

PROFESSIONAL DESIGN SERVICES AGREEMENT

This PROFESSIONAL DESIGN SERVICES AGREEMENT, (hereinafter referred to as "Agreement"), is made and entered into to be effective the 25th day of February, 2026 by and between the ORANGE COUNTY SANITATION DISTRICT, (hereinafter referred to as "OC SAN"), and STANTEC CONSULTING SERVICES, INC., (hereinafter referred to as "CONSULTANT").

WITNESSETH:

WHEREAS, OC SAN desires to engage CONSULTANT for **North Tustin-Orange Sewer Rehabilitation, Project No. 7-69**; and to provide professional design services for rehabilitating the North Trunk sewer system and portions of the Tustin-Orange Trunk, Yorba Street Sub-Trunk, Panorama Heights Sub-Trunk, Hewes Avenue Sub-Trunk, and Chapman Avenue Sewer, (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 February 25, 2026 the Board of Directors, by Minute Order, accepted the recommendation of the Operations Committee pursuant to OC SAN's current Purchasing Ordinance to approve this Agreement.

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

1. SCOPE OF WORK

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

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

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

- C. In the event that work is not performed to the satisfaction of OC SAN and does not conform to the requirements of this Agreement or any applicable industry standards, the CONSULTANT shall, without additional compensation, promptly correct or revise any errors or deficiencies in its designs, drawings, specifications, or other services within the timeframe specified by the OC SAN 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 CONSULTANT and Subconsultants using the OC SAN CAD Manual. Conversion of CAD work from any other non-standard CAD format to the 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) 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 Five Million Eighty-Six Thousand Three Hundred Seventy-Three Dollars (\$5,086,373). 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 Attachment "K" - Minor Subconsultant Hourly Rate Schedule and as specified in Attachment "A" - 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, per 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 Subconsultant(s) or Subcontractor(s) 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.

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. The reimbursement of the above-mentioned expenses will be based on an "accountable plan" as considered by the U.S. Internal Revenue Service (IRS). The plan includes a combination of reimbursements based upon receipts and a "per diem" component approved by the IRS. The most recent schedule of the per diem rates utilized by OC SAN can be found on the U.S. General Services Administration (GSA) website: <https://www.gsa.gov/travel/plan-book/per-diem-rates>.

The CONSULTANT shall be responsible for the most economical and practical means of management of reimbursable costs inclusive but not limited to travel, lodging and meals arrangements. OC SAN shall apply the most economic and

practical method of reimbursement which may include reimbursements based upon receipts and/or “per diem” as deemed the most practical.

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

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

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

I. Limitation of Costs

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

3. REALLOCATION OF TOTAL COMPENSATION

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

4. PAYMENT

- A. Monthly Invoice: CONSULTANT shall include in its monthly invoice a detailed breakdown of costs associated with the performance of any corrections or revisions of the work for that invoicing period. CONSULTANT shall allocate costs in the same manner as it would for payment requests as described in this section of the Agreement. CONSULTANT shall warrant and certify the accuracy of these costs and understand that submitted costs are subject to Section 11 - AUDIT PROVISIONS.
- B. CONSULTANT may submit monthly or periodic statements requesting payment for those items included in Section 2 - COMPENSATION hereof in the format as required by OC SAN. Such requests shall be based upon the amount and value of the work and services performed by CONSULTANT under this Agreement and shall be prepared by CONSULTANT and accompanied by such supporting data, including a detailed breakdown of all costs incurred and work performed during the period covered by the statement, as may be required by OC SAN.

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

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

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

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

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

- E. Upon satisfactory completion of the work performed hereunder and prior to final payment under this Agreement for such work, or prior settlement upon termination of this Agreement, and as a condition precedent thereto, CONSULTANT shall execute and deliver to OC SAN a release of all claims against OC SAN arising under or by virtue of this Agreement other than such claims, if any, as may be specifically exempted by the 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 and Subcontractors.

A CONSULTANT or Subconsultant or Subcontractor shall be deemed to have submitted a false claim when the CONSULTANT or Subconsultant or Subcontractor: 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 Standards Enforcement of the DIR.

- 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 the 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 Agreement (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. Automobile/Vehicle Liability Insurance

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

D. 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.

E. 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.

F. Errors and Omissions/Professional Liability

CONSULTANT shall maintain in full force and effect, throughout the term of this Agreement, standard industry form professional liability / errors and omissions insurance coverage with coverage limits of not less than Five Million Dollars (\$5,000,000) 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 terms 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 or omissions of CONSULTANT during the course of performing services under the terms 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.

G. 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.

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 Insured (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
18480 Bandilier Circle
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 for establishing insurance requirements for any Subconsultant hired by the CONSULTANT. The insurance shall be in amounts and types reasonably sufficient to deal with the risk of loss involving the Subconsultant’s operations and work.

P. Limits Are Minimums

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

8. SCOPE CHANGES

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

9. PROJECT TEAM AND SUBCONSULTANTS

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

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

10. ENGINEERING REGISTRATION

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

11. AUDIT PROVISIONS

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

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.

- B. 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 fifteen (15) days after receipt of notice from OC SAN. Upon OC SAN's request, the CONSULTANT shall submit exact duplicates of originals of all requested records to OC SAN. If an audit is performed, CONSULTANT shall ensure that a qualified employee of the CONSULTANT will be available to assist OC SAN's auditor in obtaining all project related accounting records and documents, and any other financial data.

12. LEGAL RELATIONSHIP BETWEEN PARTIES

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

13. NOTICES

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

Notices shall be mailed to OC SAN at:

ORANGE COUNTY SANITATION DISTRICT
18480 Bandilier Circle
Fountain Valley, CA 92708
Attention: Larry Roberson, Senior Contracts Administrator
Copy: Scott Ahn, Project Manager

Notices shall be mailed to CONSULTANT at:

STANTEC CONSULTING SERVICES, INC.
300 North Lake Avenue, Suite 400
Pasadena, CA 91101
Attention: Venu Kolli, Principal-in-Charge
Copy: Umesh Murthy, Project Manager

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

14. TERMINATION

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

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

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

15. DOCUMENTS AND STUDY MATERIALS

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

16. COMPLIANCE

A. Labor

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

B. Air Pollution

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

C. Iran Contracting Act

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

D. California Air Resources Board Mobile Source Regulations

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

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

17. AGREEMENT EXECUTION AUTHORIZATION

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

18. DISPUTE RESOLUTION

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

19. ATTORNEY 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 (10th) 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 twelve (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 enforce 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, but not limited to, Attachment "L" - Contractor Safety Standards, as applicable, and Attachment "O" - Human Resources Policies, all as may be amended from time to time.

26. CLOSEOUT

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

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

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

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

Notwithstanding the final Agreement Acceptance the CONSULTANT will not be relieved of its obligations hereunder, nor will the CONSULTANT be relieved of its obligations to complete any portions of the work, the non-completion of which were not disclosed to OC SAN (regardless of whether such nondisclosures were fraudulent, negligent, or

otherwise); and the CONSULTANT shall remain obligated under all those provisions of the Agreement which expressly or by their nature extend beyond and survive final Agreement Acceptance.

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

27. ENTIRE AGREEMENT

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

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

CONSULTANT: STANTEC CONSULTING SERVICES, INC.

By _____ Date _____

Printed Name & Title

ORANGE COUNTY SANITATION DISTRICT

By _____ Date _____
Ryan P. Gallagher
Board Chairman

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

By _____ Date _____
Kevin Work
Purchasing & Contracts Manager

- Attachments:
- Attachment "A" – Scope of Work
 - Attachment "B" – Labor Hour Matrix
 - Attachment "C" – Not Attached
 - Attachment "D" – Allowable Direct Costs
 - Attachment "E" – Fee Proposal
 - Attachment "F" – Not Used
 - Attachment "G" – Not Attached
 - Attachment "H" – Not Used
 - Attachment "I" – Cost Matrix and Summary
 - Attachment "J" – Not Attached
 - Attachment "K" – Minor Subconsultant Hourly Rate Schedule
 - Attachment "L" – Contractor Safety Standards
 - Attachment "M" – Not Attached
 - Attachment "N" – Not Attached
 - Attachment "O" – Human Resources Policies

LDR:ms

ATTACHMENT “A”

SCOPE OF WORK

ATTACHMENT "A"

SCOPE OF WORK

North Tustin-Orange Sewer Rehabilitation
Project No. 7-69

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1. PROJECT REQUIREMENTS

1.0 SUMMARY

1.0.1 PROFESSIONAL DESIGN ENGINEERING SERVICES

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

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

1.0.2 PROFESSIONAL LICENSING REQUIREMENTS

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

1.1 BACKGROUND

The North Tustin-Orange Sewer Rehabilitation system alignment is within the City of Tustin, City of Orange, and an unincorporated area of the County of Orange (North Tustin). This project will rehabilitate the North Trunk sewer and other portions of the Tustin-Orange Trunk, Yorba Street Sub-Trunk, Panorama Heights Sub-Trunk, Hewes Avenue Sub-Trunk, and Chapman Avenue Sewer.

The assets in this project were originally constructed starting in the early 1960s through the mid-1980s, with the majority of original construction taking place in the 1960s (**Exhibit 19 – Project Elements Map and Record Drawings**). Only one sewer manhole asset within the project area has been replaced under project 7-41 in 2003 (**Exhibit 19 – Project Elements Map and Record Drawings**) since its original construction, and no other rehabilitation or replacement efforts have been completed for the other assets. Within the project area all OC SAN sewers are vitrified clay pipe (VCP) gravity sewers with reinforced concrete sewer manholes. Sewer pipeline closed-circuit television (CCTV) inspection records for the Baker-Main and Sunflower trunk systems in the project area date back to as early as 2007, with the most recent sewer pipeline CCTV inspections being completed in 2024. Sewer manhole CCTV inspection records for the Baker-Main and Sunflower trunk systems in the project area date back to 2015 with the most recent sewer manhole CCTV inspections being completed in 2023. Additionally, 18 concrete core samples were taken from nine sewer manholes in the project area in March 2024 and analyzed for chloride content, carbonation depth, pH, and compressive strength. See **Exhibit 21 D – Sewer Pipeline and Manhole Conditions** for detailed summaries of sewer pipeline and manhole conditions.

The rehabilitation of existing trunk sewer pipelines and manholes is necessary to address identified structural deficiencies. Portions of the North Trunk, Tustin-Orange Trunk, Yorba Street Sub-Trunk, Panorama Heights Sub-Trunk, Hewes Avenue Sub-Trunk, and Chapman Avenue Sewer have sewer pipeline segments that are broken or have multiple fractures, severe sags, and a history of severe root intrusion. Additionally, sewer manholes in the same area have liner delamination or no existing liner at all, widespread exposed aggregate, wall and bench degradation, and many instances of exposed rebar.

1.2 GENERAL PROJECT DESCRIPTION

This project will rehabilitate the North Trunk sewer system and portions of the Tustin-Orange Trunk, Yorba Street Sub-Trunk, Panorama Heights Sub-Trunk, Hewes Avenue Sub-Trunk, and Chapman

Avenue Sewer within the Cities of Tustin, Orange, and an unincorporated area of the County of Orange (North Tustin). The project includes replacing 840 linear feet (LF) of 8-inch to 12-inch sewer pipe, rehabilitating 4,785 LF of 8-inch to 27-inch sewer pipe, constructing 5-point repairs, rehabilitating 140 sewer manholes (MH) 48-inch to 72-inch in diameter, adding 6 new sewer pipelines, adding 11 new MHs and abandoning 620 LF of 10-inch to 12-inch sewer pipes and 2 (two) 48-inch sewer MHs. The project also includes up to 1,300 LF new of 20-foot-wide access roads within OC SAN easements. Additionally, approximately 500 LF of sewer pipe and 6 MHs will be transferred to the City of Orange. See [Figure 1](#) for the project map.

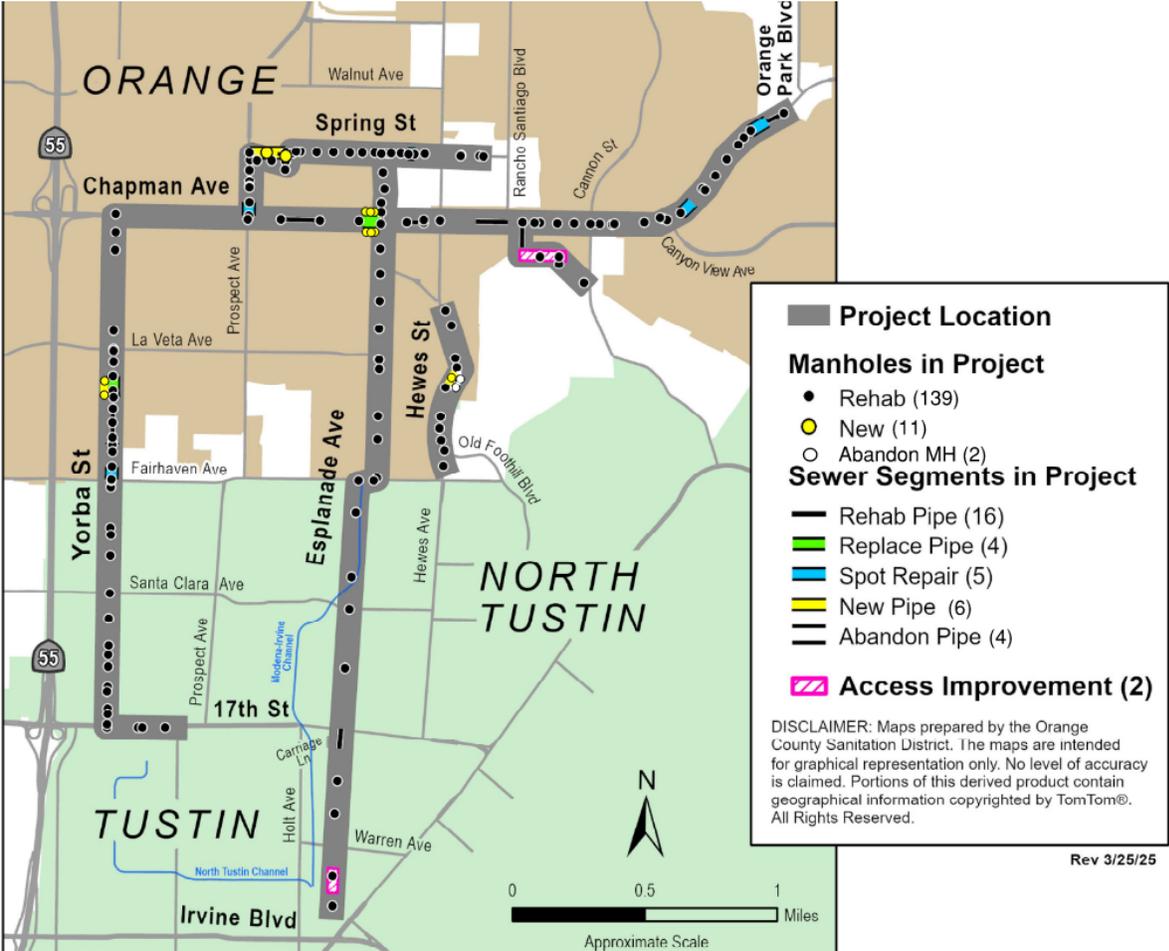


Figure 1 – Overall Project Map

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 (SOW) for the following Phases:

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

1.4 DESCRIPTION OF PROJECT ELEMENTS

Detailed descriptions of the Project Elements are presented below.

1.4.1 PROJECT ELEMENT 1 – REHABILITATE NORTH TRUNK

- A. Replace in kind approximately 850 LF of 8-inch to 12-inch sewer with open cut
 1. RED0390-0107:RED0390-0108, 8-inch VCP, 57 LF
 2. RED0390-0125:RED0390-0130, 8-inch VCP, 124 LF
 3. RED0390-0130:RED0390-0135, 8-inch VCP, 308 LF
 4. RED0580-0000 RED0585-0000, 12-inch VCP, 351 LF
- B. Construct 250 LF parallel 8-inch pipeline and MH to reconnect local laterals along Yorba Street. ([Figure 2](#))
 1. New 8-inch VCP pipe will be parallel to pipeline RED0390-0130: RED0390-0135
 2. New local MHs to reconnect the two local laterals, 48-inch, 24-inch frame and cover (F&C)



Figure 2 – Assumed rehabilitation on South Yorba Street (see legend provided for [Figure 1](#))

- C. Construct new local MHs to reconnect local laterals along Chapman Avenue. ([Figure 3](#))
 - 1. New local MHs to reconnect the three local laterals, 48-inch, 24-inch F&C
 - 2. New OC SAN MHs along pipe segment RED0580-0000:RED 0585-0000 to reconnect the new local MHs, 60-inch, 36-inch F&C
 - 3. New 8-inch VCP pipelines from new local MHs to new OC SAN MHs



Figure 3 – Assumed rehabilitation on East Chapman Avenue (see legend provided for [Figure 1](#))

D. 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. A bypass will be required for replacing pipe segments. Detailed bypass plans showing the work area for temporary pumping and the routing of the bypass line(s) are required at each location. Upstream bypass of all laterals connecting to manholes and trunk line is required.
 - b. Detailed traffic control plans will be required.
 - c. Roadway restoration shall be per City and County standards.
 - d. Lengths of pipeline segments are based on record documents
 - e. Local MH design shall meet City or County standards and requirements.
 - f. For MH ownership transferred from OC SAN to local agencies, remove the 'OCSD' or 'OC SAN' lettering from MH covers by grinding.
 - g. Coordination and preparation of the required documents for the transfer of ownership of the pipelines and local MHs to the City of Orange will be provided by the CONSULTANT.

1.4.2 PROJECT ELEMENT 2 – REHABILITATE AND ABANDON SEWER AND SEWER MANHOLE

A. Rehabilitate approximately 4,785 LF of 8-inch to 27-inch sewer with cured-in-place pipe (CIPP)

- 1. SUN0595-0000:SUN0600-0000, 27-inch VCP, 226 LF
- 2. SUN0470-0000:SUN0475-0000, 21-inch VCP, 135 LF

3. SUN0475-0000:SUN0480-0000, 21-inch VCP, 408 LF
 4. SUN0530-0000:SUN0535-0000, 21-inch VCP, 85 LF
 5. RED0560-0035:RED0560-0040, 12-inch VCP, 188 LF
 6. RED0570-0000:RED0575-0000, 12-inch VCP, 782 LF
 7. RED0590-0000:RED0595-0000, 12-inch VCP, 330 LF
 8. RED0615-0000:RED0620-0000, 12-inch VCP, 641 LF
 9. RED0625-0000:RED0625-0003, 10-inch VCP, 499 LF
 10. RED0730-0000:RED0735-0000, 10-inch VCP, 383 LF
 11. RED0390-0020:RED0390-0025, 15-inch VCP, 67 LF
 12. RED0390-0110:RED0390-0115, 8-inch VCP, 290 LF
 13. RED0390-0115:RED0390-0117, 8-inch VCP, 157 LF
 14. RED0390-0117:RED0390-0120, 8-inch VCP, 123 LF
 15. RED0625-0015:RED0625-0020, 8-inch VCP, 134 LF
 16. RED0680-0000:RED0685-0000, 8-inch VCP, 99 LF
 17. RED0723-0000:RED0725-0000, 8-inch VCP, 199 LF
- B. Rehabilitate pipe with internal spot repairs at five locations
1. RED0390-0096:RED0390-0100, 8-inch VCP
 2. RED0690-0000:RED0695-0000, 8-inch VCP
 3. RED0725-0000:RED0730-0000, 8-inch VCP
 4. RED0560-0010:RED0560-0015, 12-inch VCP
 5. RED0560-0110:RED0560-0115, 12-inch VCP
- C. Rehabilitate 140 MHs, which are listed and shown on **Exhibit 19 – Project Elements Map and Record Drawings**
- D. Construct a new sewer alignment along East Spring Street ([Figure 4](#))
1. New VCP pipe from MH RED0560-0060 to MH RED0560-0145, 12-inch VCP, 725 LF
 2. New OC SAN MH between MH RED0560-0060 to RED0560-0145, 60-inch, 36-inch F&C
 3. New local MH between MH RED0560-0060 to RED0560-0055, 48-inch, 24-inch F&C
 4. Abandon sewer pipe from MH RED0560-0060 to new local MH, 12-inch VCP, 65 LF



Figure 4 – Assumed new alignment on East Spring Street (see legend provided for [Figure 1](#))

- E. Construct a new sewer alignment along South Hewes Street ([Figure 5](#))
1. New VCP pipe from MH SUN0480-0140 to MH SUN0480-0155, 10-inch VCP, 470 LF
 2. New OC SAN MH between MH SUN0480-0140 to SUN0480-0155, 60-inch, 36-inch F&C
 3. Reconnect local lateral to the new MH
 4. Abandon sewer pipe SUN0480-0140:SUN0480-0145, 10-inch VCP
 5. Abandon sewer pipe SUN0480-0145:SUN0480-0150, 10-inch VCP
 6. Abandon sewer pipe SUN0480-0150:SUN0480-0155, 10-inch VCP
 7. Abandon MH SUN0480-0145, 48-inch, 24-inch F&C
 8. Abandon MH SUN0480-0150, 48-inch, 24-inch F&C



Figure 5 – Assumed new alignment on South Hewes Street (see legend provided for [Figure 1](#))

F. 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. CIPP is used for rehabilitating VCP
- b. Pipe segment SUN0475-0000:SUN0480-0000 is within gated community. It can be hard to access the MH SUN0475-0000 since it is located on resident's front yard and next to the block wall. See Task 2.3.9 and See **Exhibit 20 – Field Investigation Photos** for more information.
- c. MHs are in various locations throughout the City of Tustin, City of Orange and an unincorporated area of the County of Orange. Permits will be required from each agency.
- d. All MHs require the following:
 - (1) Full structural rehabilitation will be done using cured-in-place manhole (CIPM)
 - (2) New cone and F&C will be increased to 36-inch diameter to meet OC SAN design standards
 - (3) Bench repair/rebuild
- e. Spot repairs will be done using short-segment CIPP sectional liner
- f. No man-entry inside MHs will be necessary to complete design
- g. Bypass will be required for all CIPP and spot repair segments. Detailed bypass plans showing the work area for temporary pumping and the routing of the bypass line(s) are required at each location. Upstream bypass of all laterals connecting to MHs and trunk line is required.
- h. Detailed traffic control plans are required
- i. Lengths of pipeline segments are based on record documents

- j. Local MH design shall meet City or County standards and requirements.
- k. For MH ownership transferred from OC SAN to local agencies, remove the 'OCSD' or 'OC SAN' lettering from MH covers by grinding.
- l. Coordination and preparation of the required documents for the transfer of ownership of the pipelines and local MHs to the City of Orange will be provided by the CONSULTANT.

1.4.3 PROJECT ELEMENT 3 – IMPROVE SEWER MANHOLE ACCESS

A. Construct approximately 1,300 LF of new 20 feet wide access roads within OC SAN easement at two locations: MH SUN0450-0000 near Beeson Lane (Figure 6 & Figure 7), and MH RED0625-0005 to RED0625-0015 near Smiley Drive (Figure 8).

1. New access road through MH SUN0450-0000 ~ 450 LF
2. New access road through MH RED0625-0005 to RED0625-0015 ~ 850 LF
3. Chain link fencing and gates ~ both sides of the access roads
4. Retaining wall ~ 850 LF (southern side of the easement)



Figure 6 - MH SUN0450-0000



Figure 7 – MH SUN0450-0000



Figure 8 - MH RED0625-0005 & RED0625-0015

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. **Exhibit 20 – Field Investigation Photos** includes existing conditions above the two access improvement locations.
- b. A new access road shall be designed for HL93 loading with surface drainage to nearby storm drains, curbs and gutters.
- c. A new 850 LF long retaining wall (southern side of the easement) will be required in locations shown in [Figure 8](#).
- d. New security measures will be required to prevent unauthorized access.

1.4.4 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.
2. Bypass pumping to rehabilitate pipeline segments.
3. Temporary noise abatement.
4. Traffic control.

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.

1.4.5 COORDINATION WITH OTHER PROJECTS

A. The following projects may impact or require coordination with this project. The CONSULTANT shall coordinate with each project and incorporate work restrictions and requirements in the Bid Documents.

1. City of Tustin Annual Pavement Rehabilitation Project (Yorba Street – Construction Completion Fiscal Year 2026/2027).
2. County of Orange-Yorba Street Drainage & Roadway Improvements.

1.5 DESIGN CONSIDERATIONS

The following design considerations shall be carried out 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 life cycle cost analysis for the options proposed shall include costs for engineering, construction, start-up, and operational and maintenance, and future rehabilitation and replacement. Life cycle cost analysis is described in Section 01.2.19 of the **Engineering Design Guidelines (EDG)**. See **Exhibit 17 - OC SAN Engineering Design Guidelines and Standards** – available online at https://www.ocsan.gov/document-center/?search-term&department=engineering&sub_department=design-guidelines&document_year=all

1.5.4 PROJECT ELEMENT DESCRIPTION REVISIONS

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

1.5.5 CONSTRUCTION COST ESTIMATE

- A. The construction cost estimate shall be as described in the **EDG, Chapter 15 Construction Cost Estimates**.

1.6 PROJECT SCHEDULE

1.6.1 GENERAL

- A. The table below lists the time frames associated with each major project deliverable and with OC SAN's review and approval of those deliverables. CONSULTANT shall comply with the deadlines indicated in that table.
- B. OC SAN's Project Manager (PM) will issue a Preliminary Design Notice to Proceed (NTP). OC SAN's PM will also issue a Final Design NTP upon OC SAN's acceptance of the final Preliminary Design Report.
- C. The time frames specified below are used to estimate the actual milestone dates based on the assumed NTP date, as shown in **Exhibit 08 - Project Schedule Calculation**.
- D. OC SAN will consider an alternative CONSULTANT-proposed schedule provided it is consistent with OC SAN resources and schedule constraints and adds value to OC SAN.

PROJECT MILESTONE AND DEADLINES	
MILESTONE	DEADLINE
Kickoff Meeting	The kickoff meeting will be scheduled to coincide with the Preliminary Design NTP.
Preliminary Design NTP	
Submit Project Management Plan (PMP)	10 workdays from Kickoff Meeting
OC SAN Review of PMP	5 working days from receipt of PMP. If the PMP is sufficient, OC SAN's PM will set the date for the Kickoff Meeting. In any case, CONSULTANT shall issue a revised PMP within 5 working days of receipt of OC SAN's comments for OC SAN approval.
Submit draft Preliminary Design Report (PDR)	260 workdays from the Preliminary Design NTP. CONSULTANT shall establish a schedule with OC SAN's PM for separately submitting working drafts of each Design Memo for OC SAN review prior to completing the draft PDR. This schedule shall factor in the logical sequence for completing the memos as well as both CONSULTANT and OC SAN resources.
OC SAN Review of draft PDR	20 workdays from receipt of Draft PDR
Submit final Preliminary Design Report	30 workdays from receipt of OC SAN comments on Draft PDR.
Final Design NTP	CONSULTANT's schedule shall allow 10 working days from submitting the final PDR to receiving the Design Phase NTP.
Submit Design Submittal 1 (DS1)	40 workdays from Design Phase NTP.
OC SAN Review of DS1	15 workdays from receipt of DS1
Submit Design Submittal 2 (DS2)	65 workdays from receipt of OC SAN comments on DS1.
OC SAN Review of DS2	25 workdays from receipt of DS2
Submit Design Submittal 3 (DS3)	50 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)	35 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 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 EVALUATION 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 with a check box below in accordance with **Exhibit 01 - 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

- Static Analysis
- Dynamic Analysis
 - Dry Weather Calibration
 - Wet Weather Calibration
 - Design Storm Choice Sensitivity 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
- Pavement Requirements
- Drainage Requirements

Evaluation of Surface Improvement Materials for Access Improvements

- Landscape
- Surface Improvement Materials/Types
- Stormwater Requirements
- Access and Security
- Retaining Wall
- Corrosion Protection Requirements

Utility Requirements

Structural Design Parameters

Architectural Design Parameters

Process Mechanical Design Parameters

- Building Mechanical Design Parameters**
- Fire Protection**
 - Fire Protection Requirements
 - Fire Water Flow Analysis
 - Fire Protection Requirements for Existing Facilities
- Electrical**
 - Codes/Standards. Brief description of electrical system. Electrical Drawings.
 - Identify Electrical System Impacts
 - Report – Data Collection and Verification
 - Preliminary Load List
 - Preliminary Standby Power Requirements
 - ETAP – Preliminary Short Circuit Analysis and Load Flow/Voltage Drop Studies
 - ETAP – Provide Data. OC SAN will perform ETAP studies.
 - Preliminary Analysis for cable pull calcs, duct bank cable derating, cable tray fill calcs.
 - Hazardous Area Classification Requirements
- Instrumentation and Control**
 - Instrumentation and Control System
 - Specialty Safety Systems
 - Preliminary SAT
 - PLC and RIO Panel Location Map
 - CCTV Coverage Map
- Landscaping**
 - Landscaping Requirements
 - Develop up to three alternative concepts for review and acceptance
- Plant Utility Investigation Findings**
- Vibration Analysis**
- Collections Basis of Design**
 - Codes and Standards
 - Pipeline Basis of Design
 - Manhole Basis of Design
- Collections Rehabilitation Alternatives**
 - Pipeline Rehabilitation
 - Manhole Rehabilitation
- Collections Pipeline Design**
 - Evaluate proposed new alignments at South Yorba Street, East Chapman Avenue, East Spring Street, near Smiley Drive, and South Hewes Street
 - Evaluate manhole optimization to new alignments
 - Design Memo Items
 - Open Cut vs. Trenchless Technologies
 - Trenchless Technologies at Major Crossings
- Collections Utility Investigation Findings**
- Collections Conceptual Traffic Control**
 - Authority Having Jurisdiction (AHJ) and Traffic Control Identification
 - Basis for Traffic Control Strategy
 - Traffic Analysis
 - Traffic Control Plans
- Design Safety Requirements**
 - Design Safety Requirements
 - Identify all potential project specific safety issues
 - Identify all potential Cal/OSHA and OC SAN safety issues

- Identify construction safety hazards
- Project Safety Check List (**Exhibit 11**) and Full Project Safety Review Plan (**Exhibit 12**) to verify safety elements
- HAZOP
- Public Impacts**
- Environmental and Regulatory Requirements**
 - CEQA Part of Programmatic EIR (Due to SOW changes assume an Initial Study is needed requiring either an addendum to PEIR or MND)
 - 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.**

2.2.3 PRELIMINARY DESIGN DRAWINGS

A. The CONSULTANT shall produce the following Preliminary Design Report drawings in accordance with **Exhibit 01 - Preliminary Design Report Requirements**.

- General
- Demolition
- Civil
- Bypass
- Traffic Control
- Landscape
- Structural
- Architectural
- Mechanical
- Electrical
- Instrumentation and Control

2.2.4 PRELIMINARY DESIGN REPORT 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 SOW.

Volume 1 – Preliminary Design Report Technical Memos

- Executive Summary
- Pre-design Evaluation Studies Report
- Evaluation Memo 1, 2, 3, etc.

Design Memos

- Design Memo 1, 2, 3, etc.
- List of Proposed Specification Sections

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

Volume 3 – Submittal Documentation

- Calculations
- Equipment Data & Catalog Cuts
- Decision Log
- Meeting Minutes
- Exhibit 11 - Project Safety Check List**
- Exhibit 12 – Full Project Safety Review Plan**

- C. The Executive Summary shall summarize the conclusions of the design memos included in the report and specifically include a summary of the 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 09 - 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. OC SAN's PM may request that the CONSULTANT submit an electronic proof set of the Draft PDR and Final PDR prior to hard copy production in order to initially confirm that the submittal is ready for printing.

2.2.5 PRELIMINARY DESIGN COST ESTIMATE

- A. The CONSULTANT shall provide a cost estimate for the associated PDR submittal per **EDG, Chapter 15 Construction Cost Estimates**.

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 MANHOLE CONDITION ASSESSMENT

- A. Review CCTV of 135 MHs. Total number of MHs for condition assessment is estimated at 140 MHs.
 - 1. CCTV data for five of the MHs is not available. (Refer to **Exhibit 19 – Project Elements Map and Record Drawings** highlighted in red rectangles)
- B. Pipeline Condition Assessment: review of existing CCTV footage and manhole assessment

2.3.2 MANHOLE ABANDONMENT EVALUATION

A. Determine which of the 140 manholes shown on **Exhibit 19 – Project Elements Map and Record Drawings** can be abandoned as part of this project. The final determination will depend on adherence to OC SAN design standards (length of sewer between MHs, change in diameter, etc.), operations and maintenance requirements, and condition assessment requirements. CONSULTANT shall coordinate closely with OC SAN Collection Facilities Division through OC SAN's PM when making the final recommendation. Include evaluation and recommendation in the Collections Rehabilitation Alternative Design Memo.

2.3.3 SPOT REPAIR EVALUATION

A. Review CCTV of this project pipeline segments shown in **Exhibit 19 – Project Elements Map and Record Drawings** to determine the length of the pipeline needing repair. Include evaluation and recommendation in the Collections Rehabilitation Alternative Design Memo.

2.3.4 EASEMENTS, PROPERTY BOUNDARIES AND WORK AREA LIMITS

A. The CONSULTANT shall review and verify easement and property boundary requirements provided and prepare all easement documents, including performing any additional field investigations and survey required to identify and prepare easements.

B. 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.

C. 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.

D. All survey research and survey field work shall be performed by a professional land surveyor licensed by the State of California.

E. The easement along SUN0450-0000 is 10-ft wide. OC San will review if additional permanent easement is required.

F. Preparation of plats and legal descriptions related to easement acquisition is excluded from the CONSULTANT's scope.

2.3.5 TOPOGRAPHIC SURVEY

A. CONSULTANT shall conduct field and aerial surveys as required. Topographic information used on the construction plans shall be generated from a field survey and an aerial mapping process. OC SAN will not provide the aerial survey information to the CONSULTANT for use on the project.

OC San will provide field and aerial surveys for Element 3, which includes the two segments within OC San easement described in 1.4.3. This includes the 1,300 LF of 20 feet wide access roads within OC SAN easement at two locations: MH SUN0450-0000 near Beeson Lane ([Figure 6](#) & [Figure 7](#)), and MH RED0625-0005 to RED0625-0015 near Smiley Drive ([Figure 8](#)).

B. Prior to beginning design, CONSULTANT shall prepare the scope of work for field and aerial surveys required for all applicable project elements. OC SAN will establish both vertical and horizontal control for the project. The field survey shall be used to establish both horizontal and vertical alignment of the facilities and shall note all survey monuments, topographic features, property lines, and elevations. The basis of bearings and benchmarks shall be indicated on the drawings. Control shall reference the coordinate system and datum per OC SAN CAD STANDARDS MANUAL (CAD Manual), latest edition. CONSULTANT's project schedule shall account for the above.

C. The aerial topography shall be required to meet the following criteria:

1. The final product shall be delivered in AutoCAD.
 2. The CAD file shall adhere to the CAD Manual. OC SAN shall be given the opportunity to review and comment on the compliance to the CAD Manual.
 3. Site contours shall be in 1-foot intervals.
 4. Contour and spot elevations shall be 3D; all other features shall be 2D.
 5. CONSULTANT shall include the survey-related documents with the Design Support Documentation portion of the Design Submittals as specified in the **EDG, Appendix A, Section A.3.19 "Project Support Documentation (PDS)"**.
- D. 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 SOW and shall provide for the aerial mapping. Providing for the process includes paying for, 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. 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 California State Plane Coordinate System NAD83, Zone VI, 2017.50 epoch adjustment and the vertical datum NAV88, OCS 1995 adjustment. 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, city boundaries, 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's PM. 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 expressed 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 5 feet vertically and the immediate contours shall be spaced at 1 foot contour intervals. The mapping shall include digital topographic mapping. The digital format shall be compatible with OC SAN Graphic Information System (GIS). 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 1-inch equals 40 feet horizontal and 1-inch equals 4 feet 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 1-inch equals 10 feet or 1-inch equals 20 feet. Manholes and other details shall be drawn at a scale that is adequate to provide clarity and sufficient detail for construction. The basis of bearings and benchmarks shall be indicated on the drawings.

11. Survey Note Submittal: CONSULTANT shall submit 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 properties to be acquired during the final design phase of the project.

2.3.6 GEOTECHNICAL INVESTIGATION

A. CONSULTANT shall prepare a Geotechnical Data Report that addresses geotechnical concerns for all applicable Project Elements of the SOW.

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.

2. If unexpected or unique soils are encountered, an adequate number of borings shall be taken to try and define the limits of the anomaly. The number and spacing of borings shall be based on the geotechnical professional's interpretation of needs and recommendation; however, a maximum of 500 feet shall be allowed between pipeline alignment borings along a pipeline alignment.

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.

3. Borings shall be taken at the planned location of both the launch and receiving pits for a trenchless pipeline installation. Borings shall also be taken at locations with open-cut construction where 850 LF of pipes are being replaced.

4. The depth of the borings shall be adequate to characterize the soil to a depth of at least 5 feet below the bottom of an excavation or any proposed sewer invert elevation. At least two borings shall extend 10 feet below the proposed excavation bottom or sewer invert.

5. The number of borings, trenching, Cone Penetration Tests (CPTs), or other exploratory testing shall be as indicated in the CONSULTANT's Proposal. Total of fourteen (14) soil borings between depth of 20 and 30 feet below the existing ground surface (bgs) are included in the scope. In the event that additional exploratory investigations are required, the price for such testing shall be negotiated on the basis of the unit priced indicated in the CONSULTANT's Fee Proposal.

6. It is assumed that storage of the drums will be made available by OC San within a few miles of the alignment (such as the existing OC San easement near Beeson Lane) for approximately three to four weeks while the investigation under way and analytical testing is being performed. Scope includes cost for pickup and disposal of non-hazardous drums only. OC San will be responsible for signing the bill of lading or hazardous waste manifest

required for disposal of the drums. OC San will be notified upon discovery of potential contamination during drilling and sampling operations for direction prior to proceeding on any out-of-scope services.

C. Soil Sampling

1. Soil samples for testing shall be collected as needed based upon CONSULTANT's professional judgment. However, samples intervals shall not exceed 2 feet in depth intervals alternating Standard Penetration Test (SPT) within the upper 10 feet bgs, then every 5-feet thereafter to full depths explored, and ring samples in each boring. If borings are taken near existing sewers, samples shall be taken and delivered to OC SAN for testing for coliforms to determine if sewers are leaking.

D. Ground Water Pump Testing – **Not included and not anticipated within project limits**

~~1. Conduct ground water pump testing to determine dewatering parameters for inclusion of the specifications.~~

~~2. 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 filling with cement bentonite grout slurry, or deep pressure grouting to create a concrete seal.~~

E. Groundwater Contamination Testing – **Not included and not anticipated within project limits**

~~1. Take samples at each installed monitoring well and 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). Update specifications to include mitigation measures where contamination exists and specify frequency of additional sampling and analysis to be done by the Contractor.~~

~~2. Due to the proximity and the potential for contamination of nearby groundwater, per- and polyfluoroalkyl substances (PFAS) analytical will be required for these requests prior to authorization.~~

~~Specifically, analytical is required for perfluorooctanoic acid (PFOA) and perfluoro octane sulfonic acid (PFOS) using U.S. Environmental Protection Agency (EPA) method 1633.~~

~~3. OC SAN will require dischargers whose industrial wastewater discharge contains more than 40 parts per trillion (ppt) PFOA and PFOS combined to develop a PFAS waste management plan. The PFAS waste management plan must demonstrate how the permittee will maintain effluent concentrations at or below 40 ppt PFOA/PFOS on a long term basis using measures including, but not limited to, source reduction, the installation of effective pretreatment technology, or alternative means for waste disposal.~~

F. Soil Exploration Locations

1. The location of all soil explorations shall be plotted on a map and attached to the Geotechnical Report. 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.

~~3. A total of four borings 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 include well abandonment in the final design documents when the monitoring wells are no longer useful.~~

4. Work conducted outside OC SAN's treatment plant shall comply with the requirements of the local AHJ.

2.3.7 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 SOW, 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 Record Drawings 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. The 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 PM 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 conducted 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 (PE) 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 on each adjacent property.
 - b. Indicate whether or not each such utility was found on as-built drawings of any agency, with an identification of the agencies identifying such utility.
 - c. Indicate whether or not 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 American Society of Civil Engineering (ASCE) guidelines, except as amended by this SOW. 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 38-22, 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 SOW. 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-inch = 40 feet) 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's PM, OC SAN's PE, Supervising Inspector, and other designated OC SAN personnel shall be performed.
- H. Potholes and Geophysical Investigation

1. CONSULTANT shall pothole and perform geophysical investigation on all utilities described and shown in the accepted Potholing Plan/Geophysical Investigation Plan. CONSULTANT's staff shall be on-site during potholing to provide direction to potholing crew. OC SAN staff shall also be present during potholing. Field investigations include visiting the project work site and each utility to verify the location of all interferences.
2. CONSULTANT shall provide all the related work necessary, including, but not limited to:
 - a. Documentation of information
 - b. Notification of USA's "Dig Alert"
 - c. Providing field survey
 - d. Obtaining required permits
 - e. Submission of traffic control plans
 - f. Setting up traffic control
 - g. Soft dig potholing
 - h. Ground-penetrating radar
 - i. Excavating
 - j. Backfilling
 - k. Repairing pavement to local AHJ requirements
 - (1) Investigate local City/County moratorium lists (annually)
 - (2) Comply with AHJ's pavement repair requirements
 - (3) Coordinate with the local Cities/County and track for any requirement updates
3. 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.
4. Measure and document the depth of pavement and of base material at each pothole, and every 5 feet along crosscut trenches.
5. 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 AHJ.
6. CONSULTANT shall provide a professional land surveyor licensed in the State of California to field-locate the actual horizontal and vertical location of the constructed potholes. Survey controls shall be set and coordinated with the survey controls used on previous construction drawings. City and County control points shall be checked; northing, easting and elevation data for each pothole shall be shown on the drawings; and physical tie-ins provided in order to easily re-establish pothole locations after construction. CONSULTANT shall supply and supervise survey work and Subcontractors needed to perform the pothole work. Survey datum differences shall also be reconciled.
7. The results of potholing and geophysical efforts shall be summarized in a field findings report.
8. CONSULTANT shall backfill and repair potholes consistent with the requirements of the local AHJ, including restoration requirements in moratorium areas. If CONSULTANT is unable to determine local AHJ requirements prior to the Proposal, CONSULTANT shall assume the following requirements:

- a. The materials removed from the excavation may not be used for backfilling, unless approved by the local AHJ. If approved, excavated material used to fill potholes shall be placed with a maximum lift thickness of 4 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 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, 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 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.
- c. AC pavement shall be replaced to full depth or the structural section (AC & Base) plus 2 inches with hot mix asphalt unless otherwise required by the City of Tustin, the City of Orange, and the County of Orange. Cold mix shall only be allowed when the patch will be replaced by the project and where approved by the City of Tustin, the City of Orange, and the County of Orange.
- d. Concrete pavement shall be replaced to full depth plus 2 inches with Portland cement unless otherwise required by the City of Tustin, the City of Orange, and the County of Orange.

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 a minimum of 50 potholes during preliminary design and 20 potholes during final design. Assume 10 of potholes to be a depth of 20 feet or deeper.
- 2. CONSULTANT's Fee Proposal shall include cost for pavement restoration in accordance with the AHJ's requirements, including locations where street moratoriums exist. Provide restoration to the extent required by the AHJ.

J. Depiction of Utilities and Potholes on Plans

- 1. All utilities encountered during the preliminary design shall be shown on the plans. Each subsurface utility shown on the drawings shall include the quality level to which it was investigated as required by CI/ASCE 38-22. Pothole locations shall be shown on the 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.

2.3.8 PUBLIC RELATIONS

- A. The CONSULTANT shall either self-perform or secure the services of a Public Outreach Subconsultant to conduct all public outreach activities required during preliminary and design phases. The services are currently anticipated to be required during the construction phase.
- B. The CONSULTANT or Public Outreach Subconsultant shall share with the public the general scope of the project during design, construction impacts for design and construction activities and the project's progress. The CONSULTANT or Public Outreach Subconsultant will possess a

full range of professional public outreach skills, and an understanding of the issues, audiences and technical process required to inform the community of the activities required for the project.

C. The primary goal of the public outreach effort is to inform motorists, merchants, employers, hospitals, local residents, schools, and elected officials about the project need, construction impacts during design phase, and steps that can be taken to minimize those impacts.

D. The CONSULTANT shall assist OC SAN by providing public information proactively through written and electronic media sources and providing quick responses and resolutions to community concerns to keep the project/program moving forward. The public outreach program is an effective tool for building partnerships and reaching affected audiences during and in preparation for construction documents.

1. Assumes OC SAN will provide logo/brand application and template for project activities for use by CONSULTANT.

E. The CONSULTANT shall coordinate all public outreach work with cities, agencies and the public with OC SAN's Public Affairs Office.

1. Assumes CONSULTANT will research and develop an Outreach Plan for implementation during design and construction of the project. The plan is to include a comprehensive stakeholder database, a detailed description of the work, a Public Impacts Memo and supporting table indicating how potential issues will be mitigated during construction, a clear and detailed timeline, key messages, media relations, crisis communication component, and miscellaneous information pertinent to the project and outreach effort.

2. Community engagement meetings may be required based on project development findings.

F. The team selected will be required to attend and participate in technical team meetings as appropriate, and participate in the following, but not be limited to:

1. Identify stakeholders including, but not limited to cities, agencies, residents, businesses, schools, etc.
2. Develop project announcement and updates (written announcement and map). Scope includes:
 - a. Coordinate with OC San on project look, logo and design templates and build upon design
 - b. Create project map and fact sheet and update (up to 1 each)
 - c. Develop collateral materials to be distributed by OC San (i.e., bulletin, alerts) (up to 2)
 - d. Develop and review of documents and maps for mailings (up to 3)
3. Development and review of documents and maps for mass mailings of letters and notifications
4. Coordinate neighborhood meetings, send invitations, attend, facilitate, summarize meetings, and follow up. Four neighborhood community engagement meetings are included.
5. Inform the public prior to the start of construction to minimize surprises that may become the sources of complaints. Included in program messaging, outreach materials, community meetings, stakeholder outreach, one-on-one visits and canvassing.
6. Inform and remind the public of the long-term benefits of the project. Included in program messaging, outreach materials, community meetings, stakeholder outreach, one-on-one visits and canvassing.

7. Reassure the public that neighborhood impacts, which are a high priority of OC SAN, have been thoroughly assessed and mitigation. Included in program messaging, outreach materials, community meetings, stakeholder outreach, one-on-one visits and canvassing.
8. Help the impacted public feel involved and part of the process. Included in program messaging, outreach materials, community meetings, stakeholder outreach, one-on-one visits and canvassing.
9. Demonstrate concern and good faith by responding quickly and earnestly to address issues and provide reasonable solutions to concerns or complaints. Scope includes responding to any concerns or complaints relayed to design team.
10. Attend workshops to discuss design alternatives to minimize public impacts. Scope includes attending technical meetings, workshops on design alternatives to provide input & minimize public impacts.
11. Build on the existing OC SAN logo to establish project/program identification.
12. Identify outreach outlets/tools – local newspapers, city newsletters, community newsletters, homeowners’ associations, business groups, social media, etc.
13. Develop a public outreach plan to be implemented during design and construction. Plan shall include a Public Impacts Table to evaluate potential impacts to the public, and recommend mitigation measures to be implemented during design and construction phases, not limited to the following:
 - a. Identify project stakeholders – Provide contact information.
 - b. Identify audience (church, commuters, residence, etc.) and number of people impacted.
 - c. Identify activities to be performed during design phase, estimated duration, and anticipated public impacts.
 - d. Identify activities to be performed during construction phase, estimated duration and anticipated public impacts.
 - e. Review and provide analysis of available mitigation measures to reduce, control or eliminate impacts identified.
 - f. Develop list of anticipated work restrictions imposed by affected cities, agencies, and other stakeholders.
 - g. Identify special events in the area, day, and duration during design and construction.
 - h. Identify schedule and scope of current, ongoing, and future construction projects of other cities and agencies within project area.
 - i. Recommend measures to be implemented during design and construction activities.
 - j. Identify work by other agencies in same area during the same timeframe for design and construction activities.
 - k. Rate public impacts (high, medium, and low)
14. Develop Public Impacts Table to support development of alternative alignment evaluation during Phase 2 Preliminary Design. Upon confirmation of recommended alignment and project moving into Phase 3 Final Design, develop a Public Impacts Memorandum with updated Public Impacts Table.
15. Update and maintain public impact documents through the preliminary design and design phases.

G. Stakeholders that will require early coordination include:

1. City of Tustin

2. City of Orange
3. County of Orange
4. Caltrans
5. East Orange County Water District
6. Guin Foss Elementary School
7. El Modena Park
8. El Modena High School
9. The Church of Jesus Christ of Latter-Day Saints
10. Various affected businesses

H. Stakeholder outreach and community liaison outreach: Stakeholder outreach and community liaison and issues management activities will be a critical component to the outreach program. Scope includes outreach with individuals to secure access for field investigations and to obtain property-owner feedback for inclusion in the design contract documents. Four critical areas along the project alignment will require, though not limited to, notifications, on-site visits, phone calls, and maintaining an outreach log. Extensive coordination and input from nearby sensitive receptors (schools, etc) will also be necessary, along with extensive businesses and residents along the alignment and public right of way who will be impacted by the project. Community Liaison and Issues Management scope and budget includes the following:

1. Provide information and coordination with residents/businesses/stakeholders
2. Provide outreach coordination and support for field investigation, Geotech, and ROW issues
3. Attend technical mtgs., workshops on design alternatives to provide input & minimize public impacts (up to 10)
4. Coordinate & attend one-on-one meetings with impacted property owners (up to 20)
5. Community canvassing to create awareness, identify issues (up to 2 full days)
6. Determine information of interest to the public and recommended outreach approaches
7. Handle questions/issues/concerns with project team for successful resolution
8. General correspondence with project team, OC San staff
9. Attend kick off, progress & other team mtgs. As necessary (up to 10)
10. Hotline is not included and not anticipated during PDR or design Phase.

2.3.9 SPECIALTY SERVICE

A. Pavement Condition Assessment Study

1. Pavement Requirements:
 - a. Determine the existing type of pavement and construction methods (i.e. rubberized vs. standard; pavement filter fabric).
 - b. Contact local agency(s) regarding future paving projects and document all moratorium areas and duration.
 - c. Provide theoretical deterioration rate for existing type of roadway construction
 - (1) Start of construction
 - (2) End of construction

- d. Perform visual assessment of the pavement condition for area within project limits (curb to curb) and any potential long-term detours
- e. Determine existing pavement condition indices (PCIs) of representative sections
- f. Define and quantify 'low PCI areas'
- g. Provide findings and documentation in a write-up with the following suggested outline:
 - (1) Introduction and purpose of the pavement evaluation
 - (2) Background and assumptions
 - (3) Methods:
 - PCI calculation method
 - Field work approach
 - Review GDR (soil borings)
 - (4) Procedures
 - Field work execution
 - Data sheets, field photos, field notes, etc. included in appendices
 - (5) Summary of Findings
 - Map with stationing showing the section PCIs and any 'low PCI areas'
 - Map proposed pavement restoration areas as result of the project
 - Map areas not impacted by construction
 - (6) Develop memorandum to the local agency(s) to document current asphalt conditions

B. Right of Way and Real Estate

1. CONSULTANT shall either self-perform or secure the services of a qualified Right-of-Way and Real Estate firm to prepare all required exhibits and legal descriptions, draft notices and letters, and provide agendas and meeting minutes needed for this work. The CONSULTANT shall be working and provide service to the requests from the OC SAN in-house real estate staff. Previous experience working with public agencies on similar projects is required.
2. CONSULTANT shall identify all property owners and tenants within the work area.
3. CONSULTANT shall determine access, easement, and laydown areas on private property.
4. The CONSULTANT or Right of Way and Real Estate firm shall lead coordination between OC SAN, property owners and tenants and aid in negotiating temporary and/or permanent agreements required for project implementation.
5. The CONSULTANT or Right of Way and Real Estate firm shall have a real estate appraiser with a Certified General License in the state of California to appraise the value of property within easements that OC SAN may require for temporary construction access and permanent access to manholes.

C. Flow Monitoring

1. CONSULTANT shall perform flow monitoring for bypass purposes, assuming 10 locations. The flow measurements (5-minute intervals) shall be made continuously during the wet season from November 1st to March 31st and shall capture at least two weeks during dry weather conditions and at least two weeks during dry weather with modified diversion settings. CONSULTANT shall be responsible for all aspects required for accurate flow

monitoring including but not limited to permits, confined space entry, manhole repairs if liner is damaged or penetrated, traffic plans and control (to set and retrieve monitors), materials, labor, and equipment. CONSULTANT may also choose to retain and pay for a flow monitoring company to perform such services. Assume each flow monitor will need to be removed and re-installed two times to facilitate cleaning.

- a. One electronic PDF copy of the report and one printed copy delivered to OC SAN.
- b. The manhole ID number, location address, cross street, or asset number, as appropriate.
- c. The site location indicating the map page and grid number.
- d. Maps showing the manholes being monitored.
- e. The measured diameter of the pipe, pipe shape, pipe condition, manhole depth, manhole material, and flow direction.
- f. Plan view diagram of the manhole indicating which inlet pipe the monitor is installed.
- g. The date and time of the flow monitoring for the duration of flow monitoring.
- h. The recorded daily maximum, minimum, and average for each of the following: flow (gpm and mgd), velocity (fps), and water depth (inches).
- i. All data for each manhole shall be presented in both tabulated and graphical formats.

2.3.10 ENVIRONMENTAL DOCUMENTATION

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

B. CEQA Documentation Support

1. OC SAN expects that a Mitigated Negative Declaration (MND) or an addendum to the 2020 Programmatic Environmental Impact Report (PEIR) will be required for this project. The CONSULTANT shall be responsible for preparing the MND or addendum. OC SAN does not anticipate that the addendum will identify significant impacts or impacts requiring mitigation.

C. Review of Existing CEQA Documentation

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

a. CEQA 2020 Programmatic Environmental Impact Report for 2017 Facilities Master Plan

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

D. Prepare Initial Study (IS) and appropriate CEQA Compliance Document

1. Assume that the IS will conclude that an MND or an addendum to the PEIR will be the appropriate CEQA compliance document.

2. Task Initiation and Initial Study Development - Review project details provided by OC SAN and determine if additional information is needed to support the CEQA analysis. CONSULTANT shall prepare a schedule for the CEQA work and submit data requests if additional information is needed. CONSULTANT shall prepare an IS pursuant to CEQA Guidelines, Section 15063, to evaluate potential impacts of the proposed projects. The IS shall include a project description that will describe the proposed project and objectives. CONSULTANT shall complete the CEQA checklist and provide a brief discussion for each resource area identified in the checklist to adequately explain impact significance

conclusions. Following preparation of the IS, a recommendation must be made on the type of CEQA document that is required for the proposed project.

3. Assembly Bill-52 Tribal Consultation - Prepare one draft and one final Assembly Bill (AB-52) consultation letter, to be submitted to OC SAN for distribution to the Native American Tribes who have requested consultation under AB 52. OC SAN will finalize the letter and send it to the Tribes and manage the resultant consultation. CONSULTANT and/or their Subconsultant(s) will support OC SAN during the consultation process. OC SAN will provide the tribal consultation information to the CONSULTANT who will include a summary of the conducted Native American consultation in the MND document.

a. Assume one hour meeting to participate with OC SAN in one tribal consultation conference call.

E. Initiate MND Document Development – CONSULTANT and/or their Subconsultant(s) will draft the MND document based on the IS and utilize the 2020 Program EIR as applicable. The MND document will include:

1. Project Description
2. Project Location
3. Identification of project proponent
4. Proposed finding of no significant effect
5. Mitigation measures included in the project description to avoid significant effects

F. Preparation of Notice of Intent to adopt a MND – CONSULTANT will prepare a Notice of Intent to Adopt a MND, post notices in local newspapers and the County Clerk, and conduct electronic and or mailings as required to the State Clearinghouse, responsible and trustee agencies, owners, and occupants of contiguous property (radius of 500 feet), and persons requesting notice. All documents must be reviewed and approved by OC SAN before posting or distribution.

1. CONSULTANT will also assist OC SAN in coordinating one public hearing.
2. CONSULTANT will prepare presentation materials, agenda and conduct a presentation
3. CONSULTANT will require OC SAN approval for the proposed presenter.
4. CONSULTANT will provide draft presentation to OC SAN three weeks prior to public meeting.
5. CONSULTANT will document all comments received during the public meeting.
6. CONSULTANT will provide OC SAN with the following:
 - a. One electronic public review ready Draft MND submitted to OC SAN for distribution approval.
 - b. Production of up to five paper copies and up to 15 CDs and distribution of the material to stakeholders and residents surrounding the project site if requested.

G. Evaluate Comments and Prepare Responses – CONSULTANT will review the verbal comments received at the public meeting as well as all written comments received from regulatory/responsible agencies and members of the public. Those comments raising significant questions regarding the accuracy and/or adequacy of the document will be identified, and responses will be prepared. Comments raising concerns outside the purview of CEQA will also be identified and rationales presented for findings. CONSULTANT will make all necessary revisions to the Draft MND. CONSULTANT and/or their Subconsultant(s) must provide OC SAN with one electronic draft version of responses to comments.

H. Prepare Final MND- CONSULTANT will provide a detailed review and evaluation of all the comments received during the public review period. CONSULTANT will prepare responses to

comments. The CONSULTANT will prepare the Final MND for review. After OC SAN has reviewed the Final MND document, CONSULTANT will incorporate the necessary revisions into the document and will mail a copy to each entity that commented. OC SAN must approve all documents prior to posting or distribution. CONSULTANT will provide OC SAN with one electronic draft version of Final MND, and two electronic copies and three paper copies of the Final MND.

1. Assume one conference call meeting with OC SAN to discuss responses to public comments and the draft Final MND.

I. Preparation of Mitigation Monitoring and Reporting Program and Notice of Determination – in compliance with Public Resources Code Section 21081.6, CONSULTANT will prepare a draft Mitigation Monitoring and Reporting Program (MMRP) for review by OC SAN. The MMRP describes the required mitigation necessary to avoid or reduce significant impacts, the responsible parties, tasks, and schedule necessary for monitoring mitigation compliance. The MMRP will be used for incorporation into the adoption of the document. CONSULTANT will prepare a draft Notice of Determination (NOD) and submit to OC SAN for review. CONSULTANT will incorporate OC SAN comments and file Final NOD with State Clearinghouse and the County.

1. CONSULTANT to review the PEIR/MMRP to determine applicable sections that can be used in the development of the MMRP for the MND.

2. CONSULTANT will provide OC SAN with one draft version of MMRP and one Final MMRP.

3. Assume one 4-hour meeting with OC SAN staff and management to present and discuss the program.

J. The CONSULTANT shall develop a checklist of all applicable construction phase and post-construction phase monitoring and reporting requirements.

K. See **Exhibit 13 - Sample MMRP Log** .

L. CONSULTANT shall also provide OC SAN a list of special equipment, specialty inspector qualifications, or sampling or testing firms that may be needed by OC SAN for enforcement of the MMRL during construction. This information shall be included in narrative form attached to the MMRL.

M. CONSULTANT shall attend three OC SAN meetings to discuss the environmental documentation and one public meeting(s) to assist OC SAN in presenting the project to the community. Public meetings may occur after normal business hours.

2.3.11 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 particular permit. The CONSULTANT shall allocate the budgeted hours between the Environmental Documentation services in Phase 2 and Phase 3 based on when these services will be required.

B. For all applicable Project Elements of this SOW, 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. With the exception of Contractor-furnished permits, OC SAN staff will execute all applications. All permit fees will be paid directly by 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. Traffic Control

Traffic control concept drawings for key areas will be submitted to the agencies for preliminary review and feedback. Coordination is anticipated with Caltrans, County of Orange, City of Orange, and City of Tustin to identify requirements and constraints.

G. Caltrans Encroachment Permit

1. The CONSULTANT shall assume three meetings at two hours each.

H. City / County Encroachment Permits

1. City of Tustin
2. City of Orange
3. County of Orange
4. East Orange County Water District
5. The CONSULTANT shall assume 15 meetings at two hours each.

I. Design Phase Stormwater Pollution Prevention Plan (SWPPP)

1. CONSULTANT shall determine the required stormwater permit.

J. Stormwater Permitting

1. 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 EPA's online Rainfall Erosivity Factor Calculator for Small Construction Sites.
2. CONSULTANT shall prepare the specification for stormwater using OC SAN's respective Master Specifications section as a starting point. CONSULTANT shall not begin work on editing the section until OC SAN has approved the CONSULTANT's preliminary risk level and project type.
3. 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 OC SAN's Environmental Compliance Division through OC SAN's PM and edit SWPPP specifications accordingly.

2.3.12 PROJECT SAFETY REVIEW

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

B. Moderator

1. CONSULTANT will moderate the project safety meetings to review content contained in **Exhibit 11 – Project Safety Check List** and **Exhibit 12 – Full Project Safety Review Plan**.

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 03 - Project Management Requirements** with the project specific options identified below.

B. Progress Reporting

Earned Value Curve and Budget Status Graph

Milestone-Based Tracking

C. Project Management Plan (PMP):

Not required

Required

PMP approval prior to beginning technical work on the project.

D. Project Logs

Meeting Log

Project Decision Log

Action Item Log

Decision Issues Log

Risk Management Log

E. Work Breakdown Structure (WBS)

1. The WBS shall serve as the unified framework for organizing and reporting project work. It will be jointly developed by OC SAN and the CONSULTANT and used for invoicing, monthly progress reporting, scheduling, and earned value management.

2. By establishing this structure collaboratively, OC SAN and the CONSULTANT ensure that all reporting and tracking activities are consistent, comparable, and based on a shared understanding of the project work.

2.3.14 RISK MANAGEMENT

A. CONSULTANT shall provide risk management in accordance with **Exhibit 04 – Risk Management Requirements**.

2.3.15 QUALITY CONTROL

A. The CONSULTANT shall provide quality control requirements in accordance with **Exhibit 06 - Quality Control**

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 05 - Workshop and Meeting Requirements**.

2.4.2 PDR PRODUCTION WORKSHOPS

A. Predesign Kickoff Workshop

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

B. PDR Production Workshops shall be held during Preliminary Design to review project progress during PDR Production. The subjects to be covered in each workshop are discussed below. Each workshop shall be two hours in length.

C. PDR Production Workshops shall be held 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 two hours in length.

PDR PRODUCTION WORKSHOPS	
TOPIC	NUMBER OF WORKSHOPS
PDR Production Kickoff	1
Collection Rehabilitation Alternatives	1
Manhole, Replacement, Rehabilitation, Abandonment Alternatives	2
Design Parameters	1
Permit Requirements (including Stormwater Requirements)	1
Geotechnical	1
Design Safety Requirements and Hazardous Materials	1
Public Impacts, Traffic Control, and Odor Monitoring and Mitigation	2
Utility Investigations	1
New Access Road Design Alternatives	1
Implementation Plan and Sequencing Constraints	2

2.4.3 DESIGN MEMO WORKSHOPS

A. CONSULTANT shall hold workshops to present and review the design memos as required in **Exhibit 05 - Workshop and Meeting Requirements**.

2.4.4 PDR REVIEW WORKSHOPS

A. CONSULTANT shall hold the following workshops to review the draft Preliminary Design Report as required in **Exhibit 05 - Workshop and Meeting Requirements**:

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

2.4.5 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 the 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 the Implementation Plan Design Memo and the Bid Documents.

2.4.6 TECHNICAL PROGRESS MEETINGS

A. Technical Progress Meetings shall be held every four weeks to review various issues with OC SAN's project team. A total of 18 meetings shall be held during the Preliminary Design Phase. The CONSULTANT shall coordinate with OC SAN's PM to determine what topics will be covered in what meetings, and what OC SAN and CONSULTANT team members are required for each.

2.4.7 FOCUSED MEETINGS

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

1. Site Survey
2. Site Utility Coordination
3. Access Improvement Demolition / Retaining Wall Design / Security Measures (Fence/Gates)
4. Access Road Alternatives
5. Traffic Control
6. Public Outreach
7. Temporary Bypass (several meetings as needed)
8. Geotechnical Data Report / Geotechnical Baseline Report
9. Cost Estimate Requirements (to include OC SAN's Estimator)
10. Permits
11. OC SAN Contractor Safety Standards and other safety requirements
12. City Requirements
13. Landscaping Plan
14. Survey and Geotechnical Requirements
15. Potholing
16. Hazardous Area classification (with OC SAN Authority Having Jurisdiction representative participating)
17. Utilities and Utility Tie-ins
18. Construction Sequencing

- 19. Special Studies
- 20. Coordination with other projects
- 21. Additional Meetings, as necessary. Five additional meetings assumed.

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, with prior approval of OC SAN's PM.

2.4.8 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
City of Tustin	Street Improvement Projects	2 meetings @ 2 hours
City of Orange	Street Improvement Projects & Sewer Improvement Projects	2 meetings @ 2 hours
County of Orange	Street Improvement Projects	2 meetings @ 2 hours
East Orange County Water District	Sewer Improvement Projects	2 meetings @ 2 hours

2.4.9 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. PHASE 3 – DESIGN

3.0 BID DOCUMENTS

3.0.1 GENERAL

A. CONSULTANT shall provide engineering services to prepare biddable plans, specifications, and other Bid Documents as required based on the design concepts and criteria developed during Phase 2 – Preliminary Design. In this SOW, 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 Engineering 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 1, 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 (GR)

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)
- Seismic Design Criteria (for those restraints, supports, etc. to be designed by the Contractor)
- Shipping, Storage, and Handling
- Project Control Management System (PMWeb construction management software)
- Equipment Service Manuals
- Equipment and Instrument Database (EID)
- Commissioning
- Training of OC SAN Personnel
- Hazardous Materials Mitigation and Controls
- Mold Remediation and Controls
- Contractor and Engineer's Field Office

3.0.4 DESIGN SUBMITTALS

A. The CONSULTANT shall produce the following design submittals as indicated below in accordance with **Exhibit 02 - 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 Plans and Specifications
- Design Submittal Requirements Matrix (**Exhibit 7 – Design Submittal Requirements Matrix**)

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.

3.0.5 CONSTRUCTION SUBMITTAL ITEMS LIST

CONSULTANT shall develop the Construction Submittal Items List in accordance with **Exhibit 02 - Design Requirements**.

3.0.6 TEMPORARY FACILITIES DURING CONTRUCTION

A. 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. 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.

B. If existing facilities such as valves, gates, stop logs, etc. are being used for shutdowns or diversions, include a plan for testing those facilities during Phase 3 – Design to verify that they will function adequately for the purpose. If testing cannot be performed, CONSULTANT shall identify the risks associated with using the facility for bypassing, along with contingency plans and mitigation measures to be implemented if they are found not function adequately during construction.

3.1 DESIGN SUPPORT DOCUMENTATION

3.1.1 DESIGN SUBMITTAL SUPPORT DOCUMENTATION

A. The CONSULTANT shall provide a Design Submittal Support Documentation in accordance **Exhibit 02 - 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. CEQA and Regulatory Compliance Matrix. This matrix shall list each applicable CEQA mitigation requirement and all known permit requirements with the corresponding description of how each requirement is to be satisfied. Measures to satisfy requirements might be in the GRs, Additional GRs, particular specification requirements, or actions taken separately from the construction contract.
 - d. Calculations
 - e. Draft or final Geotechnical Reports not submitted in the previous submittal and those revised since the previous submittal.
 - f. Proposed list of suppliers to be named in the specifications for major equipment
 - g. Draft or final Fire Protection Reports not submitted in the previous submittal and those revised since the previous submittal.
 - h. Draft or final Field Findings Reports not submitted in the previous submittal and those revised since the previous submittal.
 - i. Equipment data sheets
 - j. Equipment catalog cuts and vendor quotations.
 - k. Commissioning Package List: The Preliminary Commissioning Package List, first developed in the PDR Production Phase, shall be updated in each design submittal and used as a starting point to develop the list of commissioning procedures.
 - l. 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 Design Documentation

- Electrical design documentation is not required.
- Updated Electrical Load Criticality Table
- Electrical Analysis Report
- Load list for all equipment
- Equipment sizing from manufacturers for motor control centers, switchgear, and transformers
- Lighting calculations
- Standby generator sizing calculations
- Duct bank cable pulling tension, derating and cable tray fill calculations

E. Power System Studies

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

3.1.2 CONSTRUCTION COST ESTIMATE

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

- Design Submittal 1
- Design Submittal 2
- Design Submittal 3
- Final Design Submittal
- IFB
- Post-Bid Evaluation

3.1.3 CONSTRUCTION SCHEDULE

A. The CONSULTANT shall provide a Preliminary Construction Schedule for the associated design submittal indicated below in accordance with **Exhibit 02 - 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 02 - 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 GEOTECHNICAL BASELINE REPORT

1. CONSULTANT shall prepare a Geotechnical Baseline Report (GBR). The GBR shall be prepared by the CONSULTANT, rather than by the Geotechnical Subconsultant that prepared the Geotechnical Data Report.
2. The GBR shall conform to the most recent issue of the American Society of Civil Engineers (ASCE) "Geotechnical Baseline Reports of Underground Construction: Guidelines and Practices".
3. The GBR shall be site specific and shall include a narrative of all known soil conditions and subsurface expected constraints. The GBR shall establish quantitative thresholds and shall make specific recommendations to the Contractor regarding actions to be taken by the Contractor during construction, such as dewatering, removal of boulders by size, all other excavation and backfill stages, etc. Thresholds expressed as ranges of values will not be acceptable to OC SAN (i.e. 100-200 GPM, or 5-10 CY). All thresholds shall be expressed in the form of one number (i.e. 150 GPM, or 7 CY).
4. The GBR will be used during construction to enforce the differing site condition clause included in the construction Contract Agreement.
5. The draft GBR shall be submitted to OC SAN staff for review and comments along with the DS2 submittal package. The final GBR incorporating OC SAN comments shall be submitted with the DS3 submittal package.

3.2.4 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 the final design period and compare them with the 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 conducted in the project area. During the on-site inspection, a senior-level CONSULTANT representative shall walk the site accompanied by OC SAN's PE 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 drawings.

3.2.5 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 models 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 Cal/OSHA regulations.
 8. If needed, determine mitigation measures to meet Cal/OSHA requirements.

9. Prepare a written report on findings and recommendations.

3.2.6 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 right-of-way. The traffic control plans shall be approved by the AHJ by FDS. Additionally, the traffic control designer shall attend the City of Tustin, the City of Orange, the County of Orange, 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.

B. Scope includes up to 15 meetings.

C. Traffic signal design is not included and not anticipated. Traffic study/evaluation of traffic impact analysis or Transportation Management Plan is not included.

D. Traffic control concept plans will be prepared to identify types of lane closures, work area zones, work hours/workdays, adjacent land uses and anticipated work schedules due to schools/hospitals and other special events.

E. Traffic control concept drawings for key areas will be submitted to the agencies for preliminary review and feedback. Coordination is anticipated with each agency for reviews, addressing comments and requirements:

1. Caltrans
2. County of Orange
3. City of Orange
4. City of Tustin

3.2.7 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.

3.2.8 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.

3.2.9 ENVIRONMENTAL DOCUMENTATION

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

3.2.10 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.

3.2.11 PROJECT SAFETY REVIEW

A. CONSULTANT shall update **Exhibit 11 – Project Safety Check List** and **Exhibit 12 – Full Project Safety Review Plan** for review with OC SAN’s PM and Risk Management Division during Project Safety Review Plan Workshops

B. Project Safety Workshops:

- DS1 Project Safety Review Workshop:
- DS2 Project Safety Review Workshop: one hour (held during OC SAN’s review of DS2 at OC SAN)
- DS3 Project Safety Review Workshop: one hour (held during OC SAN’s review of DS3 at OC SAN)

C. Moderator shall be as specified for Phase 2 – Preliminary Design.

3.2.12 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.

3.2.13 RISK MANAGEMENT

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

3.2.14 QUALITY CONTROL

A. The CONSULTANT shall provide quality control requirements in accordance with **Exhibit 06 - Quality Control** .

- Independent Multi-Discipline Design Workshop is not required.
- Independent Multi-Discipline Design Workshop is required. (minimum duration of one day)

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 05 - Workshop and Meeting Requirements**.

3.3.2 DESIGN PHASE WORKSHOPS

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

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

B. The following 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 DS2 CONSTRUCTABILITY WORKSHOP

A. A constructability workshop shall be held two weeks after the DS2 submittal during the DS2 review period and shall 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.

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

C. Each constructability review participant shall receive a package at least two weeks in advance. The package shall include plans and specifications, general conditions, the critical path method (CPM) schedule, the construction cost estimate, permits, and other pertinent information. The confirmation statements regarding the size-critical equipment as required in EDG, Chapter 01, Design Guidelines – GR, Section 01.2.15.2 "Size-Critical Equipment" shall also be included in the review package.

D. The constructability review shall be held on-site.

E. Day 1 shall start with a site visit, for the reviewers to acquaint themselves with the site conditions. After the site visit, the CONSULTANT shall make a short presentation, followed by a question-and-answer period. This is anticipated to take about half a day. The second half of Day 1, Day 2, and the first half of Day 3 shall be individual workdays for the Constructability Review Team. The CONSULTANT shall not attend, although one designated individual from the CONSULTANT's Design Team shall remain to answer questions and gather additional information that the Constructability Review team might need.

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

G. 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 to make proper connections
9. User-friendliness and safety
10. Coordination with other projects
11. Public nuisance issues

12. Risk sharing
13. Construction sequencing and schedule, materials storage and work zone accessibility
14. Clarity of the scope of work, and interface activities
15. Impacts on existing operation
16. Access
17. Cost control
18. Partnering with Contractor
19. Other local conditions and constraints
20. OC SAN Constructability Review Checklist

H. 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.

I. 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 the CONSULTANT. The package shall be mailed to participants at least one week prior to the workshop.
2. Arrange for on-site location (OC SAN Headquarters) for Constructability Review Workshop.
3. Provide for a constructability review facilitator.
4. Prepare presentation on the project for the Constructability Review Team.
5. Meet with Constructability Review Team to receive comments.
6. Provide listing of constructability review comments and action taken on each comment. (The summary report of constructability review comments shall be prepared by the Constructability Review Team.)

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

3.3.4 DESIGN PHASE MEETINGS

A. Technical Progress Meetings

1. Technical Progress Meetings shall be held every four weeks for one hour to review various issues with OC SAN's project team. A total of 12 meetings for one hour shall be held during Design Phase. The CONSULTANT shall coordinate with OC SAN's PM 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 held throughout preliminary design to discuss specific issues in detail and generate comments and direction from OC SAN staff. The following tentative list of topics may be covered in these meetings:
 - a. Site Survey
 - b. Site Utility Coordination
 - c. Access Improvement Demolition / Retaining Wall Design / Security Measures (Fence/Gates)

- d. Access Road Alternatives
- e. Public Outreach
- f. Temporary Bypass (several meetings as needed)
- g. Geotechnical Report / Geotechnical Baseline Report
- h. Cost Estimate Requirements (to include OC SAN's Estimator)
- i. Permits
- j. OC SAN Contractor Safety Standards and other safety requirements
- k. City Requirements
- l. Landscaping Plan
- m. Survey and Geotechnical Requirements
- n. Potholing
- o. Hazardous Area Classification (with OC SAN Authority Having Jurisdiction representative participating)
- p. Utilities and Utility Tie-ins
- q. Construction Sequencing
- r. Special Studies
- s. Coordination with other projects
- t. Additional Meetings, as necessary

2. Each meeting shall generally be 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, with prior approval from OC SAN's PM.

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 CONSULTANT's PM and OC SAN's PM 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. Two 2-hour meetings

C. The CONSULTANT shall schedule each of the above COTMs and shall coordinate with OC SAN's PM 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
City of Tustin	Street Improvement Projects	2 meetings @ 2 hours
City of Orange	Street Improvement Projects	2 meetings @ 2 hours
County of Orange	Street Improvement Projects	2 meetings @ 2 hours
East Orange County Water District	Sewer Improvement Projects	2 meetings @ 2 hours

3.3.7 SAFETY AND RISK MEETING

A. CONSULTANT shall prepare and meet with OC SAN's PM and Risk Management personnel to review **Exhibit 11 Safety Check List** and **Exhibit 12 Full Project Safety Review Plan**.

B. CONSULTANT shall update **Exhibit 11 Safety Check List** and **Exhibit 12 Full Project Safety Review Plan** throughout the design phases. CONSULTANT shall provide OC SAN's Risk Management Division with the final copies of **Exhibit 11 Safety Check List** and **Exhibit 12 Full Project Safety Review Plan** at completion of the design project.

3.3.8 CONSTRUCTION SUBMITTAL ITEMS LIST MEETING

A. Meet with OC SAN between DS2 and DS3 to review the CONSULTANT's approach to developing the project Construction Submittal Items List using **Exhibit 18B – Master Construction Submittal Items List Attachment A** 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. Identify cost impacts associated with addenda changes.

3.4.2 BID EVALUATION ASSISTANCE

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

B. 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.

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

3.4.3 CONFORMED DOCUMENT PREPARATION

A. Within two weeks of the bid date, prepare conformed documents set (drawings, databases, specifications and other required materials) that incorporates the addenda. See EDG, Chapter 01, Design Guidelines – GR, Section 01.5 “Preparation of Project Deliverables” for requirements as modified in Section 8 of this SOW, “Project-Specific Deviations from OC SAN’s Engineering Design Guidelines” and the requirements of the CAD Manual).

4. PHASE 4 – CONSTRUCTION AND INSTALLATION SERVICES

Not in this SOW.

5. PHASE 5 – COMMISSIONING SERVICES

Not in this SOW.

6. PHASE 6 – CLOSE OUT

Not in this SOW.

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 the Contractor Safety Standards, EDG, any deviations from the EDG listed below, and other OC SAN’s Design Standards referenced therein. **Exhibit 16 - Spec Review using Microsoft Word and Teams**

Exhibit 17 - OC SAN Engineering Design Guidelines and Standards – Available online at https://www.ocsan.gov/document-center/?search-term&department=engineering&sub_department=design-guidelines&document_year=all is a complete set of the Contractor Safety Standards and OC SAN Design Standards, the latest edition at the time of the design proposal stage.

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

C. Refer also to Section “CONSULTANT’s Responsibilities” in the **EDG Chapter 01**. Refer to “Master Specifications Instructions for Use” that mandates rules and conventions to be used in all OC SAN project specifications.

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

E. The SOW also includes requirements that supplement and/or modify the EDG requirements for this project.

F. The SOW and EDG impact CONSULTANT’s project cost.

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

H. In addition, OC SAN will require the CONSULTANT to follow subsequent revisions of the Contractor Safety Standards, EDG 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 at no additional cost to OC SAN.

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

J. The CONSULTANT shall not begin editing the project specifications until the project team meets with OC SAN's PE 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 SOW. The CONSULTANT shall also refer to Appendix A of the EDG for the level of detail requirements for individual deliverables in each Phase of the project not covered in the SOW.

7.0.3 CONSTRUCTION SEQUENCING AND CONSTRAINTS

A. CONSULTANT shall develop with OC SAN's PM and PE 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 online 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 **EDG, 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 & Studio
8. Primavera P6 for scheduling
9. Database software as defined in the project SOW

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's Information Technology Division 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 Submission** 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 Geographic Information System (GIS) deliverables propagated from approved design submittals after the design submittal is accepted. These GIS submittals will not be reviewed or presented by CONSULTANT. The purpose is to provide project specific GIS layers that could be used to visualize interproject dependencies and conflicts.

1. Electronic Submittal
 - a. Kmz files for use with Google Earth
2. Final PDR
 - a. Single project boundary (Polygon)
 - (1) Boundary to encompass all new facilities and existing to be modified including:
 - Buildings\Structures
 - Tunnels
 - Utilities
 - Pavement
 - Street boundary (ROW to ROW) of possible alignment
 - b. Structures (Polygon)
 - New structure outline
 - Additions to existing structures
 - Structure label
3. DS1
 - a. Project boundary - *updated from PDR*
 - b. Structures - *updated from PDR*
 - c. Utilities (Polyline)
 - (1) Utility alignment
 - d. Manholes (Point)

- e. Excavation of pits (Polygon)
 - (1) Pits that will stay open for extended duration
 - (2) CIPP
 - (3) Tunnel - jacking and receiving
 - (4) All pits should be labeled
- 4. DS2, DS3, and FDS
 - a. Project boundary - updated from previous DS
 - b. Structures - updated from previous DS
 - c. Utilities - updated from previous DS
 - d. Manholes - updated from previous DS
 - e. Excavation of pits - updated from previous DS
 - f. Critical (as defined by DigAlert) utility crossings (Point)
 - (1) Crossing of DigAlert critical utilities
 - (2) Critical utility label
 - Natural gas
 - Fuel pipeline
 - 12 kV Electrical
 - g. Asphalt (Polygon)
 - (1) Asphalt to be replaced

8. STAFF ASSISTANCE

OC SAN staff member(s) or designee assigned to work with CONSULTANT on the design of this project is Scott Ahn at (714) 593-7219, email to: sahn@ocsan.gov and/or Warren Liu at (714) 593-7199, email to: wliu@ocsan.gov.

9. EXHIBITS

- Exhibit 01 - Preliminary Design Report Requirements**
- Exhibit 02 - Design Requirements**
- Exhibit 03 - Project Management Requirements**
- Exhibit 04 - Risk Management Requirements**
- Exhibit 05 - Workshop and Meeting Requirements**
- Exhibit 06 - Quality Control**
- Exhibit 07 - Design Submittal Requirements Matrix**
- Exhibit 08 - Project Schedule Calculation**
- Exhibit 09 - Deliverables Quantities**
- Exhibit 10a - Sample Construction Cost Estimate Format – Sample 1**

- Exhibit 10b - Sample Construction Cost Estimate Format – Sample 2-6**
- Exhibit 10c - Sample Construction Cost Estimate Format – Sample 7**
- Exhibit 11 – Project Safety Check List**
- Exhibit 12 – Full Project Safety Review Plan**
- Exhibit 13 - Sample MMRP Log**
- Exhibit 14 - Bluebeam Designer Training for Submission**
- Exhibit 15 - Bluebeam Designer User Training**
- Exhibit 16 - Spec Review using Microsoft Word and Teams**
- Exhibit 17 - OC SAN Engineering Design Guidelines and Standards – Available online at https://www.ocsan.gov/document-center/?search-term&department=engineering&sub_department=design-guidelines&document_year=all**
- Exhibit 18A – Project Control Management System - PMWeb**
- Exhibit 18B – Master Construction Submittal Items List Attachment A**
- Exhibit 19 – Project Elements Map & Record Drawings**
- Exhibit 20 - Field Investigation Photos**
- Exhibit 21 - Project Reference Material**
 - 21A - Collections Capacity Evaluation Study Final Report**
 - 21B - Pipeline CCTV Reports**
 - 21C - Manhole CCTV Reports**
 - 21D - Sewer Pipeline and Manhole Conditions**