OC SAN Graphic Information System. All surface features, including those hidden from aerial view shall be incorporated into the digital mapping.

10. Plan and Profile Sheets: CONSULTANT shall prepare plan and profile sheets based upon the aerial mapping. The scale for plan and profile sheets shall be one-inch equals forty feet (1" = 40') horizontal and one-inch equals four feet (1" = 4') vertical. An aerial photographic (photo strip) with the alignment shall be included. The plan view shall be separate from the photo strip. Intersections shall be adequately detailed at a scale of one-inch equals ten feet (1" = 10') or one-inch equals twenty feet (1" = 20'). Manholes and other details shall be drawn at a scale that is adequate to provide clarity and sufficient detail for construction. The pump station construction drawings shall be drafted at scales of 1/8" = 1' to 1" = 20', as adequate, to allow for sufficient detail to be shown. The basis of bearings and benchmarks shall be indicated on the drawings,

11. Survey Note Submittal: CONSULTANT shall submit two bound copies of all survey notes and data used to establish vertical and horizontal control. The information submitted shall be suitable for use to establish construction controls. If additional property and/or right-of-way are required, CONSULTANT shall identify property and/or rights-of-way to be acquired. CONSULTANT shall prepare legal descriptions and plats for easements and property to be acquired during the final design phase of the project.

2.3.7 GEOTECHNICAL INVESTIGATION

A. CONSULTANT shall secure the services of a qualified Geotechnical Engineering firm to prepare a Geotechnical Data Report that addresses geotechnical concerns for all applicable Project Elements of the project Scope of Work

B. Soil Explorations

1. The geotechnical services shall include exploratory work such as soil borings necessary to observe, test, classify soils, and monitor groundwater levels and potential groundwater pollutants of concern.

a. If unexpected or unique soils are encountered, an adequate number of borings shall be taken to try and define the limits of the anomaly.

2. The CONSULTANT shall determine the timing and location of the borings by considering the following:

a. The geotechnical professional's interpretation of needs and recommendation

b. The recommendations made as part of **Project Element 2 – Replace, Rehabilitate, or Abandon Fairview Trunk Manholes**

3. The depth of the borings shall be adequate to characterize the soils to a depth of at least five feet below the bottom of an excavation or any proposed sewer invert elevation. At least two borings shall extend ten feet below the proposed excavation bottom or sewer invert.

4. The assumptions for the number of borings, trenching, CPTs, or other exploratory testing will be negotiated upon selection of the most qualified consultant. For the purposes of this proposal assume 10 soil borings and two (2) CPTs.

C. Ground Water Pump Testing

1. Ground Water Pump Testing is not required but may be added to the scope of work if groundwater detected during geotechnical testing or potholing indicates that groundwater may be encountered during excavation work. The following scope items will guide a contract amendment if determined necessary by OCSan.

2. Conduct ground water pump testing to determine dewatering parameters for inclusion of the specifications.

3. Provide a complete specification for the abandonment of wells for areas where aquifers could be compromised. Potential abandonment methods for deep penetrations might consist of over drilling and fill with cement-bentonite grout slurry, or deep pressure grouting to create a concrete seal.

D. Groundwater Contamination Testing

1. Perform complete lab analysis for all pollutants regulated under OC SAN Local Discharge Limits (see page 33 of OC SAN's Wastewater Discharge Regulations Ordinance No. 53).

E. Soil Exploration Locations

1. The location of all soil explorations shall be plotted on a map and attached to the Geotechnical Report. Preferably, the explorations shall include survey coordinates consistent with the project survey. Complete logs of the soil profiles shall be included in the report.

2. Explorations shall be located strategically within the footprint of the proposed excavation or on the centerline of proposed pipeline alignments. A total of two boring shall be cased and converted into water level monitoring wells for use during construction according to local agency requirements. CONSULTANT shall obtain all necessary permits for the installation of monitoring wells. CONSULTANT shall also be responsible for abandoning the wells after the construction is completed and the monitoring wells are no longer useful.

3. 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.

2.3.8 UTILITY INVESTIGATION

A. To better manage the risks associated with construction excavation, CONSULTANT shall perform a thorough search of all utilities impacted by the work for all applicable Project Elements of this Scope of Work, regardless of size and all other facilities above or below ground. Utilities include all in-plant, 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.

B. Review of OC SAN Records

1. OC SAN's "As-built/Record" plans may be incomplete or inaccurate with respect to the routing of individual utilities, pipelines, etc. in the vicinity of the project. CONSULTANT shall check OC SAN records against those of the other agencies, companies, and utilities. These may include, but not be limited to, oil, gas, fuel, water, and sewer pipelines, traffic control facilities, telephone and electrical conduit and duct banks, storm drains, manholes, and other structures.

C. Review of Outside Agency Records

1. CONSULTANT shall contact, in writing, all jurisdictional agencies and utility owners to inform them of OC SAN's project. CONSULTANT shall request plans showing all the agencies or utility's facilities, pipelines, etc. in the project area. CONSULTANT shall also request plans and schedules for all proposed construction in the project areas. CONSULTANT shall develop a schedule to minimize project conflicts and/or coordinate OC SAN projects with local agencies.

2. CONSULTANT shall personally visit each agency/company and search through all available plans, files, and documents. CONSULTANT shall meet with applicable field staff from each agency to confirm the completeness of their research. Abandoned utilities shall also be considered.

3. CONSULTANT shall document the contacts and information requested and received, including that from Underground Service Alert (USA). OC SAN shall be copied on all correspondence between CONSULTANT and public and private agencies, and utility companies. CONSULTANT shall submit a copy of all documentation to OC SAN with an itemized submittal letter. CONSULTANT's Project Manager shall sign the transmittal cover letter and the cover letter shall confirm that CONSULTANT has sent a representative to each agency/company/utility, performed on-site inspections for each utility, and has listed the utilities.

4. CONSULTANT shall contact USA and request a Substructure listing for the project area.

D. On-Site Inspection

1. An on-site inspection shall be made in the project area. During the on-site inspection, a senior-level CONSULTANT representative shall walk the site accompanied by OC SAN's Project Engineer and Supervising Inspector. The CONSULTANT representative shall be experienced in the location and identification of utilities in the field. During the on-site inspection the CONSULTANT shall document all visible features that indicate utilities within the project area and compare them with the available utility plans.

E. Utilities for Adjacent Properties

1. 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:

a. List all utilities anticipated or each adjacent property.

b. Indicate whether each such utility was found on as-built drawings of any agency, with an identification of the agencies identifying such utility.

c. Indicate whether the utility was field located by utility through USA process, and, if so, by which agency.

F. CONSULTANT shall provide all required stamped traffic control plans as part of the encroachment application process required by all cities for use during the geophysical investigations, potholing, geotechnical borings, and field investigations.

G. Subsurface Utility Investigations

1. Investigation of existing utilities shall be in accordance with the respective ASCE guidelines, except as amended by this Scope of Work. A brief description of the ASCE guidelines defines the Quality Level of detail for researching subsurface utilities as follows:

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

b. **Quality Level C:** Information obtained by surveying and plotting visible above-ground utility features and by using professional judgment in correlating this information to Quality Level D information.

c. **Quality Level B:** Information obtained through the application of appropriate surface geophysical methods to determine the existence and approximate position of subsurface utilities. Quality Level B data shall be reproducible by surface geophysics, such as ground penetrating radar, at any point of their depiction. This information is surveyed to applicable tolerances and reduced onto plan documents.

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

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

3. CONSULTANT shall determine all utilities impacted by the work for all applicable Project Elements of this Scope of Work. Utilities include utility company-owned, and public agency-owned piping, duct banks, and other interferences. All utilities encountered during the preliminary design shall be shown on the plans.

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

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

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

H. Potholes and Geophysical Investigation

1. CONSULTANT shall secure the services of a subcontractor to perform the pothole work and geophysical investigation.

2. CONSULTANT shall “pothole” and perform geophysical investigation on all utilities described and shown in the accepted Potholing Plan/Geophysical Investigation Plan. CONSULTANT’s staff shall be on-site during up to 25% of the potholing to provide direction to potholing crew. OC SAN staff shall also be present during potholing. Field investigations include visiting the project work site and each utility to verify the location of all interferences.

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

   a. Documentation of information

   b. Notification of USA's "Dig Alert"

   c. Providing field survey

   d. Obtaining required permits

   e. Submission of traffic control plans

   f. Setting up traffic control

   g. Soft dig potholing

   h. Repairing pavement to local jurisdiction requirements

4. "Soft" excavation potholing methods such as vacuum extraction is preferred; however, excavation methods shall be chosen to adequately define the utility. Crosscut trenches may be preferred for defining some utility locations. Hydro-jetting soft dig should be avoided in sandy, wet, and contaminated soil conditions.

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

6. Work conducted within OC SAN's treatment plants shall comply with the requirements of the OC SAN Stormwater Management Plan. Work conducted outside OC SAN's treatment plant shall comply with the requirements of the local jurisdiction.

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

8. CONSULTANT shall backfill and repair potholes consistent with the requirements of the local jurisdiction. If CONSULTANT is unable to determine local jurisdiction requirements prior to the proposal, CONSULTANT shall assume the following requirements:

   a. The materials removed from the excavation may not be used for backfill, unless approved by the local jurisdiction. If approved, excavated material used to fill potholes shall be placed with a maximum lift thickness of four inches and mechanically compacted.

   b. If not approved, the CONSULTANT shall be responsible for hauling off and disposing of excavated pothole material. In this case, excavation holes shall be filled with a cement slurry mix from the bottom up. The excavated materials shall be tested for hazardous materials and disposed of offsite accordingly. Testing shall be the minimum required for classifying the materials. The potholing samples shall be tested by a California Environmental Laboratory Accreditation Program (ELAP) certified laboratory to identify characteristics of hazardous waste. A substance shall be considered hazardous if it possesses properties of toxicity, ignitability, corrosivity and/or reactivity per California Code of Regulations Title 22, Section 66261. In addition, Minimum the laboratory testing shall include an on-site Organic Vapor Analyzer (OVA) test for potential hydrocarbon contaminants. Should the OVA reading be equal to or greater than 45 ppm, further laboratory Minimum testing shall be performed to include Benzene, Toluene, Ethyl Benzene, and Xylene (BTEX) test per EPA guideline 8020 and Total Hydrocarbons (TPH) tests per EPA guideline. should the OVA reading be equal to or greater than 45 ppm.

   c. AC pavement shall be replaced to full depth or the structural section (AC & Base) plus two inches with hot mix asphalt unless otherwise required by the City. Cold mix shall only be allowed when the patch will be replaced by the project and were approved by the City.

d. Concrete pavement shall be replaced to full depth plus two inches with Portland cement unless otherwise required by the City.

I. Quantitative Assumptions

1. CONSULTANT's fee proposal shall include a cost for potholes and unit cost for additional potholes. The cost shall provide for up to 52 potholes during preliminary design.

2. 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.

J. Depiction of Utilities and Potholes on Plans

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

K. Relocation of Existing Utilities

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

2.3.9 PUBLIC RELATIONS

A. The CONSULTANT shall secure the services of a Public Outreach Subconsultant to support OCSan led public outreach activities required during preliminary and design phases. The subconsultant's services are currently anticipated to be required during the construction phase.

2.3.10 SPECIALTY SERVICE

A. The CONSULTANT shall secure the services of a qualified biologist to perform a biological reconnaissance of the pipeline alignment during PDR and again during DS3. The intent of the reconnaissance is to determine if suitable habitat for migratory nesting birds occurs along the alignment and as such shall be performed during the typical migratory bird nesting season (typically February 1 through August 31). If it is determined that suitable habitat is present the CONSULTANT shall develop a mitigation plan that will minimize impacts to the migratory bird population and incorporate construction activities, work restrictions, and phasing into the project bid documents to accommodate the mitigation plan.

2.3.11 VALUE ENGINEERING ASSISTANCE (NOT USED)

2.3.12 PERMITTING ASSISTANCE

A. 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 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.

B. 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.

C. 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.

D. Except for 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.

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

F. City Encroachment Permits

1. City of Costa Mesa

2. The CONSULTANT shall assume ten meetings at two hours each.

G. Stormwater Permitting

1. CONSULTANT shall determine the required stormwater permit.

2. CONSULTANT shall determine and specify the preliminary Risk Level and Project Type using the California State Water Resources Control Board's Storm Water Multiple Application and Report Tracking System (SMARTS) based on the R-Factor obtained from US EPA's online Rainfall Erosivity Factor Calculator for Small Construction Sites.

3. CONSULTANT shall prepare the specification for stormwater using OC SAN's respective master specification as a starting point. CONSULTANT shall not begin work on editing the specification until OC SAN has approved the Consultant's preliminary Risk Level and Project Type.

4. It is OC SAN's intent to design linear underground/overhead projects (LUP) to LUP Type 2 requirements, whenever possible, which is often the most economical approach. CONSULTANT shall coordinate with the OC SAN Project Manager and OC SAN Environmental Compliance Division and edit Stormwater Pollution Prevention Plant specifications accordingly.

2.3.13 PROJECT MANAGEMENT

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

B. Project Management Plan (PMP):

☐Not required

☒Required

☐PMP approval prior to beginning technical work on the project.

C. Project Logs

☒Major Decision Log

☒Project Decision Log

☒Action Item Log

☒Decision Issues Log

☒Meeting Log

☒Risk Management Log

D. Progress Report, Status of Cost Model

☐Not required

☒Required

E. Project Invoices

1. Costs for invoicing shall be grouped into the following work packages:

Work Package	Description	Tasks
3146	Preliminary Design	**All Phase 2 tasks**
3250	CONSULTANT Services During Design	**Tasks 3.1 through 3.3**
3252	Design Submittal 2	**Task 3.0, divided into effort by design submittal. FDS is charged against DS3.**
3253	Design Submittal 3	
3254	Bid Phase Support Services	**Task 3.4**

2.3.14 RISK MANAGEMENT

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

B. Risk Management:

☐Not required
☒Required
☒Initial Risk Workshop
☒PDR Risk Management Workshop: **four** hours (held three weeks prior to draft PDR at OC SAN)

C. Moderator

1. CONSULTANT shall provide a suitably qualified moderator to conduct the Workshops defined in Exhibit 4 - Risk Management Requirements. The moderator shall have the following attributes:

a. Sufficiently technically knowledgeable to understand the nature of the risks involved, but the moderator need not be a subject matter expert.

b. CONSULTANT's Project Manager and Project Engineers for this project are not considered suitable.

2. The Preliminary Design Risk Management Workshop shall be planned and scheduled for a duration of **four** hours and will be held at the project site and at OC SAN offices.

2.3.15 QUALITY CONTROL

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

2.4 PDR WORKSHOPS AND MEETINGS

2.4.1 GENERAL

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

2.4.2 PDR PRODUCTION WORKSHOPS

A. Predesign Kickoff Workshop

1. A two-hour project kick-off meeting shall be held with OC SAN staff to introduce principal members of OC SAN and CONSULTANT's teams. The discussion topics shall include: OC SAN responsibilities, CONSULTANT's responsibilities, invoice procedures, personnel

badges, parking, site access, CONSULTANT's Scope of Work, detailed project schedule with milestones, Work Breakdown Structure requirements, and OC SAN confined space and other safety policy training.

B. PDR Production Workshops shall be held remotely during Preliminary Design to review the topics listed below. The list below also indicates the number of workshops to be held to cover the specific topic. Unless otherwise noted, each workshop shall be three hours in length.

PDR PRODUCTION WORKSHOPS	
TOPIC	**NUMBER OF WORKSHOPS**
2.4.2.1 PDR Production Kickoff	1
PDR Production Workshops	
Geotechnical and Utility Investigations	1
Collections Basis of Design	1
Collections Rehabilitation Alternatives	1
Manhole, Replacement, Rehabilitation, Abandonment Alternatives	2
Design Safety Requirements and Hazardous Materials and Permit Requirements (including Stormwater Requirements)	1
Public Impacts, Traffic Control, and Odor Monitoring and Mitigation	1
Implementation Plan and Work Sequencing	2

2.4.3 PDR REVIEW WORKSHOPS

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

1. Draft PDR Presentation
2. PDR Validation Workshop

2.4.4 PDR CONSTRUCTABILITY WORKSHOP

A. A constructability workshop shall be held after the draft PDR submittal review to identify any fatal flaws in the design relative to constructability. Some of the subjects that shall be covered in this workshop include the following: conflicts between design disciplines, geotechnical considerations, construction sequencing, power outages, equipment shutdowns, viability of equipment relocation, safety, operational requirements, access for maintenance, size-critical equipment requirements and constraints, permitting, public nuisance issues, other local conditions, and constraints.

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

C. CONSULTANT shall be responsible for completing the following tasks relative to the workshop:

1. Prepare package for constructability review workshop participants. The package shall consist of detailed plans and specifications and other information selected by CONSULTANT.
2. Prepare presentation on the project.
3. Summarize the constructability review workshop comments and action taken on each comment in a memorandum.

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

2.4.5 TECHNICAL PROGRESS MEETINGS

A. Technical Progress Meetings shall be held every four weeks 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.

2.4.6 FOCUSED MEETINGS

A. Focused meetings shall be remote and 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 meetings (traffic, site walk, public outreach, cleaning, etc.) Assume Two ~~Six~~ two-hour in person meetings
2. Hydraulic Modeling
3. Site utility coordination, Utilities, and Potholing
4. Traffic Control and Permits
5. OC SAN Safety Standards, confined space, and other safety requirements and Construction Sequencing

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

2.4.7 COORDINATION WITH OTHER PROJECTS MEETINGS

A. 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**
PS20-02 Collection System Flow Level Monitoring Study	Installation of level monitors within manhole	1 – 1 hour meeting
City of Costa Mesa Paving Project	Intersection of Fairview Road and Wilson Street	2 - 1-hour meetings

2.4.8 STORMWATER COMPLIANCE MEETING

A. 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

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

3.0.2 ENGINEERING DESIGN GUIDELINE UPDATES

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

3.0.3 GENERAL REQUIREMENTS AND ADDITIONAL GENERAL REQUIREMENTS

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

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

3.0.4 DESIGN SUBMITTALS

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

☐Design Submittal 1
☒Design Submittal 2
☒Design Submittal 3
☒Final Design Submittal
☒Final Technical Plans and Specifications

B. Continuing Work After Design Submittal Submission

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

3.0.5 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.**

3.0.6 TEMPORARY FACILITIES DURING CONTRUCTION

☐Temporary facilities and bypass pumping are not required.

☒Temporary facilities and bypassing during construction are required, as described under the "Temporary Facilities During Construction" paragraph under the Project Elements and shall be described in words on the drawings and technical specifications.

☒Detailed plans and work sequence for temporary facilities and bypassing 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

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

B. Design Information

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

a. CONSULTANT shall maintain the Project Logs specified under Phase 2 Project Management through Phase 3. Current copies of all logs shall be included with each Design Submittal.

b. Written response log to OC SAN comments on the previous submittal.

c. Regulatory Compliance Matrix. This matrix shall list 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.

d. Calculations

e. Draft or final Geotechnical Reports not submitted in the previous submittal and those revised since the previous submittal.

f. Draft or final Field Findings Reports not submitted in the previous submittal and those revised since the previous submittal.

g. All memos that may have been prepared since the previous submittal was delivered.

C. Facility Operation and Maintenance

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

D. Electrical Deign Documentation

☒Electrical design documentation not required.
☐Updated Electrical Load Criticality Table
☐Electrical Analysis Report
☐Load list for all equipment

☐Equipment sizing from three manufacturers for motor control centers, switchgear, transformers, and power panels
☐Lighting calculations
☐Standby generator sizing calculations
☐Ductbank cable pulling tension, derating, and cable tray fill calculations

E. Power System Studies

☒ETAP not required.
☐Plant ETAP model for the project performed by OC SAN.
☐Plant ETAP model for the project performed by CONSULTANT.
☐Electrical Systems Analysis Report performed by CONSULTANT.

3.1.2 CONSTRUCTION COST ESTIMATE

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

☒PDR
☒Design Submittal 2
☒Design Submittal 3
☒Final Design Submittal

3.1.3 CONSTRUCTION SCHEDULE

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

☐Construction Schedule is not Required
☐Design Submittal 1
☒Design Submittal 2
☒Design Submittal 3
☒Final Design Submittal

3.1.4 PROCUREMENT ALTERNATIVES

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

☒Procurement alternatives not required
☐Procurement alternatives required

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

A. CONSULTANT services related to Easements, Property Boundaries and Work Area Limits on the project are specified in Phase 2 – Preliminary Design and those services shall continue during Phase 3 – Design as required. CONSULTANT shall allocate the budgeted hours between Phase 2 and Phase 3 based on when these services will be required.

3.2.2 TOPOGRAPHIC SURVEY

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

3.2.3 UTILITY INVESTIGATION

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

B. 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.

3.2.4 NOISE EVALUATION SERVICES

A. CONSULTANT shall secure the services of a Subconsultant to prepare a field finding Noise Report. This report shall include the following:

1. Visit site and conduct ambient noise measurements to establish baseline.
2. Identify external sources of noise.
3. Identify potential methods for defining noise impacts.
4. Develop noise model consistent with noise impact assessment methods.
5. Determine exterior noise levels and compliance with assessment standards.
6. If required, develop mitigation measures to meet design standards.
7. Determine compliance with OSHA's regulations.
8. If needed, determine mitigation measures to meet OSHA's requirements.
9. Prepare written report on findings and recommendations.

3.2.5 TRAFFIC CONTROL SERVICES

A. CONSULTANT shall determine traffic control requirements and prepare plans and specifications for all construction activities performed within or adjacent to the public ROW. The traffic control plans shall be approved by the AHJ by FDS. Additionally, the Traffic Control designer shall attend City and OC SAN Submittal review meetings, workshops, validation meetings and focus meetings, as needed. The Traffic Control designer shall attend Stakeholders and OC SAN review meetings, as needed.

3.2.6 PUBLIC RELATIONS

A. CONSULTANT services related to Public Relations 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 Public Relations services in Phase 2 and Phase 3 based on when these services will be required.

3.2.7 SPECIALTY SERVICE

A. CONSULTANT services related to Specialty Service 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 Specialty Service in Phase 2 and Phase 3 based on when these services will be required.

3.2.8 PERMITTING ASSISTANCE

A. 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.

3.2.9 PROJECT MANAGEMENT

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

3.2.10 RISK MANAGEMENT

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

B. Risk Management:

☐Not required
☒Required
☐DS1 Risk Workshops: N/A hour (held during OC SAN's review of DS1 at OC SAN)
☒DS2 Risk Workshops: 4 hour (held during OC SAN's review of DS2 at OC SAN)
☒DS3 Risk Workshop: 4 hours (held during OC SAN's review of DS3 at OC SAN)

3.2.11 QUALITY CONTROL

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

Independent Multi-Discipline Design Workshop is not required.
☐Independent Multi-Discipline Design Workshop is required. (minimum duration of **1** days)

3.3 DESIGN WORKSHOPS AND MEETINGS

3.3.1 GENERAL

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

3.3.2 DESIGN PHASE WORKSHOPS

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

DESIGN PHASE WORKSHOPS	
WORKSHOP TYPE	**DURATION**
Design Kickoff Workshop	2 hours
Design Review Meetings	4 hours
Design Validation Meeting	4 hours

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

1. Civil
2. Construction
3. Traffic control
4. Bypass pumping

3.3.3 PRE-DS3 CONSTRUCTABILITY WORKSHOP

A. OC SAN will arrange for an independent constructability review for this project. CONSULTANT shall support this process as described below.

B. A constructability workshop will be held prior to the DS3 submittal and will be a **three** 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.

C. Constructability review participants will include highly experienced individuals from construction companies, OC SAN construction management staff and CONSULTANT construction management staff. OC SAN may also include specialty consultants and discipline engineers.

D. Each constructability review participant will 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.

E. The constructability review will be held off-site.

F. 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 1 day. Day 2, and the first half of day three shall be individual workdays for the Constructability Review Team. The CONSULTANT will not attend, although one designated individual from the CONSULTANT's Design Team shall remain to answers questions and gather additional information that the constructability review team might need.

G. On the afternoon of Day 3, the CONSULTANT shall return and listen to comments from the Constructability Review Team. The CONSULTANT shall record the comments, and take notes from the workshop, to document the process.

H. 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. Utility company requirements
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. Public nuisance issues
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

I. 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.

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

1. 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 mailed to participants at least one week prior to the workshop.
2. Arrange for off-site location for Constructability Review Workshop.
3. Prepare presentation on the project for the Constructability Review Team.
4. Meet with Constructability Review Team to receive comments.
5. Provide listing of constructability review comments and action taken on each comment. (The summary report of constructability review comments will be prepared by the Constructability Review Team.)

K. All comments and recommendations of the workshop shall be incorporated into the Bid Documents.

3.3.4 DESIGN PHASE MEETINGS

A. Technical Progress Meetings

1. Technical Progress Meetings shall be held every four weeks for two hours 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.

B. Focused Meetings

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

a. Site meetings (traffic, site walk, public outreach, cleaning, etc.) Assume two two-hour in person meetings

b. Hydraulic Modeling

c. Site utility coordination, utilities, and potholing

d. Traffic Control, City Requirements and Permits

e. OC SAN Safety Standards, confined space and other safety requirements and Construction Sequencing.

f. Temporary Bypassing (several meetings as necessary)

g. One Additional meeting as necessary

2. Each meeting shall generally be virtual and average two ~~to four~~ 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 CONSULTANT OFFICE TECHNICAL MEETINGS (COTMS)

A. OC SAN has found it mutually beneficial to visit the CONSULTANT offices from time to time to observe the detailed design in process, answer detailed technical questions, and establish lines of communications with CONSULTANT staff. During the Design Phase, CONSULTANT shall arrange for OC SAN staff to meet in CONSULTANT's work center and audit "over the shoulder" design reviews with CONSULTANT's staff. The reviews will be monitored by a member of CONSULTANT's Management Team. Signification decisions will be reported to Consultants Project Manager and OC SAN's Project Manager and logged into the Decision Log. Action items will be identified.

B. The CONSULTANT shall schedule, at a minimum, the following CONSULTANT Office Technical Meetings (COTMs):

1. Three two-hour meetings (one meeting between each design submittal)

C. The CONSULTANT shall schedule each of the above COTMs and shall coordinate with OC SAN's Project Manager to be sure the correct personnel participate in the meetings. The CONSULTANT may propose additional, eliminate, or combine COTMs as needed to support the detailed design.

D. OC SAN may also request additional "over the shoulder" design review meetings to audit the design in other areas not listed above.

3.3.6 COORDINATION WITH OTHER PROJECTS MEETINGS

A. 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**
PS20-02 Collection System Flow Level Monitoring Study	Installation of level monitors within manhole	1 – 2 hour meeting
City of Costa Mesa Paving Project	Intersection of Fairview Road and Wilson Street	1 - 2 hour meeting

3.3.7 SAFETY AND RISK MEETING

A. Meet with OC SAN Safety and Risk Management personnel between DS2 and DS3 to review the plans and specifications in accordance with OC SAN safety policies and OC SAN Risk Management goals.

3.3.8 CONSTRUCTION SUBMITTAL ITEMS LIST MEETING

A. Meet with OC SAN between DS3 and FDS to review the CONSULTANT's approach to developing the project Construction Submittal Items List and the CONSULTANT-provided specifications and discuss the grouping of submittals in commissioning packages and phases.

3.3.9 STORMWATER COMPLIANCE MEETING

A. 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

A. CONSULTANT shall provide the following bid period services:

1. Participate in the pre-bid meeting.

2. Prepare project drawing set and project specification addenda to provide clarification and resolve errors and omissions identified prior to bid opening.

3.4.2 BID EVALUATION ASSISTANCE

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

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

3.4.3 CONFORMED DOCUMENT PREPARATION

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

4. PHASE 4 – CONSTRUCTION AND INSTALLATION SERVICES

Not in this Scope of Work.

5. PHASE 5 – COMMISSIONING SERVICES

Not in this Scope of Work.

6. PHASE 6 – CLOSE OUT

Not in this Scope of Work.

7. GENERAL REQUIREMENTS

7.0 GENERAL

7.0.1 OC SAN ENGINEERING DESIGN GUIDELINES AND STRATEGIC PLAN

A. CONSULTANT shall refer to and adhere to the requirements of OC SAN Safety Standards, OC SAN Engineering Design Guidelines, any deviations to the Engineering Design Guidelines

listed below, and other OC SAN's Design Standards referenced therein. **Exhibit 16 – Spec Review using Microsoft Word and Teams.**

B. **Exhibit 16 - Spec Review using Microsoft Word and Teams**

C. **Exhibit 17 - OC SAN Engineering Design Guidelines and Standards – Available online at** https://www.OC SAN.com/about-us/transparency/document-central/-folder-917 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.

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

E. 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.

F. The project Scope of Work defines whether each specific deliverable described in the Guidelines shall be part of the project and when each task shall take place.

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

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

I. 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.

J. 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.

K. 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.

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

7.0.2 PROJECT PHASES AND TASKS

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

7.0.3 CONSTRUCTION SEQUENCING AND CONSTRAINTS

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

7.0.4 WORKING HOURS

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

7.0.5 STANDARD DRAWINGS AND TYPICAL DETAILS

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

7.0.6 SOFTWARE

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

1. Windows Professional
2. Esri software (fGDB, pGDB or shapefile formats)
3. Microsoft Internet Explorer
4. Autodesk software (AutoCAD, AutoCAD Map3D or compatible dwg file format)
5. Microsoft Office, including MS Teams
6. Maximo
7. Bluebeam Revu Extreme
8. Primavera P6 for scheduling
9. Innovyze ICM Hydraulic Model
10. Database software as defined elsewhere in the project Scope of Work

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

7.0.7 SUBMITTAL REVIEW USING BLUEBEAM

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

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

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

7.0.8 WORD TRACK CHANGES

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

7.0.9 GIS SUBMITTALS

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

1. Electronic Submittal
    a. Kmz files for use with Google Earth
2. Final PDR
    a. Single project boundary (Polygon)
        (1) Boundary to encompass all new facilities and existing to be modified including:
            - Buildings\Structures
            - Tunnels
            - Utilities
            - Pavement
            - Street boundary (ROW to ROW) of possible alignment
    b. Structures (Polygon)
            - New structure outline
            - Additions to existing structures
            - Structure label
        (2) All pits should be labeled
3. DS2, DS3, and FDS
    a. Project boundary - updated from previous DS
    b. Structures - updated from previous DS
    c. Utilities - updated from previous DS
    d. Manholes - updated from previous DS
    e. Excavation of pits - updated from previous DS
    f. Critical (as defined by Dig Alert) utility crossings (Point)
        (1) Crossing of Dig Alert critical utilities
        (2) Critical utility label
            - Natural gas
            - Fuel pipeline
            - 12 kV Electrical
    g. Asphalt (Polygon)
        (1) Asphalt to be replaced

8. PROJECT-SPECIFIC DEVIATIONS FROM OC SAN DESIGN GUIDELINES (NOT USED)

9. STAFF ASSISTANCE

OC SAN staff member or designee assigned to work with CONSULTANT on the design of this project is Victoria Pilko at (714) 454-4192 e-mail to: vpilko@ocsan.gov

10. EXHIBITS

Exhibit 1 - Preliminary Design Report Requirements

Exhibit 2 - Design Requirements

Exhibit 3 - Project Management Requirements

Exhibit 4 - Risk Management Requirements

Exhibit 5 - Workshop and Meeting Requirements

Exhibit 6 - Quality Control Requirements

Exhibit 7 - Design Submittal Requirements Matrix

Exhibit 8 - Project Schedule Calculation

Exhibit 9 - Deliverables Quantities

Exhibit 10 - Sample Construction Cost Estimate Format

Exhibit 11 - Sample Full Project Safety Review Plan

Exhibit 12 - Sample Risk Management Check List

Exhibit 13 – NOT USED

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.OC SAN.com/about-us/transparency/document-central/-folder-917

Exhibit 18 – 6-20 Fairview Trunk Rehabilitation Project Elements Map

Exhibit 19 - Project Reference Material

- **19 A – Project 6-G Record Drawings**
- **19 B – Project 6-5 Record Drawings**
- **19 C – Project 6-12 Record Drawings**
- **19 D – Project 14-1-1A Record Drawings**
- **19 E – Project 14-1-1B Record Drawings**
- **19 F - Collections Capacity Evaluation Study Final Report**
- **19 G – Fairview Trunk Manhole Sampling and Assessment Report**
- **19 H - Diversion 94, 104, and 105 Record Drawings**
- **19 I - 2020 Pipeline CCTV Reports**
- **19 J - 2020 Manhole CCTV Reports**

Exhibit 20 – NOT USED

Exhibit 21 - NOT USED

Exhibit 22 - NOT USED

Exhibit 23 - NOT USED

Exhibit 24 - NOT USED

Exhibit 25 - NOT USED

Exhibit 26 - NOT USED

Exhibit 27 - NOT USED

Exhibit 28 - NOT USED

VP:WS:dm