

Casitas Municipal Water District
WATER RESOURCES COMMITTEE
Baggerly/Spandrio

July 1, 2020 – 2:00 P.M.

This meeting will be held via teleconference
To attend the meeting please call
(888) 788-0099 or (877) 853-5247
Enter Meeting ID 924 3789 4765#

Special Meeting Agenda

1. Roll Call
2. Public Comments
3. Board Comments.
4. Manager Comments.
5. Ventura-Santa Barbara County Intertie – State of California Drinking Water State Revolving Fund (DWSRF) Additional Supplement Appropriations for Disaster Relief Act (ASADRA).
6. Update and discussion of State Water Project Interconnection Project.

Right to be heard: Members of the public have a right to address the Board directly on any item of interest to the public which is within the subject matter jurisdiction of the Board. The request to be heard should be made immediately before the Board's consideration of the item. No action shall be taken on any item not appearing on the agenda unless the action is otherwise authorized by subdivision (b) of ¶54954.2 of the Government Code.

If you require special accommodations for attendance at or participation in this meeting, please notify our office in advance (805) 649-2251, ext. 113. (Govt. Code Sections 65954.1 and 54954.2(a). Please be advised that members of the Board of Directors of Casitas who are not members of this standing committee may attend the committee meeting referred to above only in the capacity of observers, and may not otherwise take part in the meeting. (Govt. Code Section 54952.2(c)(6)

**CASITAS MUNICIPAL WATER DISTRICT
MEMORANDUM**

TO: WATER RESOURCES COMMITTEE

FROM: MICHAEL FLOOD, GENERAL MANAGER

SUBJECT: VENTURA-SANTA BARBARA COUNTY INTERTIE – STATE OF CALIFORNIA DRINKING WATER STATE REVOLVING FUND (DWSRF) ADDITIONAL SUPPLEMENTAL APPROPRIATIONS FOR DISASTER RELIEF ACT (ASADRA)

DATE: JULY 1, 2020

RECOMMENDATION:

Recommend the Board adopt a Resolution authorizing the General Manager and Assistant General Manager to sign and file a Financial Assistance Application for a financing agreement from the State Water Resources Control Board for the planning, design, and construction of the Ventura-Santa Barbara County Intertie project.

BACKGROUND AND DISCUSSION:

The Ventura-Santa Barbara County Intertie project is included in the Draft Comprehensive Water Resources Plan as a recommended project for implementation in the next five years. Preliminary design was completed for the project. The State of California released the Drinking Water State Revolving Fund (DWSRF) Additional Supplemental Appropriations for Disaster Relief Act (ASADRA) Draft Intended Use Plan (State Fiscal Year 2020-21) with Supplemental Intended Use Plan in May 2020. The Plan includes a Fundable Project List which includes the Ventura–Santa Barbara County Intertie project.

A Resolution adopted by the Board of Directors is needed to apply for the funds. The initial application will be submitted for completion of design, compliance with California Environmental Quality Act (CEQA) and National Environmental Protection Act (NEPA), and easement acquisition. An initial estimate of approximately \$1,000,000 for these tasks is anticipated.

MEMORANDUM

TO: Water Resources Committee
From: Michael L. Flood, General Manager
RE: **Update and Discussion of the State Water Project Interconnection Project**
Date: June 29, 2020

RECOMMENDATION:

The Water Resources Committee provide this information to the Board of Directors for review and discussion.

BACKGROUND:

At the January 11, 2017 Regular Meeting of the Board of Directors, the Board approved Casitas' participation in the alignment study for the SWP Interconnection in an amount not-to-exceed \$200,000.00.

The participants in this project were Casitas MWD, the City of Ventura, United Water Conservation District, and Calleguas MWD.

The alignment study was completed in June of 2018 with the District's expenditure being approximately \$98,000.00

Calleguas MWD and the City of Ventura subsequently split the project into two sections with each participant owning their respective section.

The City certified the Environmental Impact Report on the project in August 2019.

The project partners along with the Metropolitan Water District of Southern California were sued by California Water Impact Network in September of 2019. All parties other than the City of Ventura were subsequently dismissed from the case.

The City of Ventura subsequently issued a request for proposals for the design of the City's section of the project which was awarded to Stantec Consulting Engineers in the amount of \$3,550,000.00. A copy of Ventura Water's staff report is attached.

DISCUSSION:

In 2016, Casitas identified the SWP Interconnect Project alignment study proposal as an opportunity for the District to better utilize its State Water Project Table A allocation of 5,000 AF.

While the study originally contemplated the possibility of a connection at Lake Castaic, subsequent research revealed that a connection could be achieved within Calleguas' current distribution system and require only a seven-mile pipeline to reach the City of Ventura's distribution system.

After the alignment study was completed, Casitas, Calleguas, United, and the City began discussions of an agreement to design, construct, operate, and maintain the proposed pipeline.

These discussions currently ongoing.

As currently envisioned, Calleguas would own the section of pipeline from their distribution system to roughly the Santa Clara River crossing and the City of Ventura would own the section of pipeline from the Santa Clara River (including the portion underneath the river) to the connection point on their distribution system.

Casitas staff has asked the project partners that the District be allowed to participate in the design and construction of the City of Ventura's section of the pipeline.

This would allow Casitas to have first-priority use of capacity of the project, allowing Casitas additional certainty in scheduling of deliveries into Casitas' distribution system.

This first-priority capacity is expected to be in ratio to Casitas' contribution to the design and construction, currently proposed to be 1/3rd of that cost.

Casitas' estimated share in the design and construction of this project is currently estimated to be \$10M.

The current design effort is expected to be complete in June 2022 with Casitas' proposed share of the cost over those two years to be approximately \$1.2M.

The District has budgeted \$500,000 for this project for fiscal 2021.

Other issues of the operation, maintenance, and repair of the project will also be addressed in the agreement.

The agreement with Calleguas, United, and the City of Ventura is expected to be completed soon and will then be brought forward to the Casitas Board of Directors for review and discussion.

AGENDA ITEM
8P

Date: April 29, 2020

Council Action Date: May 18, 2020

TO: Honorable Mayor and City Council

FROM: Alex D. McIntyre, City Manager
Susan Rungren, Ventura Water General Manager
Phillip L. Nelson, Public Works Director

SUBJECT: Professional Services Agreement for the State Water Interconnection Pipeline and Blending Station Projects

SUMMARY

In partnership with other agencies, the City is constructing a connection to the State Water Project. Stantec Consulting Services was selected to perform design services for the State Water Interconnection Pipeline and Blending Station Projects based on the City's qualification-based selection process.

RECOMMENDATION

- a. Approve and authorize the Mayor to execute an agreement with Stantec Consulting Services, Inc. for professional services associated with the design of the State Water Interconnection Pipeline and Blending Station Projects, for a period of 24 months, June 1, 2020 to June 30, 2022, for a not-to-exceed amount of \$3,550,000.
- b. Authorize the City Manager, or his designee, to execute amendments, if necessary, to extend the term of the agreement or modify the Schedule of Compensation in an amount not-to-exceed \$180,000 in order to accommodate the need for further analysis or additional scope if required, pursuant to San Buenaventura Municipal Code Section 4.600.200.

DISCUSSION/ANALYSIS

Prudent water management requires that the City develop a portfolio of water supply that is diverse and allows for drought and disaster relief. The City is one of the largest cities in California that relies exclusively on local water sources and is totally reliant on the climatic conditions of our area. The annual Comprehensive Water Resources Report shows that the gap between supply and demands continues to be narrow and the need to widen this gap is crucial to provide a stable and reliable water system to our community now and for future generations.

The City currently holds an entitlement of 10,000 acre-feet per year (AFY) from the State Water Project (SWP) but cannot currently take direct delivery due to a lack of infrastructure to deliver that water. In addition, Casitas Municipal Water District (Casitas) has an entitlement of 5,000 AFY, and United Water Conservation District (United) has an entitlement of 5,000 AFY. The City has sold all or a portion of the City's annual entitlement in the past and continues to explore options to beneficially utilize the City's entitlement and/ or monetize its use.

The nearest entity with a connection to SWP water is Calleguas Municipal Water District (Calleguas). The City, Casitas, and United are working with Calleguas to develop an interconnection which would allow for direct delivery of SWP water to the City and United, and direct or indirect (in-lieu) deliveries to Casitas. The interconnection would also allow the City to provide water to Calleguas during an emergency or imported water supply outage. These deliveries would be made under wheeling agreements with Metropolitan Water District of Southern California (MWD) and Calleguas. In 2017, the City, in partnership with Casitas, United, and Calleguas, entered into an agreement with Kennedy/Jenks Consultants to prepare a State Water Interconnection Alignment Study and environmental documents supporting the preferred alignment.

In June 2018, a State Water Interconnection Alignment Study was completed. That study determined the preferred path of travel for the State Water Interconnection. A map of the preferred alignment is included as Attachment A. An Environmental Impact Report was subsequently prepared and certified by City Council on August 5, 2019.

Based on preliminary agency agreement terms, the City is taking the lead in the design of the pipeline and facilities from the connection point to the City's system on Henderson Road to a connection point on Santa Clara Avenue, with Casitas paying for a third of the City's costs. Calleguas will be taking the lead in the design of the pipeline from Santa Clara Avenue to the connection point to their system at Springville Reservoir. Therefore, the scope of work for this Agreement is for the design of the pipeline and associated facilities from the connection point to the City's system in Henderson Road to the connection point to Calleguas' portion of the pipeline in Santa Clara Avenue.

The scope of work also includes design of a blending station that will condition and stabilize the water before introduction to the City’s distribution system. In addition, metering facilities and associated equipment will be constructed to transmit flow data to Calleguas and others. Calleguas will own, operate, and maintain the portions of the metering facility that involve delivery of water to the City and Casitas.

Stantec Consulting Services (Stantec) was selected to provide engineering design services based on the City’s qualification-based selection process for both the State Water Interconnection Pipeline and Blending Station projects. Request for proposals were sent out to seventeen consulting firms. Six firms submitted proposals and, following an evaluation process and interview, Stantec was selected as the most qualified firm for both projects.

Stantec is a professional engineering firm, with regional offices located in Santa Barbara, Thousand Oaks and Pasadena, specializing in providing water and wastewater design services. The Stantec design team includes three subconsultants, two that have offices located in Ventura.

The Professional Services Agreement being used for this agreement is a standard form, pre-approved by the City Attorney and accepted without change by the consultant.

FINANCIAL IMPACT

The total estimated project cost for the City’s portion of the Project (Henderson Road to Santa Clara Avenue) is \$30 million, which includes planning, design, easement acquisition, legal fees, permitting, and construction. It is anticipated that Casitas will be contributing 33% of costs associated with the City’s portion of the project. At this time, United is not planning on contributing financially to the design or construction of the Project. Agency agreements are currently being drafted to define the financial contributions from each agency.

REQUESTED ACTION (Contract with Stantec Consulting Services Inc.)						
FUND			DEPARTMENT	PROJECT	AMOUNT	AVAILABLE BUDGET
ESTIMATED COST:					\$ 3,550,000	
Water CIP (72)	Ventura Water	97949			\$2,998,420	Yes
Water CIP (72)	Ventura Water	97965			\$551,580	Yes
TOTAL					\$3,550,000	
COST OFFSET – Estimated Reimbursements (Casitas)					\$1,183,000	
TOTAL FUNDED					\$2,367,000	

The estimated cost of professional services is \$3,550,000 and the anticipated duration is 24 months. If further analysis or increased scope is needed, City staff will utilize the contingency funds of \$180,000 as referenced in recommendation b) above. Therefore, a total value of \$3,730,000 shall be encumbered against the assigned professional service agreement and purchase order.

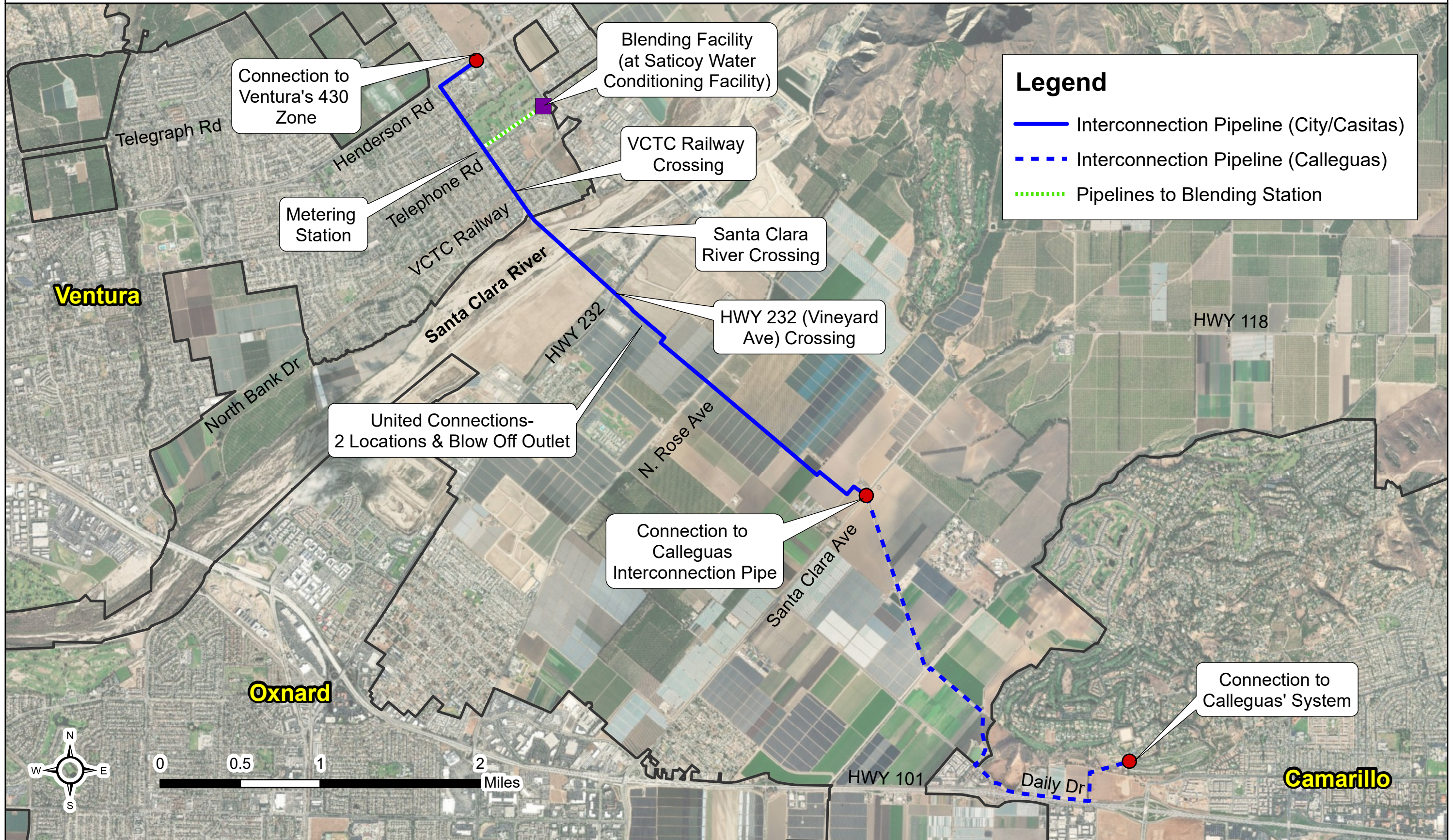
Current project appropriations in Project 97949 and 97965 are \$3,900,000 and \$1,360,000 respectively. The total amount spent to date for preliminary engineering and preparation of the environmental documents is approximately \$800,000 of which \$460,000 has been reimbursed by Calleguas, United and Casitas. Funding for this agreement is currently available in Water Capital Improvement Project Fund 72.

Prepared by: Betsy Cooper, Assistant General Manager, Water Resources

ATTACHMENT:

- A. Proposed Project Map
- B. Professional Services Agreement – Stantec Consulting Services, Inc.

Proposed Project Map



PROFESSIONAL SERVICES AGREEMENT

**Engineer – Architect – Design – Inspection – or Management Services
City of San Buenaventura and Stantec Consulting Services**

State Water Interconnection Pipeline and Blending Station Projects

This Agreement is made on the date last signed below by and between the City of San Buenaventura, a charter city and municipal corporation of the State of California (hereafter “City”) and Stantec Consulting Services, Inc., a California Corporation CONSULTANT/ENGINEER/ARCHITECT/FIRM (hereafter “FIRM”), individually referred to as “Party” and collectively as “Parties.”

By this Agreement, City agrees to engage the services of FIRM, and FIRM agrees to perform services for City hereinafter described, for the compensation, during the term, and otherwise subject to the covenants and conditions hereinafter set forth.

1. FIRM’s Services

(a) FIRM agrees to perform the tasks and services set forth in the “Scope of Services” attached to and incorporated into this Agreement as Exhibit “A” (hereinafter “the Project”).

(b) FIRM will perform tasks and services required by the Scope of Services in a professional manner and in accordance with the standards of FIRM’s profession. Except as otherwise specifically provided in this Agreement, FIRM will provide all of the administrative, professional, and other personnel necessary to perform such services, all supplies and materials, equipment, printing, vehicles, transportation, office space, and facilities required for the services, and all tests, test analyses, calculations, and all other means whatsoever to complete the services in the manner and within the time provided herein.

2. FIRM’s Familiarity with Required Services

(a) By executing this Agreement, FIRM agrees that FIRM has carefully investigated and considered the scope of services to be performed, carefully considered how the services should be performed, and understands the facilities, difficulties, and restrictions attending performance of the services under this Agreement.

(b) If FIRM’s services involve work upon any site, FIRM agrees that FIRM has or will investigate the site, and is or will be fully acquainted with the conditions existing at the site before commencing the services required by this Agreement. Should FIRM discover any latent or unknown conditions that may materially affect the performance of the services, FIRM will immediately inform the City Engineer of such fact, and will not

proceed except at FIRM's own risk until written instructions are received from the City Engineer.

3. Changes to FIRM's Services

The City Engineer may order changes in the services to be performed by FIRM pursuant to this Agreement, consisting either of additions, deletions, or other modifications to the services. All changes will be ordered by a written notice executed by the City Engineer. In addition to describing the changes to FIRM's services, the notice will set forth an extension of the term of this Agreement and/or the time to perform one or more Project tasks required by this Agreement if necessary to complete any additional or modified services, and will include any adjustment to the compensation to be paid to FIRM resulting from the changed services. Where the changes required by the notice result in adjustment in the amount of compensation to be paid to FIRM that increases the amount of such compensation in the manner authorized by Section 6(b) of this Agreement, the notice must be approved by the City Director of Public Works.

4. FIRM's Personnel

(a) FIRM's Project services will actually be performed by, or immediately supervised by, professional ENGINEER(s)/ARCHITECT(s) employed by FIRM and licensed to practice their profession by the State of California.

(b) Autumn Glaeser will be assigned as FIRM's Project Manager, and will be responsible for job performance, negotiations, contractual matters, and coordination with the City employee designated by the City Engineer to manage the Project on behalf of City.

(c) Christopher Mote will be assigned as FIRM's Project Engineer, will be personally in charge of and personally supervise or perform the technical execution of the Project on a day-to-day basis, and will maintain direct communication with the City employee designated to manage the Project on behalf of City.

FIRM will not change the professional engineer assigned as FIRM's Project Manager or Project Engineer without the prior written approval of the City Engineer.

5. Living Wage Requirements

FIRM understands and agrees that this Agreement is subject to the provisions of Chapter 2.525 of the San Buenaventura Municipal Code, entitled "Living Wages and Benefits for City Services," a copy of which has been provided to FIRM. By reason thereof, during the term of this Agreement, FIRM will pay and/or provide the wages and/or benefits required therein to all of its employees engaged in whole or in part in performing the services provided for by this Agreement. Moreover, FIRM will require any of its successors, assigns, and subcontractors who receive any compensation or

other emoluments arising out of the performance of the services provided for by this Agreement to similarly pay and/or provide such wages and/or benefits to all of their employees engaged in whole or in part in performing such services. In addition, FIRM and any of its successors, assigns, and sub-consultants who received any compensation or other emoluments arising out of the performance of the services provided for by this Agreement will post the "Notice to Employees" and provide the other information required by Section 2.525.170 of Chapter 2.525 at the time in the manner provided for by that section.

FIRM also understands and agrees that any violation of Chapter 2.525 of the San Buenaventura Municipal Code will be deemed to be a material breach of this Agreement entitling City to suspend or terminate this Agreement and/or impose the civil penalties provided for by Section 2.525.400 of Chapter 2.525.

By initialing this Section, FIRM agrees that it has been provided with and read a copy of Chapter 2.525 of the San Buenaventura Municipal Code as well as this Section, and that FIRM understands Chapter 2.525 and this Section.

FIRM's initials: _____

6. FIRM's Compensation

(a) As compensation for FIRM's services on the Project, City agrees to pay FIRM a sum not to exceed three million five hundred fifty thousand dollars (\$3,550,000). City will pay this sum to FIRM as work is completed based on the hourly rates and fees set forth in the "Compensation Schedule" attached to and incorporated into this Agreement as Exhibit "B."

(b) The City Director of Public Works may authorize additional compensation up to one hundred eighty thousand dollars (\$180,000) for any changes in the services to be performed by FIRM pursuant to this Agreement that are ordered by the City Engineer in the manner provided for by this Agreement.

(c) FIRM will bill City monthly for services on the Project. All bills or invoices for such services will list the hours worked and hourly rates for each personnel category, all reimbursable costs, the tasks performed, the percentage of the task completed during the billing period, the cumulative percentage completed for each task, the total cost of that work during the preceding billing month, and a cumulative cash flow curve showing projected and actual expenditures versus time to date.

(d) Notwithstanding anything to the contrary in this Section 6, the City will review the invoice by comparing the cumulative percentage completed on the project with the sum of the invoice. Total approved payment will not exceed the cumulative percentage completed. Invoiced amounts above the cumulative amount completed for

project milestones and deliverables as described in Exhibit "A" will not be paid until milestone and/or deliverables are achieved as specified in Exhibit "C."

(e) FIRM agrees to attach a completed IRS Form W-9 to this Agreement to facilitate tax reporting for payments made by City to FIRM pursuant to this Agreement.

(f) Payment by the City to FIRM shall be made within 45 days after receipt and approval of FIRM's invoice by a City check payable to FIRM.

7. Construction Bids in Excess of Estimates

In the event the Scope of Services requires FIRM to prepare and present the City with a final Estimate of Construction Cost and the estimate is more than 15% outside the range of the bids received, FIRM, at the City's request, shall perform all additional services, including redesigning of improvements if necessary, to bring construction costs within the aforementioned margin, all at no cost to the City. Any escalation of costs between the time of FIRM's final construction estimate and the date bids are opened, as determined by the Construction Cost Index last published in the Engineering News Record, shall be added to the final construction cost estimate in making such determination.

8. Independent Contractor

City and FIRM agree that FIRM will act as an independent contractor in performing the services required by this Agreement, and will have control of all work and the manner in which it is performed. FIRM will be free to contract for the performance of similar services for other employers while this Agreement remains in effect. FIRM is not an agent or employee of City, and is not entitled to participate in any pension plan, insurance, or other benefits City provides for its employees. Any provision in this Agreement that may appear to give City the right to direct FIRM as to the details of doing the work required by this Agreement or to exercise a measure of control over the work means that FIRM will follow the direction of City as to the end results of the work only.

9. Subcontracts and Other Assignments

(a) Except as otherwise authorized in this Section, FIRM shall not subcontract with any other person or firm to perform any part of the services required by this Agreement without the prior consent of the City Engineer. All such subcontracts or any other assignments of FIRM's obligations under this Agreement without the consent of the City Engineer will be null and void and of no effect whatsoever.

(b) FIRM is authorized to enter in subcontracts with the following persons or firms providing for the performance of a portion of the services required by this Agreement in consideration of the payment by FIRM to such subcontractor(s) of an amount not exceeding the maximum compensation set forth in the Compensation Schedule

attached to this Agreement as Exhibit “B,” based on the hourly rates, costs, and other fees to be charged by the subcontractor, also as set forth in Exhibit “B”:

HDR Engineering, Inc.
Bennett Trenchless Engineers
Fugro Geoservices, Inc.
T2 Utility Engineers
Werner Biological Consulting

10. Permits and Licenses

FIRM, at its sole expense, will obtain and maintain during the term of this Agreement, all necessary permits, licenses, and certificates that may be required in connection with the performance of services under this Agreement.

11. Term of Agreement

The term of this Agreement will be from June 1, 2020 (“Effective Date”), to June 30, 2022, unless the term of this Agreement is extended or the Agreement is terminated in the manner provided herein.

12. Agreement Extensions

FIRM agrees to perform the services provided for in this Agreement in accordance with the Time Schedule attached to and incorporated into this Agreement as Exhibit “C.” Such Time Schedule will include tasks and subtasks contained in the Scope of Services and the amount of time needed to complete each such task and subtask in at least weekly intervals. In addition, the Time Schedule will allow a minimum of three full weeks for City review of submittals and draft documents.

FIRM’s failure to achieve a timeline contained in the Time Schedule will be grounds for declaring FIRM in breach of this Agreement. Moreover, the failure of FIRM to meet the City’s sole discretion milestones contained in the Time Schedule may result in the withholding of payment for such tasks or subtasks until such time as the tasks or subtasks have been completed.

Should FIRM be delayed in performing the services required by this Agreement by causes beyond FIRM’s control, the City Engineer, by written amendment to this Agreement pursuant to Section 26 herein, may extend the term of this Agreement, and/or the time to perform one or more Project tasks for a period of time sufficient to complete the services. If delay occurs, FIRM must provide the City Engineer with notice of the delay within 48 hours of the time FIRM, or the agents or employees of FIRM first become aware of the facts giving rise to the delay. Such notice shall be in writing and set forth cause of the delay, the extent of the delay, and how the delay interferes with completion of the Project within the time required by this Agreement.

13. Agreement Termination

(a) City may terminate this Agreement at any time, with or without cause, upon giving FIRM a written notice of termination. Such termination will become effective immediately upon FIRM's receipt of the notice, or such other date as specified in the notice.

(b) FIRM may also terminate this Agreement, but only with City's prior consent or by reason of a material breach by City in the performance of any duty or obligation of this Agreement, after giving City notice of the breach in the manner hereinafter required by this Agreement. Should FIRM seek City's consent to terminate this Agreement, FIRM will provide City with a written notice of intent to terminate the Agreement at least thirty (30) days before the termination is to become effective.

(c) Should termination occur, all finished or unfinished documents, data, studies, surveys, drawings, maps, reports, and other materials prepared by FIRM will, at City's option, become City's property, and FIRM will receive compensation for any work satisfactorily completed up to the effective date of notice of termination, not to exceed the total compensation provided for under Section 6 of this Agreement.

(d) Should this Agreement be terminated pursuant to this Section, City may procure services similar to those terminated from other service providers.

(e) By executing this document, FIRM waives any and all claims for damages that might otherwise arise from City's termination under this Section.

14. Commencement of Performance

(a) FIRM will not commence or perform any work under this Agreement until:

- (i) FIRM furnishes proof of insurance as required under Section 20 of this Agreement; and,
- (ii) The City Engineer gives FIRM a written notice to proceed.

(b) Should FIRM begin work on any phase in advance of receiving written authorization to proceed, any such professional services are at FIRM's own risk.

15. Notice of Breach and Opportunity to Cure

Neither Party will be deemed to be in breach of this Agreement based on a breach that is capable of being cured until it has received written notice of the breach from the other Party. The Party charged with breach will have fifteen (15) days from the date of receiving such notice in which to cure the breach or otherwise respond. If the

circumstances leading to the charge that the Agreement was breached have not been cured or explained to the satisfaction of the other Party within fifteen (15) days from the date on which the Party received notice of breach, the non-breaching Party may terminate this Agreement.

16. Waiver of Breaches

City's review or acceptance of, or payment for, work product prepared by FIRM under this Agreement will not be construed to operate as a waiver of any rights City may have under this Agreement or of any cause of action arising from FIRM's performance. A waiver by City of any breach of any term, covenant, or condition contained in this Agreement will not be deemed to be a waiver of any subsequent breach of the same or any other term, covenant, or condition contained in this Agreement, whether of the same or different character.

17. Ownership of Documents

All documents, data, studies, drawings, maps, models, photographs, and reports prepared by FIRM under this Agreement are City's property. FIRM may retain copies of said documents and materials as desired, but will deliver all original materials to City upon City's written notice. City agrees that use of FIRM's completed work product, for purposes other than identified in this Agreement, or use of incomplete work product, is at City's own risk.

18. Publication of Documents

Except as necessary for performance of service under this Agreement, no copies, sketches, or graphs of materials, including graphic art work, prepared pursuant to this Agreement, will be released by FIRM to any other person or other city without City's prior written approval. All press releases, including graphic display information to be published in newspapers or magazines, will be approved and distributed solely by City, unless otherwise provided by written agreement between the Parties.

19. Hold Harmless and Indemnification Requirements

(a) Consistent with California Civil Code Section 2782.8, when the services to be provided under this Agreement are design professional services to be performed by a design professional, as that term is defined under said section 2782.8, FIRM shall, to the fullest extent permitted by law, indemnify, protect, defend, and hold the City harmless for all claims, demands, costs, or liability that arise out of, pertain, or relate to the negligence, recklessness, or willful misconduct of FIRM, its officers, employees, or agents in said performance of professional services under this Agreement, excepting only liability arising from the sole negligence, active negligence, or intentional misconduct of the City.

(b) Other than in the performance of professional services by a design professional, which shall be solely as addressed by subsection (a) above, and to the full extent permitted by law, FIRM shall indemnify and hold City harmless from and against any claim, action, damages, costs (including reasonable attorney's fees and costs), injuries, or liability, arising out of this Agreement, or its performance. Should the City be named in any suit, or should any claim be brought against it by suit or otherwise, whether the same be groundless or not, arising out of this Agreement, or its performance, FIRM will defend the City (at the City's request and with counsel satisfactory to the City) and will indemnify the City for any judgment rendered against it or any sums paid out in settlement or otherwise.

20. Insurance

Prior to commencing the services required by this Agreement, and at all other times this Agreement remains in effect, the FIRM shall procure and maintain in full force and effect all of the insurance required by Exhibit "D," attached hereto and incorporated herein by this reference.

21. Audit of Records

FIRM will maintain full and accurate records with respect to all services and matters covered under this Agreement. City will have free access at all reasonable times to such records, and the right to examine and audit the same and to make transcript therefrom, and to inspect all program data, documents, proceedings, and activities. FIRM will retain such financial and program service records for at least four (4) years after termination or final payment under this Agreement.

22. Status Reports

FIRM's Project Manager will meet with the City Engineer monthly to provide the status on the Project, which will include a schedule update and a short narrative description of progress during the past month for each major task, a description of the work remaining, and a description of the work to be done before the next schedule update.

23. Notices

All communications to either Party by the other Party will be deemed made when received by such Party at its respective name and address as follows:

City
City Engineer
City of San Buenaventura
501 Poli Street, Rm. 120
Ventura, CA 93001
Fax: (805) 641-2775

FIRM
Autumn Glaeser
Stantec
111 E. Victoria Street
Santa Barbara, CA 93101
Fax: (805) 966-9801

Any such written communications by mail will be conclusively deemed to have been received by the addressee upon deposit thereof in the United States Mail, postage prepaid, and properly addressed as noted above. In all other instances, notices will be deemed given at the time of actual delivery. Changes may be made in the names or addresses of persons to whom notices are to be given by giving notice in the manner described in this Section.

24. Solicitation

FIRM represents and warrants that it has not employed nor retained any company or person, other than FIRM's bona fide employee, to solicit or secure this Agreement. Further, FIRM represents and warrants that it has not paid nor has it agreed to pay any company or person, other than FIRM's bona fide employee, any fee, commission, percentage, brokerage fee, gift, or other consideration contingent upon or resulting from the award or making of this Agreement. Should FIRM breach or violate this warranty, City may rescind this Agreement without liability.

25. Interpretation

This Agreement was drafted in, and will be construed in accordance with the laws of the State of California, and exclusive venue for any action involving this Agreement will be in the Superior Court of the State of California, Ventura County.

26. Entire Agreement/Modification by Amendment

This Agreement and the three exhibits attached to this Agreement set forth the entire understanding of the Parties in regard to the services to be provided by FIRM to City as provided for herein. There are no other understandings, terms, or other agreements expressed or implied, oral or written. Except as otherwise specifically provided herein, this Agreement may be modified only by a written amendment to this Agreement that has been approved and executed by both Parties hereto.

27. Severability

If any portion of this Agreement is declared by a court of competent jurisdiction to be invalid or unenforceable, then such portion will be deemed modified to the extent necessary in the opinion of the court to render such portion enforceable and, as so modified, such portion and the balance of this Agreement will continue in full force and effect.

28. Time is of the Essence

Time is of the essence for each and every provision of this Agreement.

29. Statement of Qualifications and Experience

By executing this Agreement, FIRM represents that it has demonstrated trustworthiness and possesses the quality, fitness, and capacity to perform the Agreement in a manner satisfactory to City. FIRM represents that its financial resources, surety and insurance experience, service experience, completion ability, personnel, current workload, experience in dealing with private firms, and experience in dealing with public agencies all suggest that FIRM is capable of performing the proposed contract and has a demonstrated capacity to deal fairly and effectively with and to satisfy a public agency.

30. Acceptance of Facsimile Signatures

The Parties agree that this Agreement, agreements ancillary to this Agreement, and related documents to be entered into in connection with this Agreement will be considered signed when the signature of a Party is delivered by facsimile transmission. Such facsimile signature will be treated in all respects as having the same effect as an original signature.

31. Prevailing Wage and Department of Industrial Relations Requirements

Effective January 1, 2015, the payment of State prevailing rates of wages as designated for Ventura County for on-site work and delivery of materials shall apply to public works construction projects over \$25,000 and projects for alteration, demolition, repair, or maintenance work over \$15,000. Prevailing wages are required to be paid to all workers, including subcontracted employees.

This Agreement may be subject to compliance monitoring and enforcement by the DIR. As of July 1, 2014, all contractor/service providers and subcontractor/service providers must register with the DIR in order to submit a bid and be awarded a contract (<https://efiling.dir.ca.gov/PWCR/ActionServlet?action=displayPWCRRegistrationForm>). As of April 1, 2015, the City must hire only registered contractor/service providers and subcontractor/service providers. For complete requirements, please refer to the "Contractor/Service Provider Registration Fact Sheet" located on the City's website at <http://www.cityofventura.net/ft/purchasing>.

32. Counterparts.

This Agreement may be executed in one or more counterparts with each counterpart being deemed an original. No counterpart shall be deemed to be an original or presumed delivered unless and until the counterparts executed by the other parties hereto are in the physical possession of the party or parties seeking enforcement thereof.

33. Authority to Execute.

The person or persons executing this Agreement on behalf of the Parties hereto warrants and represents that he/she/they has/have the authority to execute this Agreement on behalf of their entity and has/have the authority to bind their Party to the performance of its obligations hereunder.

[Signatures Follow]

EXHIBIT A
PROFESSIONAL SERVICES AGREEMENT
FIRM'S SERVICES
SCOPE OF SERVICES

Project Overview

Background

The State Water Interconnection Project (Interconnection) would consist of pipeline facilities used to transport water that has been wheeled through the Metropolitan Water District of Southern California and Calleguas Municipal Water District (Calleguas) to the City of San Buenaventura (Ventura or City). The Interconnection would also facilitate direct delivery of State Water Project (SWP) water to United Water Conservation District (United) and direct or in-lieu delivery of SWP water to Casitas Municipal Water District (Casitas). In addition, the Interconnection would allow Ventura to deliver water to Calleguas during an outage of Calleguas' imported water supplies.

In June 2018, a State Water Interconnection Alignment Study (Alignment Study) was completed. That study determined the preferred alignment for the Interconnection. An Environmental Impact Report (EIR) was subsequently prepared and certified by Ventura's City Council on August 5, 2019.

Based on preliminary agency discussions, the City is taking the lead in the design of the pipeline and facilities from the connection point to the City's system in Henderson Road to a connection point in Santa Clara Avenue. Calleguas will be taking the lead in the design of the pipeline from Santa Clara Avenue to the connection point to their system at Springville Reservoir. Therefore, the scope of work for this Agreement is for the design of the pipeline and associated facilities from the connection point to the City's system in Henderson to the connection point to Calleguas' portion of the pipeline in Santa Clara Avenue (hereafter referred to as "the Project").

The Project also includes design of a blending station to condition and stabilize the water before introduction to the City's distribution system. In addition, the Project includes a metering station to house flow control and metering equipment to measure and transmit flow data to Calleguas and others. Calleguas will own, operate, and maintain the portions of the metering facility that involve delivery of water to the City and Casitas.

The Project includes the following major components, as depicted on Figure 1:

- Interconnection Pipeline: A pipeline, approximately 4 miles in length, with a diameter ranging from 24-inches to a maximum of 36-inches, extending between the connection to Calleguas' pipeline at Santa Clara Avenue and the City's distribution system in Henderson Road;
- Santa Clara River Crossing;
- Other significant crossings include Rose Avenue, Vineyard Avenue (Highway 232), Ventura County Transportation Commission/Filmore & Western Railroad, and Telephone Road;
- Meter vault including flow control and instrumentation facilities located near the intersection of Telephone Road and Saticoy Avenue;

- Blending facility, located at the City's Saticoy Conditioning Facility site;
- A blow off outlet to connect to a spreading basin selected by United and associated energy dissipation structure;
- Up to two blind flanged outlets, at locations specified by United; and
- Pipelines, within or north of Telephone Road, to and from the blending station and the Interconnection Pipeline in Saticoy Avenue.

In addition, the Mitigation Monitoring and Report Program, included in the Final EIR, shall be incorporated into the project design and construction documents, as applicable.

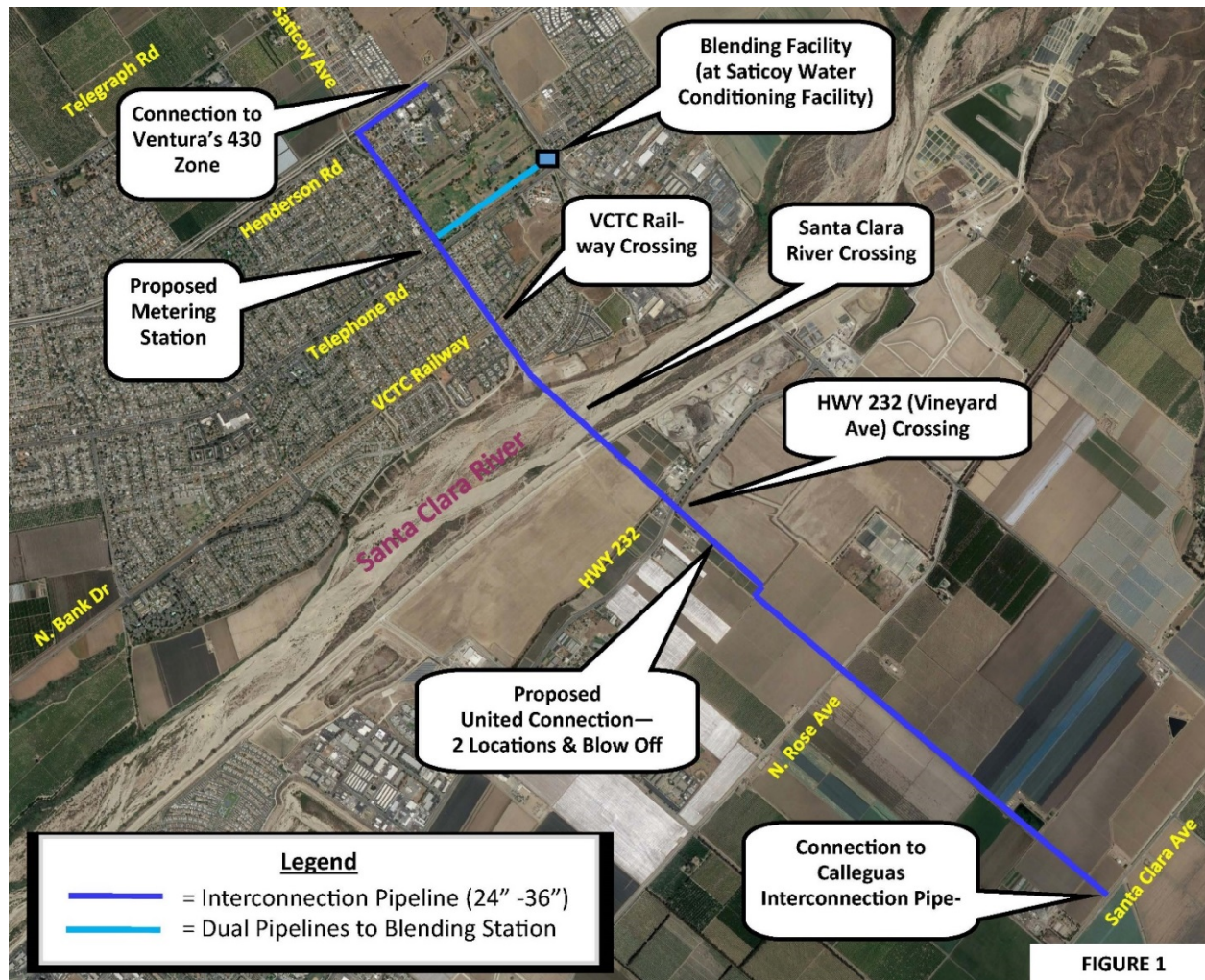


FIGURE 1

Scope of Work

The scope of work includes the following tasks:

TASK 1 – PROJECT MANAGEMENT, QUALITY ASSURANCE/QUALITY CONTROL, AND MEETINGS

Task 1.1 Project Management

Stantec will prepare monthly status reports to the City's Project Manager consisting of a brief one to two paragraph email summarizing the activities accomplished during the previous month, the activities anticipated to be accomplished during the upcoming month and critical items and/or decisions that need to be concluded to maintain the progression of the Project. Monthly status reports will provide more details summarizing the work completed and review of work status as it relates to budget, schedule and items of work. The monthly status report will be electronically submitted as part of the monthly invoicing of the Project to the City.

Stantec's project manager will manage the day to day activities of the Project and team including sub-consultants. Stantec will coordinate directly with the City on permitting and design updates, meetings, and schedule coordination. Stantec will provide updated project schedules monthly during the permitting and design phase of the Project. For scoping purposes, Stantec has assumed an eighteen-month planning and design timeframe.

Task 1.1 Deliverables:

- Monthly Project Status report, invoice, and schedule in electronic PDF format

Task 1.2 – Meetings and Workshops

Stantec will organize, attend and conduct meetings and workshops as described in Table 1-1. Stantec will prepare meeting agendas and meeting materials to the City a minimum of five working days prior to the meeting. Stantec will prepare and circulate draft meeting minutes within five working days after said meeting to the City for review and comment. Meeting minutes will be considered final after five working days after the initial circulation for review.

Table 1-1 – Proposed Meetings Included in This Scope of Services

Meeting / Workshop	Description	Assumed Number of Meetings /Estimated Duration
1. Project Kick-Off Meeting	The initial meeting will discuss the Project approach, schedule and initiation of the Project. Stantec will prepare initial Request for Information (RFI) pertaining to existing information, review of the limits of survey, Project schedule, environmental permits, and tasks.	1 meeting Two hours, at the City offices
2. Project Status Meetings	Stantec's Project Manager (PM) will attend in-person Project status meetings at the City office. Technical specialties may attend in person or conference call, as needed.	18 meetings Each meeting two hours, at the City offices

Meeting / Workshop	Description	Assumed Number of Meetings /Estimated Duration
3. Public meetings	Stantec's PM and/or appropriate technical lead will attend up to eight public meetings with the City. Meetings may include the City Council, Water Commission, and public meetings. Stantec will work with the City to provide support for meeting preparation and presentation.	8 meetings Each meeting two hours, at City offices
4. Field review of pipeline alignment within public right-of-way, including blending station and metering facilities	Stantec will coordinate with City to access the existing Saticoy Water Conditioning Facility	2 meetings Two-hours at the Saticoy Water Conditioning Facility Eight hours for alignment field visit Meetings include three team members
5. Field review and investigation of pipeline alignment through private property	Stantec will coordinate with the City to obtain right of entry agreements to the private property along the proposed alignment. Stantec will plan to meet with each of the property owners to discuss proposed alignment and request utility information and other potential conflicts. . For scoping purposes, we assume there are four property owners and each will require one meeting.	4 meetings Eight hours each meeting for two team members
6. Partner Agencies Operations Workshops	Stantec will coordinate with the City to set up partner agencies operations workshops (including the City, Calleguas, Casitas Municipal Water District, and United Water Conservation District). It is assumed the 2 nd workshop will be used to review the draft operations plan and the 3 rd workshop will be used to review the final operations plan.	3 meetings Each meeting two hours, at the City offices
7. Permit Agency Coordination	Stantec will coordinate with the City for permit agency pre-application and/or coordination meetings. It is assumed a City representative will be included in meetings.	Hours included in specific Project tasks
8. Pipe Loop Testing	Stantec will coordinate with the City for task specific items.	Hours included in specific Project task
9. Draft Preliminary Design Report Review Workshop	Review and Workshop of the Draft Preliminary Design Report. Stantec's PM and key staff members will be in attendance.	1 meeting four hours, at the City offices
10. Final Preliminary Design Report Review Workshop	Review and Workshop of the Final Preliminary Design Report. Stantec's PM and key staff members will be in attendance.	1 meeting four hours, at the City offices
11. 30 Percent Design Review Workshop	Present the design, discuss City comments and outstanding items needing to be addressed. Stantec's PM and key team members will be in attendance.	1 meeting four hours, at the City offices
12. 60, 90, 100 Percent Design Review Workshop	Present the design, discuss City comments and outstanding items needing to be addressed. Stantec's PM and key team members will be in attendance.	3 meetings Each meeting three hours each, at the City offices

Meeting / Workshop	Description	Assumed Number of Meetings /Estimated Duration
13. Pre-Bid Meeting	Attend a pre-bid meeting. Stantec's PM and key team members will be in attendance.	1 meeting Three hours, at the City offices
14. Transition Meeting	Attend a transition meeting. Stantec's PM and key team members will be in attendance.	1 meeting Three hours, at the City offices
15. Pre-Construction Meeting	Attend a pre-construction meeting. Stantec's PM and key team members will be in attendance.	1 meeting Three hours, at the City offices

Task 1.2 Deliverables:

- Agendas in electronic PDF format
- Meeting Minutes in electronic PDF format

Task 1.3 – Agency Coordination

The Project will involve coordination between the partner agencies (City, Casitas, Calleguas, and United), permit agencies, landowners, and stakeholders. The proposed pipeline will connect to another phase of the Project which is beyond this scope of work; however, the point of connection will be coordinated with Calleguas. Stantec will work with the City to coordinate with these partner agencies. It is assumed submittals will be submitted to the impacted partner agencies on behalf of the City and at the direction of the City. Hours for this task are included in specific Project tasks.

Task 1.4 – Quality Assurance/ Quality Control

The Stantec design team will implement a Quality Assurance / Quality Control plan to provide a review of all deliverable materials associated with the Project. Our QA/QC will be performed by internal staff with specific expertise in the subject matter being reviewed and provide comments to the Project team. Quality review documents will be developed to provide records of review and resolution of internal comments prior to delivery to the City. Review and resolution records will be provided to the City upon request.

TASK 2 – PRELIMINARY DESIGN

Task 2.1- Review of Existing Documentation

The Stantec design team will review existing readily available documentation that includes record drawings of the existing facilities, previously submitted reports, and existing utility information. Stantec will develop a Request for Information (RFI) to be submitted to the City at the Kick-Off Meeting (Task 1.2) identifying known materials to be reviewed as part of the effort for reviewing existing documentation.

The Stantec design team will prepare a Needs/Gap Memorandum identifying additional information required or identify information that will need to be developed as part of the implementation of the Project.

Task 2.1 Deliverables:

- Needs/Gap Memorandum in electronic PDF format

Task 2.2 – Proposed Alignment Evaluation

2.2.1- Utility Notifications, Research, and Coordination

Stantec and HDR will perform a record search using USA Dig Alert and available record drawings. Using the USA Dig Alert database and our contacts with the various agencies, Stantec will request available record data, and request information on existing facilities and available future planned Projects in the area that may potentially impact the proposed construction schedule. A second utility request will be prepared during later design phases, as necessary. Stantec and HDR will initiate communication with the utility owners and coordinate with utility owners throughout the design phase.

It is anticipated the City of Ventura will provide information on City-owned facilities record drawings and will provide this information to Stantec electronically in PDF format.

A portion of the design is located within existing agricultural fields, Stantec will coordinate with the City of Ventura to request available records from the landowners for information on the private utilities and subsurface drainage features.

2.2.2 – Site Reconnaissance and Evaluation of Alignment

Stantec will conduct three site visits to gather field data and identify physical features associated with the detailed design of the Project. It is assumed each field visit is eight hours and includes the following:

- Blending Station field visit (Saticoy Treatment Facility) and proposed metering station
- Pipeline alignment within public right-of-way, river crossing, and United's property
- Pipeline alignment through private property.

Stantec will provide three design team members for each day to investigate the proposed alignment. Stantec will review the proposed alignment for potential conflicts with known utilities and discoveries made during the site reconnaissance. Stantec will evaluate methods for construction between open cut and trenchless at Rose Avenue, Ventura County Transportation Commission (VCTC) railway crossing, and Agricultural pond. Stantec will provide a draft Alignment Evaluation technical memorandum (TM 01) to document the field investigation findings, potential utility conflicts based on available utility record drawings received, potential alignment conflicts evaluated during the site reconnaissance, and final alignment recommendations. Stantec will provide conceptual sketches of the proposed alignments. The draft alignment technical memorandum will be submitted for review to the City. Stantec will submit to partner agencies including Casitas, Calleguas, and United at the direction of the City and on behalf of the City. Agreed upon comments will be incorporated into a final TM 01 and submitted to the City of Ventura. TM 01 will be included as an appendix in the Preliminary Design Report in the following task.

Task 2.2 Deliverables

- Copies of utility documentation as an electronic PDF format

- Draft Alignment Evaluation TM 01 in electronic PDF format
- Final Alignment Evaluation TM 01 in electronic PDF format

Task 2.3 Scour Analysis

Stantec's subconsultant, HDR, will perform the scour analysis for the Santa Clara River pipeline crossing as required by the Ventura County Watershed Protection District permit. These data are also anticipated to be important in demonstrating that the pipeline undercrossing of the Santa Clara River is outside of the U.S. Army Corps of Engineers Clean Water Act Section 404 permitting jurisdiction. The scope for the scour analysis is as follows:

2.3.1 – Hydrologic Analysis

HDR will review the collected hydrologic information for the Santa Clara River (100-year FEMA flow and channel forming discharge) to be used in the hydraulic and scour analyses. No hydrologic modeling is anticipated in this scope.

2.3.2 – Hydraulic Analysis

HDR will develop a HEC-RAS 2-D hydraulic model of the river based on the obtained digital terrain. It is anticipated that the model will extend approximately 1,000 feet upstream and downstream of the pipeline crossing. The hydraulic model will be used to provide maximum flow velocities, depths, and shear stresses for the scour analysis and to evaluate channel forming conditions.

2.3.3 – Scour Analysis

HDR will perform a qualitative geomorphic and detailed scour analysis at the pipeline location. The total depth of scour will be estimated from the sum of the various scour components including long-term degradation, general scour, bedform scour, and local scour. Scour components will be based on the Technical Supplement 14B Scour Calculations (NRCS, 2007). Recommended total scour for the minimum pipeline burial depth will be based on the scour analysis, including appropriate factor of safety.

2.3.4 - Reporting

HDR will provide a draft report TM 02 in electronic (PDF) format detailing the study results and recommendations to the City for initial review. The report will include field observations, the magnitude of design flow, hydraulic modeling results, and scour evaluation. The Scour Analysis TM 02 will be submitted to VCWPD on behalf of the City during the permit process in Task 4. The Stantec team will respond to one round of permit comments by VCWPD and prepare the final TM 02 in electronic (PDF) format.

Task 2.3 Deliverables:

- Draft Scour Analysis TM 02 in electronic PDF format
- Final Scour Analysis TM 02 in electronic PDF format

Task 2.4 Geotechnical Investigation and Report

Stantec's subconsultant, Fugro, will perform the geotechnical investigation on the final approved alignment from Task 2.2 and will prepare the geotechnical report. Geotechnical engineering issues for the interconnection pipeline will involve characterization of the soil and groundwater conditions along the interconnection pipeline alignment with added focus on the HDD pipeline segment and at possible jack and bore locations. In addition, geologic hazards such as fault rupture and liquefaction could also affect the design and construction of the proposed pipeline and the geotechnical services for the project will include an evaluation of potential impacts.

On the basis of Fugro's previous work in the area of the pipeline alignment, Fugro anticipates the geotechnical conditions in the cut and cover segments will generally consist of layered alluvial soils of loose to medium dense sands and soft to medium stiff clays in the area south of about SR 232 and grade to silty sand and silty sand with gravel in the areas near the Santa Clara River. The soils likely transition to more fine grained extending north from the river to the blending facility. Previous data suggest that the depth to groundwater in the cut-and-cover segments is generally about 15 to 20 feet below grade but can vary seasonally and in response to extended drought or unusually wet periods.

Geotechnical conditions in the Santa Clara River channel are likely to consist of medium dense to dense sand and silty sand with a variable percentage of gravel. However, strata containing cobbles or possibly larger size particles could be present. Also, layers and strata of fine-grained soils could be present. The depth to groundwater in the channel varies possibly ranging from relatively shallow (less than 5 feet) to deep conditions (greater than about 50 feet) depending on surface water flow in the river and aquifer recharge efforts that occur in the area.

Geologic hazards in the area are anticipated to involve strong ground shaking and possibly liquefaction and possible consequences of liquefaction. However, other hazards such as ground rupture from faulting may need to be evaluated.

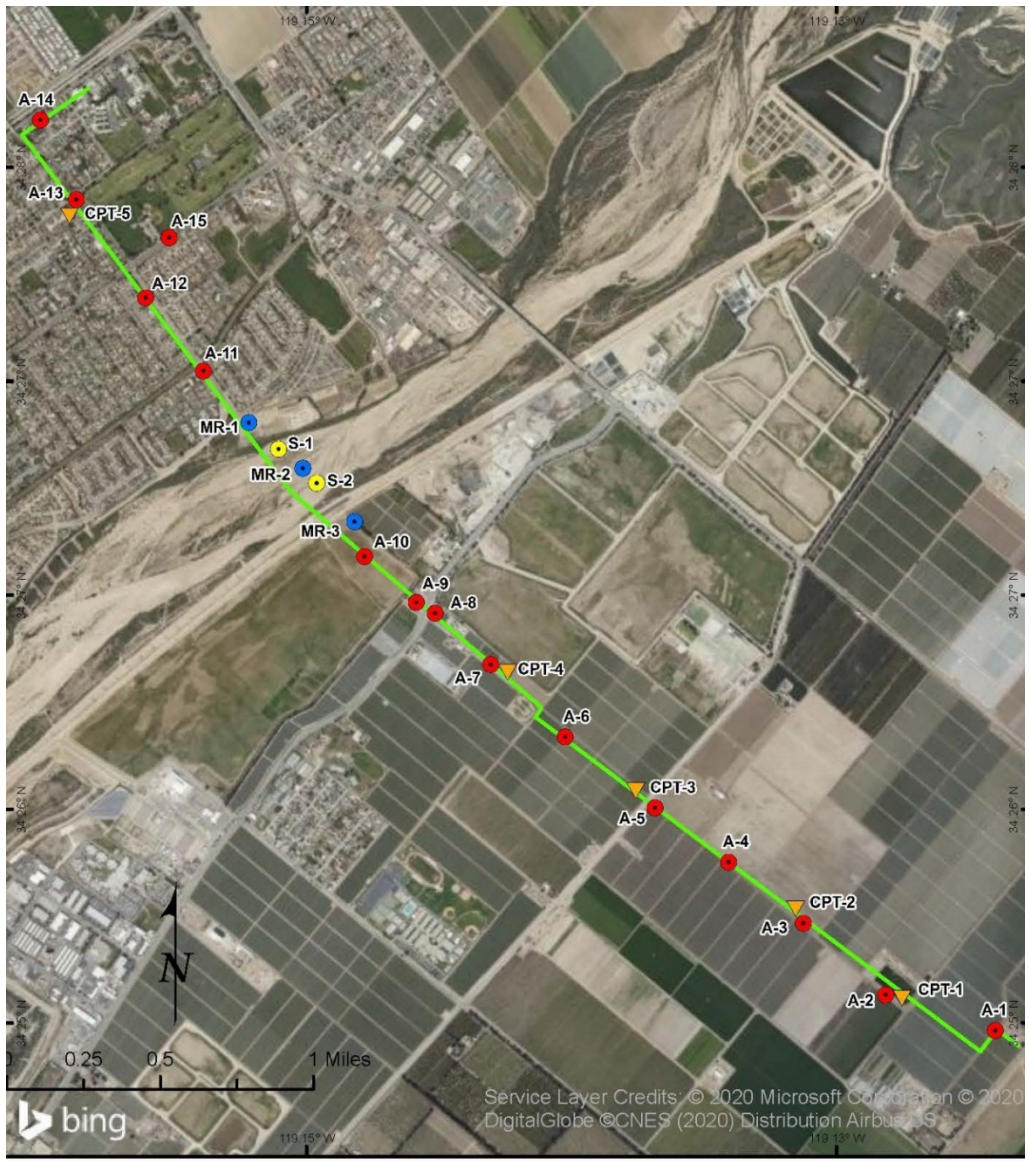
The proposed tasks are included below:

2.4.1 – Data Review

Prior to commencing the field investigation and analysis, Fugro will compile and review existing geotechnical data and information to the project that can be used to evaluate the inferred stratigraphy underlying the alignment and modify the proposed investigation, if needed. Fugro anticipates the review will include the geotechnical desktop study prepared by Oakridge Geotechnical, Inc. (included in Appendix C of the Project Alignment Study), relevant geotechnical reports near the project area in Fugro's files, published geotechnical data and surficial geologic maps, and the project information provided by the City or other agencies. The Stantec team will acquire permits required for the geotechnical exploration program as discussed in Task 4. All work performed in Task 2.4.2 shall conform to the permit requirements.

2.4.2 – Geotechnical Field Exploration Program

The geotechnical field exploration program includes the proposed boring locations as depicted on Figure 2-1 and detailed in Table 2-1. Stantec's subconsultant, Bennett Trenchless, will provide input on proposed boring locations related to the proposed horizontal directional drill location.



- ▼ CPT Sounding
- Mud Rotary Boring
- Hollow Stem Auger Boring
- Sonic Boring
- Pipeline Location

Figure 2-1 Proposed Geotechnical Boring Locations

Table 2-1 Proposed Geotechnical Borings

Boring Label	Quantity	Geotechnical Boring Description
A-1 to A-14	14	(12) 20-foot deep hollow stem auger borings along the cut-and-cover sections of the pipeline alignment (2) 25-foot deep hollow stem auger borings near the possible trenchless crossing of SR 232 Notes: Fugro will support Stantec’s soil sampling for geoenvironmental purposes at depths of 0.5 and 3.0 feet in the hollow stem auger borings. Install and develop groundwater sampling wells in three selected hollow stem auger borings (if groundwater is encountered) for future groundwater monitoring and sampling by Stantec personnel, abandon the groundwater wells after sampling. Locations will be determined during boring activities.
A-15	1	20-foot deep hollow stem auger boring along the cut-and-cover sections of the Telephone Road pipeline alignment;
MR-1 to MR-3	3	150-foot deep mud rotary borings along the HDD crossing of the Santa Clara River.
S-1 to S-2	2	150-foot deep large diameter sonic holes along the HDD crossing of the Santa Clara River (CONTINGENT on the need to characterize the amount and distribution of large particles).
CPT-1 to CPT-5	5	50-foot deep cone penetration test (CPT) soundings along the cut-and-cover sections of the interconnection pipeline alignment for use in evaluating liquefaction potential.

Key activities associated with this task include utility clearances, obtaining encroachment permits, traffic control plan preparation and implementation, drilling, logging and sampling, backfilling of the soil borings, and disposal of investigation-derived waste (IDW). These activities are briefly described below:

Utility Clearance

Prior to the start of field work, Fugro will visit the site and mark the proposed boring locations. As required by the State of California, Fugro will notify Underground Service Alert of the location of the planned exploration prior to drilling. It is anticipated and assumed that all exploration locations can be adequately offset from all known underground and overhead services. In the event that the exploration locations cannot be offset more than 10 feet from known underground utilities, Fugro may be required to retain the services of an underground utility locating subcontractor to clear the proposed boring areas prior to drilling, which is beyond the scope of this Agreement.

Traffic Control

The interconnection pipeline alignment is generally located in paved public roadways, rural private access roads, and undeveloped land. Fugro will endeavor to locate and position the geotechnical explorations off of paved traveled ways. However, explorations planned for the northern portion of the alignment (north of the Santa Clara River, i.e. Saticoy Avenue and Henderson Road) may be located on paved surfaces. Where explorations are situated on rural or private roadways or undeveloped land, no formal traffic control measures are proposed. Where explorations are situated within the traveled way, parking lane, or shoulder of a public right of way, a traffic control plan will be developed and implemented during the fieldwork. The traffic control plan will be developed in accordance with the Work Area Traffic Control Handbook (WATCH) published by the American Public Works Association and Encroachment Permit

requirements. Fugro will perform explorations in the area of Saticoy Avenue and Henderson Road. The fee estimate is based on providing two days of traffic control.

Heavy Equipment to Facilitate Access to Santa Clara River Channel (Ventura County Watershed Protection District Jurisdiction)

During a recent reconnaissance of the Santa Clara River channel, Fugro observed an informal access way to the Santa Clara River channel. However, other (unknown) access locations may be available. Stantec will obtain the required permits for exploratory borings required in the Santa Clara River (see Task 4). All work performed under this task will comply with the requirements of the permits.

For scoping purposes, it is assumed the informal access way located on the north side of the channel about 700 feet southeast of Saticoy Avenue will allow passage of conventional truck-mounted exploration equipment. However, some minor grading may be required. In addition, access to this area would require moving existing K-rail barriers at Saticoy Avenue and grading of an existing earth berm behind the barriers. Therefore, some heavy construction equipment and minor grading may be required to access the channel. In addition, the construction support equipment may also be needed to assist the exploration equipment to travel across river channel in areas where loose/soft surface conditions occur.

Therefore, Fugro proposes to retain a dozer and operator to perform the minor grading be available or on stand-by for the drill holes within the channel to move existing traffic barriers, improve the informal access area into the channel and assist in moving the drill rig in the event that loose/soft ground conditions are encountered. Disturbances will be minimized to the degree feasible and planned/implemented in coordination with environmental requirements.

For the purposes of this proposal, Fugro has assumed that work will be done during a time when the river channel is free of surface water and accessible by the proposed equipment.

Water Source

Fugro has assumed that a source of water for the drilling work (near the work area) will be provided or made available to Fugro at no charge through a temporary construction meter placed on a City of Ventura fire hydrant. Fugro plans to use this source for all drilling work.

Logging, and Sampling of Drill Holes

Drill holes will be logged in the field by a Fugro engineer/geologist. Sampling will primarily consist of Standard Penetration Test (SPT), Modified California liner samples and bulk (disturbed) samples, with the exception of the sonic holes which will produce a nearly continuous disturbed core sample. Soil samples will be collected, documented, and visually classified in the field prior to being stored in sample tubes or bags. If groundwater is encountered, attempts will be made to measure the depth to groundwater during drilling and at the end of drilling.

Borehole Abandonment and Groundwater Monitoring/Sampling Wells

Upon completion of drilling and sample retrieval, the drill holes (and CPT soundings) will be backfilled in accordance with local requirements and applicable permit conditions. It is assumed that each drill hole will be backfilled to the ground surface with cement-bentonite grout. Backfill requirements will be coordinated with the individual property owners and agreed upon material and methods will be used. In paved areas, the drill holes will be backfilled in accordance with requirements of the Encroachment Permit.

To have the ability to monitor future groundwater levels at selected locations and to collect groundwater samples for geoenvironmental purposes, Fugro will complete three selected hollow-stem-auger drill holes as groundwater monitoring wells. The Stantec design team will select the borings where the monitoring wells will be installed. The monitoring wells will consist of 10 feet of 2-inch diameter PVC well screen and 10-feet of 2-inch diameter solid PVC pipe. The annulus between the bore hole and the well screen will be backfilled with a sand filter pack and a bentonite seal placed above the sand. The remainder of the annulus will be backfilled with cement-bentonite grout. A well box will be installed at the ground surface to allow access to the well for sampling and future monitoring by the design team or City. Upon completion of the sampling and monitoring program (In a time period of not more than 24 months after installation), the wells will be drilled out and backfilled with cement-bentonite grout.

Where feasible and permitted, investigation derived waste will be dispersed on the ground surface adjacent to the drill hole. In locations where it is not feasible or permitted to disperse the investigation derived waste on-site (such as during the abandonment of the monitoring wells), the waste material will be stored in 55-gallon drums and transported to a nearby location where the drummed material will be stored until arrangements for disposal are made (typically a 2 to 3 week duration). It is assumed that the a no cost temporary storage site will be proximal to the work area.

Fugro will retain a waste disposal contractor to test, manifest, and dispose of the investigation derived waste materials in accordance with applicable regulations. However, it is assumed that the soils and groundwater encountered in the geotechnical explorations will be free of hazardous substances and can be disposed of accordingly.

Global Position and Elevation of Drill Holes

The location and elevation of the exploration locations will be recorded by hand-held GPS and estimated using existing landmarks in reference to available plan maps. GPS coordinates will be included in a table format in the geotechnical report.

Hollow Stem Auger Drilling

Provided there is not a high concentration of gravel, cobbles or boulders, hollow stem auger drilling is generally considered suitable in soil stratigraphy above the groundwater table, and potentially for minor penetration below the groundwater table in favorable (cohesive, non-flowing) soil conditions. Consequently, Fugro will use hollow stem auger drilling methods for the relatively shallow cut-and-cover portions of the alignment and the jack-and-bore crossing(s). During the hollow stem auger drilling work, the Stantec design team will collect samples for geoenvironmental testing at depths of 0.5 feet and 3 feet below the ground surface.

Mud Rotary Drilling

Mud rotary drilling is considered suitable in a wider range of soil conditions, including below the water table and in minor gravels and cobbles. As such, Fugro will use mud rotary drilling methods for explorations planned for the proposed HDD Santa Clara River crossing. However, sampling in a mud rotary hole typically comprises a roughly 2-to 2 ½-inch diameter sampler, with samples generally collected at 5-foot depth intervals. In the event that the river deposits underlying the HDD alignment include abundant gravels and cobbles, such limited sampling may not be suitable to fully characterize the amount and distribution of coarse particles. The presence of gravel and cobbles in the alignment could present a risk during the construction of the HDD installation.

Separate Mobilization for Mud Rotary Equipment

Ideally, the hollow stem auger drilling and the mud rotary drilling would be carried out as part of the same continuous investigation program using the same truck-mounted drilling equipment. However, the scope assumes the mud rotary drilling portion of the investigation will be carried out separately from the hollow stem drilling (due to environmental permitting related to the river channel or other reasons), and a second drill rig mobilization is required.

Sonic Drilling

Sonic drilling is capable of penetrating challenging soil conditions, including gravels, cobbles and minor boulders. Furthermore, sonic drilling produces a continuous, large diameter core sample of the soil stratigraphy. As such, sonic drilling is generally better suited to characterize the amount and distribution of gravels and cobbles and we currently propose to use this drilling method to supplement the planned mud rotary drilling at the HDD Santa Clara River crossing.

Note that it may be more efficient and cost effective to complete those explorations using mud rotary drilling methods. Therefore, Fugro propose to evaluate the soil conditions initially encountered in the planned mud rotary drill holes and assess whether abundant cobbles or boulders might be present. Fugro will then meet briefly with the project team and City to discuss whether the sonic drilling work should proceed as planned or whether those explorations should be completed using mud rotary drilling methods.

CPT Soundings

Electronic cone penetration test (CPT) soundings provide a nearly continuous profile of penetration resistance and sleeve friction. CPT data can be acquired rapidly and efficiently, and the data can be extremely valuable for identifying interbedded stratigraphy and characterizing material shear strengths and assessing liquefaction potential or susceptibility. Furthermore, when combined with shear wave velocity measurements, CPT is an excellent tool for evaluating seismic site response.

Fugro’s drill hole-based investigation and laboratory testing program will be adequate to provide a qualitative assessment of global liquefaction potential in areas where deep explorations are planned. An evaluation of liquefaction potential for the overall alignment, will be supplemented with CPT soundings. For this effort, Fugro proposes a one-day field program to perform up to five (5) 50-foot-deep CPT soundings at various locations along the proposed alignment east and west of the Santa Clara River where cut-and-cover construction is anticipated. GPS coordinates of these locations will be included in table format in the geotechnical report.

2.4.3 – Geotechnical Laboratory Testing

Task 2.4.3 will consist of geotechnical laboratory testing of soil samples recovered from the borings. Following review of the field logs and soil samples recovered from the borings, selected samples will be assigned laboratory testing. The laboratory testing will comprise conventional index testing for the purpose of characterizing the engineering properties/parameters of the soil, along with testing to evaluate the corrosion potential of the near-surface soils. Provisions have been included for the testing shown in Table 2-1. Note however that the final laboratory testing program will depend on the on the nature of the recovered samples and overall stratigraphy.

Table 2-1 - Preliminary Scope of Laboratory Testing

Laboratory Testing	Estimated Quantity
Moisture content and dry unit weight	50

Percent passing No.200 sieve	15
Sieve analysis	40
Sand equivalent	4
Atterberg Limit	4
Direct shear test	5
Unconsolidated undrained triaxial compression test	5
Corrosion testing (pH, resistivity, sulfate content, chloride content)	Included in Task 2.8
Petrographic Analyses for Quartz Content	3
R-value	3

2.4.4 – Geotechnical Analysis and Reporting

Following completion of the field investigation and laboratory testing, the data will be compiled, geotechnical analyses will be carried out, and the results will be presented in a geotechnical report (TM 03) which will present the factual results of the exploration and laboratory testing programs as well as our geotechnical comments and recommendations as input to the proposed planning, design and construction of the pipeline.

The Geotechnical Report will include:

- The factual results of the field investigation and laboratory testing program;
- A summary of the interpreted subsurface conditions encountered in the explorations performed for the project;
- Interpreted groundwater levels at the time of the investigation;
- A qualitative discussion on potential geologic hazards impacting the project, such as seismic shaking, fault rupture and liquefaction potential;
- Geotechnical input design considerations for directional drilling, including detailed design criteria provided by subconsultant, Bennett Trenchless Engineers (Bennett) and other trenchless sections;
- A discussion of excavation conditions and input to temporary excavation support and dewatering considerations for cut and cover construction and jack-and-bore pits;
- Lateral earth pressures, passive lateral soil resistance and sliding resistance for jack-and-bore reaction pits at SR 232;
- Lateral earth pressures, passive lateral soil resistance and sliding resistance for proposed underground vaults at United Water Conservation District (UWCD) connection and at Telephone Road and Saticoy Avenue;
- Modulus of soil reaction, e' for the cut-and-cover portion of the pipeline;
- Recommended criteria for on-site and imported materials used as pipe zone and trench backfill for pipeline cut-and-cover construction;
- Pavement design recommendations for road restoration; and
- Construction considerations.

Task 2.4 Deliverables

- Draft Geotechnical Report TM 03 in electronic PDF format.
- Final Geotechnical Report TM 03 in electronic PDF format.

2.4.5 – Prepare Geotechnical Baseline Report

Stantec’s subconsultant, Bennet Trenchless Engineers (Bennett) and Fugro will prepare a draft Geotechnical Baseline Report (GBR) for the proposed horizontal directional drill crossing of the Santa Clara River following ASCE guidelines.

Fugro will provide subsurface data and prepare a standalone Geotechnical Data Report for the preparation of the GBR. The data report will include the following:

- A map of exploration locations, boring and CPT logs, laboratory test results, and summary of representative geotechnical properties (in tabular or graphical format) such as density, grain-size distribution, and shear strength,
- A summary of subsurface conditions along the alignment based on review of existing data and the results of the planned field exploration program, and
- An interpreted geologic profile will be prepared along the HDD alignment to illustrate anticipated geologic strata and groundwater conditions. The profile will be based on the data collected by Fugro and any existing relevant data.

Task 2.4.5 Deliverables

- Draft Geotechnical Baseline Report TM 03A in electronic PDF format.
- Final Geotechnical Baseline Report TM 03A in electronic PDF format.

2.4.6 - Soils-Based Phase II Environmental Site Assessment

The proposed pipeline alignment traverses agricultural areas, roadway infrastructure, and is located in proximity to a former oil well. Soil disturbing activities such as trenching in these areas has the potential to encounter soils impacted with pesticides, aerially deposited lead, and petroleum hydrocarbons (and directly disturb a well), if present. Developing a quantified understanding of the presence of and concentrations of these constituents of concern in soil along the proposed pipeline alignment prior to construction can assist the City in preparing bid documents for and reduce the potential for change orders during construction to address soil conditions outside those assumed by the selected contractor. In light of these potential constraints, Stantec will conduct a limited Phase II Environmental Site Assessment (ESA) along the proposed pipeline alignment to inform cost forecasting, contractor bid documents, and soil management during construction.

The soil-based Phase II ESA will include evaluating potential recent and historical application of agricultural pesticides and herbicides in areas used for agriculture and aerially-deposited lead near select roadways. Stantec will conduct the limited Phase II ESA in parallel with the geotechnical borings to maximize efficiencies and reduce costs. Stantec will perform the following site assessment activities under this task:

- Prepare a Site-specific Health and Safety Plan (HASP) in accordance with regulatory requirements to complete the limited Phase II ESA.
- Collect soil samples at 0.5 and 3 feet below ground surface via hand auger at the ten geotechnical borings located outside the Santa Clara River.
 - Soil samples collected will be analyzed for organochlorine pesticides by EPA Method 8081, organophosphate pesticides by EPA Method 8141, chlorinated herbicides by EPA Method 8151, and arsenic by EPA Method 6010B;
 - Soil samples collected adjacent to Vineyard, North Rose, and Santa Clara Avenues would be additionally analyzed for lead by EPA Method 6010B;

- For the purpose of this proposal, Stantec assumes six samples require STLC or TCLP analysis;
- If visual indications of soil staining are noted in any of the collected soil samples, those soil samples will also be analyzed for total petroleum hydrocarbons by EPA Method 8015 (for purposes of this scope it is assumed up to five samples may be analyzed by this method);
- It is assumed that soil samples proposed can be collected over a seven-day duration.

Task 2.4.6 Deliverables:

- Draft Phase II ESA Report (electronic)
- Final Phase II ESA Report (electronic and one hard copy)

Task 2.5 *Preliminary Design Report*

Stantec and subconsultant team will prepare a preliminary design report necessary to confirm design criteria for the Project, identify recommended pipeline material and alignment, and set direction for final design. Preliminary design activities are described as follows.

2.5.1 – Hydraulic Analysis and Pipeline Sizing

Stantec will review the hydraulic analysis included in the report entitled “State Water Interconnection Operation and Delivery Plan” prepared by Kennedy Jenks Consultants (dated January 2019). Stantec will provide a desktop hydraulic analysis for the proposed Project water main to confirm estimated hydraulic pipeline capacity over the length of the proposed pipeline. The analysis will require information to be provided by the City and Calleguas to include the following:

1. Previous hydraulic analysis used in the 2018 State Water Interconnection Operation and Delivery Plan.
2. System operational constraints and flow rate requirements. Boundary conditions are assumed to be provided by the City and Calleguas.
3. Operating conditions for the various supply scenarios including supply being served from Calleguas to the City/Casitas, Calleguas to UWCD only, Calleguas to City/Casitas and UWCD, and from the City to Calleguas. A total of four scenarios are assumed for analysis.

The hydraulic analysis will determine the hydraulic grade along the water pipeline under key operational scenarios to assist in specifying the pressure class of pipe and size for the pipeline. Stantec will evaluate the feasibility of reducing the pipeline size under the Santa Clara river. The results of the hydraulic analysis will be presented in the draft hydraulic analysis technical memorandum (TM 04). TM 04 will be submitted to the City. Agreed upon comments will be incorporated into a final TM 04. TM 04 will be included in the appendices of the Preliminary Design Report as discussed in task 2.5.

2.5.2 – Materials of Construction

Stantec and HDR will provide alternatives for pipeline materials to be used in the design of the proposed interconnection. Pros and cons of using steel, ductile iron, and HDPE will be provided. It is assumed at this time the horizontal directional drilling installation will be with HDPE. The

results and recommendations of the pipeline material evaluation will be presented in the draft technical memorandum (TM 05). TM 05 will be submitted to the City. Agreed upon comments will be incorporated into a final TM 05. TM 05 will be included in the appendices of the Preliminary Design Report.

2.5.3 – Preliminary Santa Clara River Horizontal Directional Drilling (HDD) Design

Stantec's subconsultant, Bennett will review site-specific geotechnical information based on the previous results of Task 2.4. This review will be used to select the optimal HDD bore alignment and profile. The geotechnical investigation will be used to select representative soil property values to use in the design calculations to evaluate pipe stresses and pullback loads, select appropriate pipe materials and stiffness, and evaluate hydrofracture risks. The site-specific geotechnical investigation will also be used to develop mitigation measures for constructability challenges for the HDD work. Bennett will prepare the preliminary horizontal directional drilling (HDD) design including the following:

Preliminary HDD Bore Plan and Profile Development

Bennett will identify potential alignments, profiles for the HDD crossing, access, and laydown areas. The potential risks will be evaluated, and a preferred alignment and profile will be developed. The process will be iterative, and the recommended alignment and profile will be based in part on the results of calculations task 2.5.3.B.

Preliminary Calculations to Determine Bore Profile

Bennett will perform preliminary hydrofracture, pipe stress, and pullback load calculations to develop the HDD geometry and alignment. The calculations will be conducted using existing and site-specific geotechnical information, judgement, and experience. Results of the design calculations will be the basis for demonstrating risk avoidance and mitigation to the USACE and other permitting agencies. Therefore, Bennett will develop stand-alone reports or appendices as necessary to include appropriate portions of the preliminary design report with permit application packages.

Surface Spill and Hydrofracture Contingency Plan

Bennett will prepare a plan which addresses all concerns of the Corps and other permitting agencies. The plan will address sources and causes of potential spills and hydrofracture incidents, containment, clean-up, and restoration, and notifications/reporting of incidents. Points of contact will be provided with e-mail addresses and telephone numbers.

Trenchless Technical Memorandum

Bennett will prepare a trenchless technical memorandum (TM 06) summarizing the results of the work described above in Task 2.5.3 A through C. TM 06 will include a summary of the assumptions and information used in the preliminary design, the recommended alignment and profile for the crossing, a description of risks identified and measures to mitigate those risks, hydrofracture risk evaluations, anticipated pipe stress and pullback load calculations, recommended pipe material and stiffness, preliminary cost estimate and schedule for trenchless construction. TM 06 will identify required permits, work area requirements, adequate rig work areas and pipe laydown areas, and prepare equipment/pipe layout sketches. TM 06 will be submitted to the City. Agreed upon comments will be incorporated into a final TM 06. TM 06 will be included in the appendices of the Preliminary Design Report.

2.5.4 – Water Quality Analysis

Data Review and Source Evaluation

Stantec will gather and organize data on both the current and the proposed water sources in the 430-pressure zone. Key sources of information Stantec will request to serve as the basis for this study include the following, if available:

- Process flow diagram and design criteria for the treatment processes for the current 430-pressure zone.
- Map of the 430-pressure zone service area, identifying the water sources point of entry and sampling sites.
- List of most common piping materials in the 430-pressure zone.
- Current daily and monthly demand in the 430-pressure zone over the past 5 years.
- Proposed flow rate in the 430-pressure zone.
- Water age analysis.
- Reports from prior corrosion control studies.
- Water quality data points from the entry point to the distribution system and from samples taken in the distribution system.
- Water quality data of current and proposed major water sources.

This data will help establish the baseline for the 430-pressure zone and serve as the basis for evaluating future water quality changes. Calculation of the mechanisms of corrosion require that each sample point have a complete dataset, consisting of the following parameters:

- *Major Cations* – calcium, magnesium, sodium, and potassium
- *Major Anions* – chloride, sulfate, alkalinity (so that bicarbonate and carbonate can be calculated), fluoride, nitrate, and phosphate
- *General Physical Conditions* – pH, total organic carbon, silica, and total dissolved solids (if measured separately)

The data collected will be used to develop water quality profiles for both the current and the proposed water sources in the 430-pressure zone. The current demands and new source capacities will be used to project a range of new supplies as a fraction of total supply, and estimated profiles for these future blends will be developed based on blend ratios. Recommendations will be presented for an Interconnection Startup Plan to mitigate potential water quality changes during the introduction of Calleguas' water into the City's distribution system, to maintain compliance with the Lead and Copper Rule (LCR), and to ensure appropriate disinfectant residuals. The recommendations will be included in Task 5 Operation and Maintenance Manual.

Stantec's evaluation of potential risks for corrosion will encompass the indices listed below.

- pH and alkalinity
- Calcium carbonate solubility indices
- Chloride and sulfate indices
- Organics and nutrients

The indices above will help identify whether major shifts are expected with the change in water supply and identify any "red flags". Stantec will consider these indices across a range of blending ratios, to evaluate the options of gradual introduction of the new supply vs. rapid transition, conditioning options, and pipe loop studies using actual water sources and distribution system materials.

Pipe Loop Study

The data review and source evaluation by Stantec will yield insights into differences in corrosion potential between the current water sources and assessment of options to minimize corrosion potential of the proposed water source. To further investigate possible effects of changing the water source on the existing 430-pressure zone, a pipe loop study will be conducted. This pipe loop study will allow for the identification of possible corrosion and metal mobilization effects on pipes and fittings representative of the 430-pressure zone due to the source water change as well as evaluation of whether the design conditioning or blending will be enough to mitigate problems.

Three phases of testing with five pipe loops, as shown in Table 2-2, will be conducted.

Table 2-2 Experimental Approach

Phase	Objective	Length	Poly/ Orthophosphate Dosing in Each Loop	Blends in Each Loop
1	Condition each pipe loop with current source water	2 months	1. No phosphate 2. No phosphate 3. Phosphate dosing Phosphate dosing	1. Control – current baseline blend 2. Current baseline blend 3. Current baseline blend 4. Current baseline blend
2	Investigate the transition period from current operation to new source operation	3 months	1. No phosphate 2. No phosphate 3. Phosphate dosing Phosphate dosing	1. Control – current baseline blend 2. Introduce new water 3. Introduce new water 4. Introduce new water
3	Optimize conditioning and blending	1 month	1. No phosphate 2. No phosphate 3. Adjust dose Adjust dose	1. Control – current baseline blend 2. Same as Phase 2 3. Same as Phase 2 4. Same as Phase 2

Phase 1 will allow for an understanding of “apparatus effects” (variation in corrosion and metal mobilization in loops with the same water source due to uncontrolled apparatus differences). as well as assessing the effects of phosphate corrosion inhibitor on the current baseline blends. Keeping one control loop with the blend of current water sources in Phases 2 and 3 will further characterize apparatus effects and yield more certainty of the possible effects of distribution of unconditioned water in the 430-pressure zone. Metal concentration data from Phases 2-3 will be compared to the Phase 1 baseline and to the control loop, to identify conditions that contribute to higher mobility of lead and copper.

Segments of in-service piping will be harvested from the actual distribution system by the City’s staff for use in the pipe loops. The remaining components will be acquired by Stantec. Harvested pipe loop components will be representative of the 430-pressure zone to the extent possible, with the exception that asbestos cement pipes will not be included. After 2010 in California (and 2014 nationwide) the lead content standards for brass fitting, were changed.

Therefore, fittings with pre-2010 alloys would be harvested for testing. Each loop will contain the following:

- Harvested cast iron piping. This pipe will be actual older unlined cast iron pipe from the distribution system that could potentially contribute to dissolved metals.
- Harvested brass water meters. This flow meter will not be in operation but will instead serve as a proxy for the type of older pre-2010 brass fittings that potentially contribute dissolved lead.
- Two-gallon reservoir. This is where the batching of each loop's feed water will take place.
- Recirculation pump (1/12 horsepower [hp]). The pump will be turned on and off to simulate stagnation periods, as is common in the diurnal flow pattern in premise plumbing.
- Sample ports. Two sample ports will be included to collect samples and drain the loops during rebatching.
- Functional flowmeter. A rotameter will be used along with a valve to provide flow control for the loops.
- Air vent. This will be included at the upper-most part of the loop.

Pipe Loop Setup

The pipe loops will be set up at a City recommended site, with ability to keep the pipe loops indoors with temperature control, ease of City staff to assist with re-batching and sampling, and ability to store chemicals, poly- and ortho-phosphate, to be used for batching. Each pipe loop will be mounted on a plywood frame.

The City will harvest the piping and meters noted above from the actual distribution system. Stantec will provide the remaining pipe loop components (recirculation pump, rotameter, reservoir, and PVC pipe, valves, and other fittings).

Stantec will spend up to an estimated three days at the pipe-loop pilot site to setup the pipe loops, with the support of the City staff. All pipe loop components (harvested pipe and fittings by the City staff; other components by Stantec) will be acquired before Stantec's arrival on site to set up the pipe loops.

Pipe Loop Operation and Sampling

Stantec will establish procedures for operation, field measurements, re-batching, and sampling for each phase of pipe loop testing. Stantec will support the City staff with training on the basic operations, maintenance of the testing equipment and sampling procedures. City staff will oversee the daily weekday operation of the apparatus and notify Stantec of any unexpected changes. The City will conduct regular (i.e. daily) checks on the loops and turn the pumps on and off for stagnation mode. City staff will also perform periodic re-batching, and conduct sampling and measurements as outlined in the Test Protocol (see Table 2-3). This will include regular measurements of pH, chlorine residual, dissolved oxygen, temperature, and turbidity.

Periodically, the water in the loops will be re-batched and new blends will be added to the reservoir of each loop. Frequency of rebatching will reflect the model water age in the interconnection system. Stantec will use the water age data from the City to evaluate the interconnection system. For re-batching, the source water for each loop will be pulled before chlorine dosing in order to allow for control of chlorine residual in the pipe loops. Hypochlorite and ammonia stock solutions will be dosed into each batch to mimic the baseline chloramine residual. In addition, the batch water for Pipe Loop 4 will be dosed with corrosion inhibitor in Phases 2 and 3. Table 2-3 lists out the pipe loop study operational outline and roles.

Sampling for off-site analysis will occur weekly the City. Samples will be analyzed for the following constituents:

- Major cations/anions (Ca²⁺, Mg²⁺, Na⁺, K⁺, alkalinity, Cl⁻, SO₄²⁻, NO₃⁻)
- Trace metals (Pb, Cu, Fe, Zn)

Table 2-3 Pipe Loop Study Operational Outline and Roles

Task	Frequency	Stantec Staff Role	City Role
Pipe Loop design and setup	Beginning of Study	Stantec to perform task	City to harvest pipe materials
Field protocol development	Beginning of Study	Stantec to perform task	City to provide review
Daily stagnation - turn on pump	Every Weekday Morning	Provide procedures/support	City operations to do as part of daily rounds
Daily stagnation - turn off pump	Every Weekday Evening	Provide procedures/support	City operations to do as part of daily rounds
Weekly re-batching	Every Monday	Provide procedures/support	City operations to add new blends to each loop
Batch dosing with Cl ₂ , NH ₃ , PO ₄	Every Monday (with rebatching)	Provide procedures/support	City operations to dose from liquid stock with pipette
Weekly sampling	Every Friday	Provide procedures/support	City operations to collect and analyze samples
Data analysis	Throughout Study	Stantec to perform task	City to Review

Data Analysis and Reporting

Stantec will organize and manage the data collected during the pipe loop experiments. Analysis of the experimental data will focus the actual major ion profiles and stability indices of the water in each loop. Stantec will plot the development of dissolved metals over time and investigate the relationship between chemical conditions and observed effects on chemical corrosion.

Based on insights from this data analysis, Stantec will make recommendations for chemical conditioning and monitoring and revisit the conclusions from the data review and source evaluation study. The results of the water quality analysis and pipe loop study will be presented in the draft technical memorandum (TM 07). TM 07 will be submitted to the City. Agreed upon comments will be incorporated into a final TM 07. TM 07 will be included in the appendices of the Preliminary Design Report. Findings will also be incorporated into the final Operation and Maintenance Plan (Task 5) and will be used in the design of the blending station.

2.5.5– Blending and Metering Station Considerations

Blending Station

Based on the State Water Interconnection Blending Station Siting Study (prepared by Kennedy Jenks Consultants, December 18, 2019), the Blending Station design includes the following:

- Sodium hypochlorite metering pump skid;
- Aqueous ammonia metering pump skid;
- Orthophosphate metering pump skid;
- Static mixer;

- Two chlorine analyzers; and
- 8-inch pipeline from the interconnection pipeline and an 8-inch blended return to the interconnection pipeline.

Stantec will evaluate the design, as presented in the siting study, and recommend modifications as appropriate. In addition, Stantec will evaluate the existing building to determine if there is sufficient room to add analyzers as the preferred option. If there is insufficient room, the project will include a shade structure/enclosure for analyzing purposes.

Metering/Flow Control Station

Flow from Calleguas to the City/Casitas and flow from the City to Calleguas would be regulated and metered via flow control or pressure regulating valves and metering facility. The valves and meter are anticipated to be located in a below ground vault near the intersection of Saticoy and Telephone Roads, with instrumentation and control equipment located in nearby cabinets. The mainline meter shall be a bi-directional ultrasonic meter of a type to be mutually agreed to by the City and Calleguas.

Calleguas will own, operate and maintain the portions of the flow control/metering facility and control equipment that involves delivery of water to the City/Casitas. The City will own, operate and maintain the portions of the flow control/meter facility and control equipment that involves delivery of water to Calleguas. Calleguas' portion shall be designed by Stantec in accordance with Calleguas' design requirements. Design of Calleguas' facilities will be reviewed and approved by Calleguas.

Flow control and pressure regulating facilities will also be required at the outlet to United's spreading basin.

The control system will be designed so that both the City and Calleguas will have the ability to observe flow, pressure and valve status through their SCADA systems.

Sodium Hypochlorite Tank Foundation Structural Investigation

Based on a site visit with the City to the Saticoy Conditioning Facility, the City expressed concerns with the existing foundation for the sodium hypochlorite tanks. The existing foundation has significant cracking around the base and slab. Stantec will perform a site investigation to evaluate the foundation and ability to be used with the existing chemical tanks. In order to perform the investigation, the grating will need to be removed and allow for the structural engineer to access the damaged areas. Stantec anticipate a three-hour site investigation followed by a desktop analysis of the as-built plans and available geotechnical reports. The results of the structural investigation and desktop analysis will be presented in the draft technical memorandum (TM 08). In addition, it is assumed that repairs will require a temporary chemical tank set-up in order to maintain operations and existing chemical tanks can be removed from building without structural changes to the building. TM 08 will include recommendations and requirements for the temporary set-up. The draft TM 08 will be submitted to the City. Agreed upon comments will be incorporated into a final TM 08. TM 08 will be included in the appendices of the Preliminary Design Report.

2.5.6– Operational Considerations

Stantec will provide recommendations on operational considerations to be incorporated into the final design. Stantec anticipates one operation meeting with City and partner agency operations

staff to discuss how the City and partner agencies plan to operate the Project. Stantec will work with the City to establish operational considerations including start up, shut down, flushing, bi-directional flow, valve placement, control strategy, and other various operational considerations for the interconnection pipeline and blending station facility. The operational considerations that will be used in final design will be included in the preliminary design report. An Operation and Maintenance Manual will be prepared to document final design of the interconnection pipeline and blending station and is included as Task 5.

2.5.7– Conceptual Drawings (10 percent) and Specification Table of Contents

The 10 percent conceptual design sketches will include 11x17 schematic level pipeline alignment and blending station site layout including the process diagram. Conceptual drawings and specifications table of contents (TOC) will be submitted as part of the Preliminary Design Report under Task 2.5.9.

2.5.8– Preliminary Opinion of Probable Costs and Construction Schedule

Budgetary level estimate of opinion of probable construction costs (AAACE Cost Estimate Class 5) and preliminary design and construction schedule will be submitted as part of the Preliminary Design Report under Task 2.5.9.

2.5.9 – Preliminary Design Report

The Stantec design team will prepare a preliminary design report to include design parameters, Project constraints, pipeline material selection and requirements, pipeline capacity analysis, hydraulic analysis, water quality analysis and design recommendations, and horizontal directional drilling (HDD) design details. The Preliminary Design Report will serve as the basis for final design of the Project and will incorporate the technical memoranda prepared under previous tasks. Stantec will submit a draft preliminary design report to the City. Once requested, Stantec will submit a draft preliminary design report to the partner agencies Calleguas, Casitas, and United on behalf of the City for their review. Review comments will be compiled into a single document and agreed upon comments will be incorporated into a final preliminary design report stamped and signed by the Project Engineer and submitted to the City. Stantec will develop a comment log identifying comments as incorporated and reference the page number where the change was incorporated.

Table 2-4 – Proposed Preliminary Design Report Outline

Chapter	Title
1	Project Introduction
2	Proposed Alignment and Design Standards
3	Geotechnical Considerations
4	Pipeline Hydraulics and Pipe Sizing
5	Trenchless Design Requirements
6	Materials of Construction
7	Water Quality Analysis
8	Blending/Metering Station Requirements
9	Environmental Considerations and Permitting Requirements
10	Operational Considerations
11	Conceptual Drawings (10 Percent) and list of Technical Specifications
12	Preliminary Opinion of Probable Costs
13	Preliminary Construction Schedule
	Appendices – Technical Memoranda

2.5.10 – Preliminary Design Workshop

Stantec will facilitate a workshop discussion involving City staff to review the results of the preliminary design report and confirm Project next steps. Stantec will prepare a workshop including:

- Project location (map of Project location and key areas of concern);
- Construction constraints (geotechnical, environmental, existing utilities, right of way, encroachment, confirmation of key stakeholders);
- Project hydraulics (system design flows, hydraulic profile, etc.);
- Pipeline planning (connections/transition between other agencies, alignment, pipe material, trenchless construction, etc.);
- Design standards and Project delivery;
- Schedule confirmation (confirm critical path items, environmental processing, permitting, Right of Way procurement, etc.);
- Operational considerations;
- Preliminary opinion of probable construction costs; and
- Graphics for public presentations.

Task 2.5 Deliverables:

- Draft Hydraulic Analysis TM 04 in electronic PDF format.
- Final Hydraulic Analysis TM 04 in electronic PDF format.
- Draft Horizontal Directional Drilling TM 05 in electronic PDF format.
- Final Horizontal Directional Drilling TM 05 in electronic PDF format.
- Draft Materials TM 06 in electronic PDF format.
- Final Materials TM 06 in electronic PDF format.
- Draft Water Quality TM 07 in electronic PDF format.
- Final Water Quality TM 07 in electronic PDF format.
- Draft Sodium Hypochlorite Tank Foundation TM 08 in electronic PDF format.
- Final Sodium Hypochlorite Tank Foundation TM 08 in electronic PDF format.
- Draft Preliminary Design Report in electronic PDF format
- Four hard copies of final Preliminary Design Report and one electronic PDF format
- Comment log and resolution in electronic PDF format

Task 2.6 *Topographical Survey and Boundary Mapping*

2.6.1 – Aerial Topographic Map

Stantec will provide topographic mapping from color aerial photogrammetry for the Project area. The mapping limits shall include a corridor three hundred feet wide, lying one-hundred fifty feet on each side of the Project alignment. Mapping will meet the requirements in “ASPRS Accuracy Standards for Digital Geospatial Data”, dated November 17, 2014 and will be provided in AutoCAD format including a digital terrain model (DTM). Mapping will be compiled at a scale of 1” = 40’ with one-foot interval contours. Horizontal coordinates shall be in terms of the North American Datum 1983 (NAD83) and elevations shall be based upon the North American Vertical Datum 1988 (NAVD88) unless otherwise directed by the client.

2.6.2 – Aerial Ortho-Imagery

Stantec shall perform digital orthorectification services for this Project. The color photography shall be scanned and ortho-rectified to produce a digital image with a 0.25-meter pixel resolution. Control from the aero triangulation and ground survey will be used to tie the digital images to actual ground coordinates. The DTM collected from the stereo photography will be used during the process to adjust each image pixel into its correct position. All digital images will be clipped to their final size and written to CD-ROM, or other decided upon media. The raster images will be delivered in uncompressed .TIF format and accompanying .TFW file for geo-referencing.

2.6.3 – Supplemental Field Topographic Survey

Stantec shall compile supplemental topographic mapping by conventional field survey methods for final design purposes. Topography shall include locations and elevations of features not accurately defined by the Project aerial. The supplemental mapping shall include spot elevations, top/toe of slopes, driveways, surface utilities (accessible sewer and storm drain manholes will be opened and the invert elevation, pipe size and pipe material will be noted), and areas of proposed construction joins.

Note: In areas where the topography poses a safety risk, Stantec will interpret elevations based on available ground measurements.

2.6.4 – Boundary and Right-of-Way Survey

Stantec will conduct research with the County and City of Ventura to obtain recorded maps and documents pertaining to the land boundaries and survey monumentation. Field surveying will be conducted to recover and tie the controlling survey monuments sufficient to analyze and compute the property boundaries, and existing rights of way within the Project alignment.

In cases where the right-of-way has been dedicated by deed and does not show on a map of record, title reports will be required. Title reports are not included in this proposal and shall be provided by the City as required.

A "Record of Survey" will not be required for this Project. Should a material discrepancy between record information and field established rights-of-way be discovered while preparing this survey, a Record of Survey will be required in compliance with section 8762 of the California Business and Professions Code. This scope of services does not include a record of survey; however, Stantec may provide this service as additional work if requested.

2.6.5 – Legal Descriptions

Stantec will assist the City with right-of-way acquisition documents for temporary and permanent easements. Stantec will prepare Legal Descriptions and Exhibits to be used for the acquisition of easements and rights-of-way, based upon the requirements of the appropriate governmental jurisdictional agency. The preparation of Grant Deeds is not included within this scope of services. These services will be provided by the City. Three legal descriptions and exhibits (temporary and permanent) per each of the parcels along the interconnection alignment. A maximum of twelve parcels have been budgeted for this task.

Task 2.6 Deliverables

- Ground control coordinates, digital terrain Model (DTM), and topographic map files in electronic format
- AutoCAD file of basemap including a point ASCII file of the surveyed marker locations
- Orthographic photo
- Topographical map in electronic AutoCAD format. Hardcopy available upon request
- Legal descriptions will be submitted in electronic PDF format

Task 2.7 *Base Mapping and Potholing*

2.7.1 – Prepare Base Map

Stantec will plot the utility information gathered as part of Task 2.2.1 Existing utility information will be overlaid onto the topographic map prepared in Task 2.6 and will include utility designation, size of facility, and utility owner. In addition, Stantec will prepare a pothole log of locations, utility potholed, and xy coordinates. All information received from utility providers will be submitted to the City in digital format for record keeping.

2.7.2 – Potholing

The proposed alignment (as proposed in the Preliminary Design Report) will be compared to the utility record research. Should the existing utilities location appear to be in conflict and record information deemed as inadequate to accurately locate on the plans, Stantec will recommend potholing to physically locate the utility in question. In addition, some utilities may be recommended to be located (potholed) regardless of conflicts. The pothole scope includes the following:

Potholing Exhibit

Stantec will prepare a utility field investigation plan (pothole exhibit) identifying utilities that are recommended to be physically located. The utility field investigation plan will be prepared at 100-foot scale and provided for City review and approval for implementation.

Utility Potholing

Stantec's subconsultant, T2 Utility Engineers, will perform field utility investigations (pothole). Fee is based on performing potholing at sixty individual locations.

Pothole Survey

Stantec will conduct a field survey to locate pothole reference markers set by the pothole subconsultant. It is estimated that five field days will be required for this effort. Stantec will download the survey data to an AutoCAD format and provide both a CAD file and a point ASCII file of the surveyed marker locations.

Task 2.7 Deliverables:

- Recommended utility field investigation plan in an electronic PDF format for review and approval
- AutoCAD file of basemap including a point ASCII file of the surveyed marker locations.
- Utility potholing details in electronic PDF format.

Task 2.8 Corrosion Analysis

Stantec's subconsultant, HDR, will perform the corrosivity analysis based on corrosivity of soils and selected pipeline material for final design. *Task 2.8 will be deleted if a non-metallic pipe is selected as the preferred pipe material.* This task includes the following:

HDR will perform soil field investigation, sampling from Fugro's geotechnical boring field work (Task 2.4). These samples will be used for analysis to confirm soil corrosivity along the Project alignment. This data will be used for determining if corrosion engineering is necessary and the appropriate cathodic protection design and other corrosion mitigation measures. HDR will identify applicable water quality constituents that may affect the Project design.

As part of the field investigation the possibility for stray current will be assessed including coordination with other utility providers. For example, there are two high pressure gas mains paralleling the proposed Interconnection and a third high pressure gas main that crosses the proposed Interconnection. These foreign lines typically have impressed current cathodic protection systems that can cause stray current corrosion on the proposed water main.

If required based on the initial corrosion analysis, HDR shall incorporate all corrosivity, stray current mitigation, and cathodic protection requirements into the design of the Project, including the design and selection of appropriate equipment/pipe materials and coatings that are compatible with the environment, source water, product water, and associated chemicals to

provide maximum service life for the Project. The corrosion analysis and recommendations will be provided in a draft technical memorandum (TM 09) and submitted to the City for review. Agreed upon comments will be incorporated into a final TM 09 and submitted to the City.

Task 2.8 Deliverables:

- Draft TM 09 in electronic PDF format
- Final TM 09 in electronic PDF format

Task 2.9 30 Percent Design Documents

The Stantec design team will prepare 30 Percent level design documents for the Project and will include the following:

- Design Plans. Stantec will prepare one set of 30 percent plans for the Project. The plans will be prepared at a scale of 1"=40 feet (for pipeline alignment). Electrical, structural, mechanical, and civil sheets will be prepared at industry standard scales. Stantec anticipates using the 30 Percent plans for initiating the trenchless permitting process. The plans will be prepared for 24" x 36" size sheets, with City standard title block format. Elements within the varying agencies will be prepared to their standards for work within their rights of way including standard details (Caltrans, County of Ventura, Ventura County Transportation Commission (VCTC), and United). The proposed pipeline alignment will be projected upon the basemap prepared in task 2.7 and shown in plan view. Table 2-5 shows the estimated 30 percent plan sheet list.
- List of technical specifications titles
- Preliminary opinion of probable construction costs
- Preliminary construction schedule
- Stantec will prepare PDF exhibits of the alignment and project details will be prepared for informational purposes during public meetings. It is assumed the City will prepare final presentations

Table 2-5 Estimated 30 Percent Plan Sheets

Sheet Count	Sheet Number	Sheet Name
1	G1	Cover and Location Map
2	G2	Index and Basis of Bearings
3	G3	Symbols, Abbreviations, Legend, and Notes
4-10	C1-C7	Civil Details
11-26	C1-C23	Pipelines Plan View
27-29	C24-C26	HDD Plan and Details
30-35	C27-C32	Civil Plans
36-37	S1-S2	Structural Plans
38-39	M1-M2	Mechanical Plans
40-42	E1-E3	Electrical Plans

Task 2.9 Deliverables:

- Four full sized hard copies of the 30 Percent Design Plans and one electronic PDF copy
- Comment log and resolution in electronic PDF format
- Visuals to be included in public presentations

TASK 3 – FINAL DESIGN
Task 3.1- Final Engineering

The Stantec team will prepare contract documents (construction plans, technical specifications, and opinion of probable construction costs) in four submittals: 60 Percent, 90 Percent, 100 Percent, and a final submittal (Final Bid Documents) for the proposed Project. Specifications will incorporate the latest version of the Greenbook. Construction plans will be prepared following the City of Ventura sheet and title block standards. The Preliminary Design Report and 30 Percent plans will serve as the foundation for detailed design. Each submittal will be presented to City staff at submittal workshops. Following the submittal workshop, the schedule assumes reviewing agencies and landowners will have a 4-week review period to provide any comments. Each submittal will be submitted to the reviewing agencies on behalf of the City. Stantec will work with the City to obtain review of submittals from private landowners.

Table 3-1 – Estimated Final Drawing List

Sheet Count	Sheet Number	Sheet Name
1	G1	Title, Site, and Location Maps
2	G2	Index and Basis of Bearings
3	G3	Abbreviations, Symbols, Legend, and Notes
4-6	C1-C3	Horizontal Control and Key Map
7-9	C4-C6	Hydraulic Profile
10-12	C7-C9	Geotechnical Borings
13-19	C10-C17	Details
20-47	C18-C45	Plan and Profile
48-55	C46-C53	Trenchless Plan & Details
56-61	C54-C59	Civil Plans
62	C60	Construction Staging Plan
63-72	S1-S10	Structural Plans
73-87	M1-M15	Mechanical Plans
88-108	E1-E21	Electrical and Instrumentation Plans

3.1.1 – 60 Percent Design Submittal

The Stantec team will prepare 60 Percent construction plans for the proposed Project. The plans will be prepared as one standalone bid package (one plan set and one technical specification package) for the construction of the Project including the below. Stantec is not anticipating multiple bid packages.

- Plans and Specifications
 - Civil, mechanical, electrical, instrumentation/controls, and structural design elements
 - Pipeline plan alignment combined with the topographic map and utility base map prepared during the preliminary design phase, utilities shown in plan and profile view
 - Blending station and flow control metering facilities layouts including process, mechanical, structural, and electrical/Instrumentation and Controls (I&C) details.
 - Technical Specifications using the Construction Specification Institute (CSI) master format
- Opinion of Probable Construction Costs
- Construction Schedule

Transient Analysis

Stantec will complete a hydraulic transient analysis for the State Water Interconnection Pipeline. The purpose of the analysis is to establish opening and closing times for the flow control valves that will operate to deliver flow to either the City or the Calleguas and design considerations. In addition, the analysis would be used to determine an acceptable closure time for an isolation valve on the State Water Interconnection Pipeline in the event of a pipeline failure.

This analysis will begin by developing a clear and confirmed vision for the proposed fluid transient analysis methodology which follows to mitigate the presence of any water hammer induced constraints within the system.

The fluid transient investigations methodology includes the following:

- System familiarization and data collection
- Transient analysis Work Program
- Construction of skeletonized transient model
- Transient analysis and development of control alternatives
- Documentation and application of the results will be incorporated into the design and Operations and Maintenance Manual (Task 5)

Stantec's hydraulic transient analysis approach will proceed through each of these phases. With the critical transient-causing events identified, mitigation measures will be recommended.

Stantec will complete the following as part of the transient analysis:

- Transient Analysis Work Program: Stantec will prepare a Work Program to identify outstanding information needed to complete the transient analysis; review available model information, confirm interconnection flow scenarios; identify key assumptions, such as boundary conditions associated with the different water supply sources; confirm targets for the evaluation, such as the minimum and maximum allowable head envelopes within the Project pipeline; and present the anticipated scenarios that will be modeled.
- Transient Model Construction: Stantec will construct the water transient model using Bentley Systems HAMMER transient analysis software.
- Transient Analysis and Development of Control Alternatives: The opening and closing of the flow control valves to deliver water to the City and Calleguas systems will be evaluated to recommend an appropriate opening and closing time for the valves as well as recommended sizes and locations of air/vacuum valves along the interconnection alignment.
- Prepare Technical Memorandum (TM 10): Stantec's fluid transient analysts will document the findings of the transient analysis in a technical memorandum.

The hydraulic transient analysis scope of work was prepared using the following assumptions:

- The hydraulic transient model will need system boundary conditions. The hydraulic transient model will be a skeletonized model of this system with additional information added as needed to complete the hydraulic transient analysis.
- Modeling of the UWCD connection points and associated future flow scenarios is excluded. However, the model will include analysis for flushing/filing purposes.

Corrosion Engineering

Stantec's subconsultant, HDR, will prepare plans and technical specification for design of a cathodic protection system if metallic piping is selected as the preferred pipeline material. If so, plans and specifications will be prepared for the 60, 90, and 100 percent and final submittals. *This task will be deleted if non-metallic piping is selected.*

3.1.2 – 90 Percent Progress Plans and Specifications

The Stantec team will progress the construction drawings incorporating agreed upon comments received during the 60 Percent design review by the City. Stantec will develop a comment log identifying comments as incorporated and reference the sheet number where the change was incorporated. The bid package consisting of plans and specifications for the Project construction will include:

- Plans and Specifications
 - Draft final civil (including trenchless and construction staging plans), mechanical, and structural design elements and details, and in progress electrical and instrumentation/controls design
 - Draft final pipeline plan and profile
 - Draft final blending and metering station layout and pipeline alignment
 - Full draft technical specifications. The City will provide and update the front-end specifications and will incorporate Stantec's technical specifications into the bid package. Stantec will develop a bid schedule and measurement and payment descriptions for each bid item.
- Draft final Opinion of Probable Construction Costs
- Construction Schedule
- Stantec will prepare PDF exhibits of the alignment and project details will be prepared for informational purposes during public meetings. It is assumed the City will prepare final presentations.

3.1.3 – 100 Percent Progress Plans and Specifications

The Stantec team will progress the construction drawings incorporating agreed upon comments received during the 90 Percent design review by the City. Stantec will develop a comment log identifying comments as incorporated and reference the sheet number where the change was incorporated. The bid package consisting of plans and specifications for the construction Project will be complete with all design drawings, details, and specifications ready for final Project team review.

3.1.4 – Final Plans and Specifications

Stantec will finalize the construction drawings incorporating agreed upon comments received during the 100 Percent design review by the City. Stantec will develop a comment log identifying comments as incorporated and reference the sheet number where the change was incorporated. The bid package consisting of plans and specifications for the construction Project will be complete with all design drawings, details, and specifications stamped and signed by a Professional Engineer registered in the State of California, ready for construction bidding.

Task 3.10 Deliverables

60 Percent Deliverables:

- Four full size sets of plans and one electronic PDF copy
- One electronic PDF copy of technical specifications
- One electronic PDF copy of the opinion of probable costs (a hard copy set available upon request)
- One electronic PDF copy of the construction schedule
- Comment log and resolution
- Draft Transient Analysis technical memorandum TM 10 in electronic PDF format
- Final Transient Analysis technical memorandum TM 10 in electronic PDF format

90 Percent Deliverables:

- Four full size sets of plans and one electronic PDF copy
- One electronic PDF copy of the technical specifications
- One electronic copy of the bid schedule
- One electronic PDF copy of the opinion of probable construction costs (a hard copy set available upon request)
- One electronic PDF copy of the construction schedule
- Comment log and resolution
- Graphics to be included in public presentations

100 Percent Deliverables:

- Four full size sets of plans and one electronic PDF copy
- One electronic PDF of the technical specifications
- One electronic PDF copy of the opinion of probable construction costs (a hard copy set available upon request)
- One electronic PDF copy of the construction schedule
- Comment log and resolution
- Graphics to be included in public presentations

Final Deliverables:

- One full size sets of plans and one electronic PDF copy, signed and stamped by the Engineer(s) of Record
- One electronic searchable PDF copy of the final technical specifications, signed and stamped by the Engineer(s) of Record
- One electronic PDF copy of the opinion of probable construction costs (a hard copy set available upon request)
- One electronic PDF copy of the construction schedule
- Comment log and resolution
- Visuals to be included in public presentations

Task 3.2 - Horizontal Directional Drilling Prequalification

The Stantec team will prepare a horizontal directional drilling (HDD) package for prequalifying contractors for the Santa Clara River HDD crossing. Stantec will use both the State of California Department of Industrial Relations (DIR) process for prequalifying contractor's using the process outlined in the Public Contract Code 20101 that applies to public agencies and the City's Administrative Policy and Procedure No. 34.2 (AP&P 34.2). The process will use AP&P 32.4 in conjunction with DIR standardized language for questions, financial statements, an appeal's process and guidelines for scoring prospective contractors. Phone interviews will be performed based on references provided by the prospective contractors. The information will be tabulated

and presented to the City for determination of which contractor's qualify for the HDD crossing of the Santa Clara River. This task includes the following:

- Prepare one contractor prequalification package for the HDD crossing of the Santa Clara River
- Identifying performance criteria (e.g. lengths, diameter, river crossing) for contractors to meet
- Submit and address one round of comments
- Notify contractors of prequalification process
- Review contractor responses and provide to City for review and input
- Conduct interviews of respondents to prequalification process
- Submit interview results to City
- Provide contractor scoring of submitted documents
- Provide recommendation of which contractors to prequalify

TASK 4 – ENVIRONMENTAL AND PERMITTING

The following environmental and permitting tasks will be performed to support investigations during design and those needed to construct the pipeline. The anticipated permitting requirements are summarized on Table 4-1.

**Table 4.1 State Water Interconnection Pipeline Project
Summary of Anticipated Regulatory Permitting**

Agency	Permit/Approval	Regulatory Reference	Regulatory Trigger	Strategy to Address to Key Issue(s)	Subject to Public Environmental Review?
Regulatory Permits for Biological/Cultural Resources Surveys in Santa Clara River					
Local					
Ventura County Watershed Protection District (VCWPD)	Encroachment and Watercourse Permit	Ventura County Ordinance FC18	Access for and conducting biological resources surveys within Ventura County red-line stream	<ul style="list-style-type: none"> Conduct pedestrian surveys with no heavy equipment/vehicles within red-line stream. 	No (Exempt)
Regulatory Permitting for Geotechnical Borings/Soil Assessment*					
Federal					
US Army Corps of Engineers	Clean Water Act Section 404 Nationwide Permit – Nationwide Permit 6 (NWP 6) for Survey Activities	Clean Water Act Section 404	Geotechnical borings conducted in Waters of the US (Stantec proposes a jurisdictional delineation in comparison to proposed access and boring locations to determine if permit requirement triggered).	<ul style="list-style-type: none"> Conduct jurisdictional waters delineation (include state and federal). Avoid access across or geotechnical borings in US Army Corps owned, operated, or maintained levee. Nationwide Permit 6 (Survey Activities) requires pre-construction notification for activities in the Santa Clara River watershed 	No (NEPA completed for Nationwide Permit)
State					
Regional Water Quality Control Board	Clean Water Act Section 401 Water Quality Certification	Clean Water Act Section 401	Required if Clean Water Act Section 404 Permit necessary (see above).	<ul style="list-style-type: none"> Pre-certified WQC: NWP 6 is pre-certified by the RWQCB but requires notice of intent to RWQCB for activities in the Santa Clara Watershed. This is a streamlined process that does not require an individual WQC. 	The pre-certification of NWP 6 by the RWQCB has been included a CEQA exemption as part of the pre-certification process. However, because borings are part of a larger project, they will be evaluated as additional CEQA to certified EIR.
California Department of Fish and Wildlife	Streambed Alteration Agreement	Section 1602 of the California Fish and Game Code	Geotechnical borings in riverbed constitute streambed alteration.	<ul style="list-style-type: none"> Conduct jurisdictional waters delineation (include state and federal). 	Yes, will be evaluated as additional CEQA to certified EIR.
Local					
Ventura County Watershed Protection District	Encroachment and Watercourse Permit	Ventura County Ordinance FC18	Access and geotechnical borings within County Red Line Stream and across VCWPD facilities.	<ul style="list-style-type: none"> Avoid access across or geotechnical borings in US Army Corps owned, operated, or maintained levee. 	Yes, will be evaluated as additional CEQA to certified EIR.
Ventura County Watershed Protection District	Well Permit	Ventura County Municipal Code Division 4, Chapter 8, Article 1, Section 4813 (Well Permits)	Advancement of geotechnical and soil assessment borings within Ventura County	<ul style="list-style-type: none"> Geotechnical subconsultant possesses an annual well permit with the County. 	No
City of Ventura Public Works	Road Encroachment Permit	City of Ventura Municipal Code Chapter 18.100	Borings in public road right of way within the City of Ventura.	<ul style="list-style-type: none"> Apply and obtain Encroachment Permit prior to geotechnical borings within the City of Ventura right of way. 	No
County of Ventura	Road Encroachment Permit	County of Ventura Ordinance 4540	Borings in public road right of way within the City of Ventura.	<ul style="list-style-type: none"> Apply and obtain Encroachment Permit prior to geotechnical borings within the County of Ventura right of way. 	No
Caltrans	Road Encroachment Permit		Geotechnical borings within Caltrans right of way for use in obtaining trenchless crossing encroachment permit.	<ul style="list-style-type: none"> Apply and obtain Encroachment Permit prior to geotechnical borings within the Caltrans right of way. 	No
Regulatory Permitting for Pipeline and Blending Station Construction Activities					
Federal					
US Army Corps of Engineers	Clean Water Act Section 408 Letter of Permission	US Rivers and Harbors Act Section 408	Horizontal direction drill under the US Army Corps SCR-1 levee.	<ul style="list-style-type: none"> Conduct jurisdictional waters delineation (include state and federal). Pre-application meeting. 	Yes, covered activity under certified EIR, Corps will determine NEPA path.

Agency	Permit/Approval	Regulatory Reference	Regulatory Trigger	Strategy to Address to Key Issue(s)	Subject to Public Environmental Review?
				<ul style="list-style-type: none"> Design details in application package. 	
State					
State Water Resources Control Board	Coverage under the State's Stormwater General NPDES Permit for Construction Activities	Section 402 of the Clean Water Act	More than one acre of soil disturbance during pipeline installation.	<ul style="list-style-type: none"> Prepare SWPPP 	No
State Water Resources Control Board	Coverage under the State's General NPDES Permit for Dewatering Activities	Section 402 of the Clean Water Act	Dewatering excavations/trenches during pipeline installation and discharge to surface waters.	<ul style="list-style-type: none"> Prepare dewatering/treatment plan 	No
California Department of Fish and Wildlife	Streambed Alteration Agreement	Section 1602 of the California Fish and Game Code	Horizontal directional drilling is subject to a streambed alteration agreement due to perceived agency potential for inadvertent release of drilling fluids and response actions.	<ul style="list-style-type: none"> Conduct jurisdictional waters delineation (include state and federal). Demonstrate low risk of inadvertent drilling fluid release. Develop inadvertent drilling fluid release response plan. 	Yes, covered activity under certified EIR.
Caltrans	Road Encroachment Permit		Pipeline crossing of Vineyard Ave (Hwy 232)	<ul style="list-style-type: none"> Pipe will be installed using trenchless methods. 	No
Division of Drinking Water	Permit approval	Title 17 and Title 22 of the CCR	Adding another source of water.	<ul style="list-style-type: none"> City to take lead on obtaining approvals 	Yes, covered activity under certified EIR.
Local					
Ventura County Watershed Protection District	Encroachment and Watercourse Permit	Ventura County Ordinance FC18	Horizontal direction drill under the Santa Clara River (Ventura County red line stream and under VCWPD owned, operated, and/or maintained levees.		Yes, covered activity under certified EIR.
Ventura County Watershed Protection District	Well Permit	Ventura County Municipal Code Division 4, Chapter 8, Article 1, Section 4813 (Well Permits)	Advancement of horizontal directional drill boring.		No
City of Ventura	Road Encroachment Permit	City of Ventura Municipal Code Division 18, Chapter 18.100	Installation of pipeline in Henderson Rd, Saticoy Ave, and Telephone Rd	<ul style="list-style-type: none"> Pipe will be installed with open cut trench method 	No
County of Ventura	Road Encroachment Permit	County of Ventura Ordinance 4540	Pipeline crossing of Rose Ave, Santa Clara Ave,	<ul style="list-style-type: none"> Both trenchless and open cut methods will be evaluated for construction. 	No
Ventura County Transit Commission	Rail Encroachment Permit		Pipeline crossing of rail tracks at intersection with Saticoy Ave.	<ul style="list-style-type: none"> Pipe will be installed using trenchless methods. 	No
City of Ventura Building Department	Building Permit	California Building Code	Construction of electrical upgrades.	<ul style="list-style-type: none"> 	No
United Water Conservation District	Approval	N/A	N/A	<ul style="list-style-type: none"> Stantec will take the lead and coordinate with City to obtain approval 	No
Private Properties	Permit to Enter and Construct	N/A	N/A	<ul style="list-style-type: none"> City to take the lead on obtaining approvals 	No

*Assumes soil borings are not conducted within Caltrans or County public road ROWs.

Task 4.1 – Pre-Application Regulatory Agency Consultation Meetings

Stantec will coordinate and conduct pre-application meetings with the following regulatory agencies:

1. U.S. Army Corps of Engineers Levees Safety Program (USACE);
2. U.S. Army Corps of Engineers for Regulatory Permitting Coordination;
3. Los Angeles Regional Water Quality Control Board (LARWQCB);
4. California Department of Fish and Wildlife (CDFW); and
5. Ventura County Watershed Protection District (VCWPD).

The intended purpose of the meetings is to provide each agency with an overview of the Project, discuss components under each agency’s jurisdiction, identify important agency issues and confirm application requirements and processing timelines. Stantec will prepare an agenda for each meeting and will prepare meeting minutes for each meeting conducted.

Task 4.1 Deliverables:

- Agendas for each agency meeting (electronic format)
- Meeting minutes for each agency meeting (electronic format)

Task 4.2 – Technical Studies, Regulatory Permits, and Additional CEQA for Santa Clara River Geotechnical Borings

Biological and cultural resources surveys are necessary to support permitting and California Environmental Quality Act compliance for the proposed geotechnical borings in the Santa Clara River.

4.2.1 - Ventura County Watershed Protection District – Encroachment and Watercourse Permit for Biological/Cultural Resources Surveys

Ventura County Watershed Protection District (VCWPD) requires Encroachment and Watercourse Permits to conduct biological and cultural resources surveys within the boundaries of designated red-line streams on lands both owned and not owned by VCWPD respectively. Stantec will prepare VCWPD applications for Encroachment and Watercourse Permits to conduct biological and cultural resources surveys described below. Stantec will address one round of consolidated comments on the draft application and will prepare a final permit application package for submission to VCWPD.

Task 4.2.1 Deliverables:

- Draft permit application package (electronic format)
- Final permit application package (electronic format and one hard copy, for submittal to the VCWPD)

4.2.2 - Preliminary Jurisdictional Wetlands/Waters Delineation Technical Study

To support Project permitting, including geotechnical boring activities within the Santa Clara River, Stantec will conduct a preliminary jurisdictional delineation (JD) of “waters of the US,” including wetlands, waters of the State and CDFW jurisdictional waters within 100 feet of the Project area (where accessible); all delineations are considered “preliminary” until they are

verified by USACE, CDFW, and LARWQCB.

The jurisdictional limits of the waters of the U.S./waters of the State within the Project area will be delineated following the methodology of the USACE 1987 Wetland Delineation Manual and the Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (2006). In general, this is based on the limits of the ordinary high-water mark as determined by changes in physical and biological features, such as bank erosion, deposited vegetation or debris, and vegetative characteristics. The CDFW jurisdictional limits will be delineated following the regulatory requirements in the CDFW Code. In general, this is based on the top of the banks of the channel or to the edge of contiguous riparian canopy/habitat. Identified jurisdictional boundaries will be delineated and mapped, with acreages quantified using a GPS-enabled mapping tablet capable of sub-meter positional accuracy.

Prior to conducting the field assessment, Stantec will review current and historic aerial photographs, topographic maps, available soils information, and local and State hydric soil list information to evaluate potential jurisdictional features within the Project area. Many potentially jurisdictional features are often misidentified when reviewing aerial photography alone; thus, each feature will be verified in the field.

To verify information described above, Stantec will conduct a field reconnaissance survey with experienced wetland specialists, which will include a field investigation into the current status of jurisdictional waters/wetland habitats within the Project and adjacent areas. Based on data collected on the Project area the total area of State and federal jurisdictional features will be calculated. Upon completion of fieldwork, Stantec will prepare a draft Jurisdictional Wetlands/Waters Delineation and Report in a format acceptable to support compliance with USACE, LARWQCB, and CDFW requirements under the Federal Clean Water Act (CWA), Porter Cologne Water Quality Control Act, and California Fish and Game (CFG) Code. The report will include maps, figures, photo documentation, and field data sheets. Stantec will address one round of consolidated comments on the draft report and will prepare a final report to support permitting.

Task 4.2.2 Deliverables:

- Draft Preliminary Jurisdictional Wetlands/Waters Delineation Report (electronic format)
- Final Preliminary Jurisdictional Wetlands/Waters Delineation Report (electronic format)

4.2.3 - Biological Resources Technical Report for Geotechnical Borings in Santa Clara River

Stantec biologists will conduct focused (non-protocol level) surveys to provide a general biological resources inventory of the proposed geotechnical boring sites and access in the Santa Clara River (and within a 300-ft buffer; where accessible) to determine the presence/absence of and the potential for occurrence of comment and special status plants or vegetation communities.

While the surveys will serve to document all plants and wildlife, they will generally focus on the detection of sensitive birds, mammals, reptiles, invertebrates, and amphibians that may occur on or near the proposed Project site. To the extent possible surveys will be conducted when special-status plant species would be in bloom or identifiable, migratory birds would be passing through and returning to the site, resident bird species would be nesting and fledging, small mammals would be active, and above-ground amphibian and reptile movement would be detectable. However, it is acknowledged that some wildlife species and/or individuals may be

difficult to detect due to their elusive nature, cryptic morphology, or nocturnal behavior. Observations of sensitive wildlife will be logged using a Trimble GPS or GIS tablet and mapped on aerial photography; Stantec biologists will also note the presence and distribution of invasive plants wildlife within areas surveyed. The following is a summary of methodologies that will be employed during the general biological surveys.

Literature Review: A literature search will be performed in conjunction with the field surveys for the project site. A search of the CDFW California Natural Diversity Database (CNDDDB) will be conducted for the U.S. Geological Survey's (USGS) 7.5-minute topographic quadrangle in which the survey(s) occur along with the adjacent eight quadrangles. The purpose of the search is to determine the special-status plants, wildlife, and vegetation communities that have been documented within the vicinity of the project. Additional data regarding the potential occurrence of special-status species and policies relating to these special-status natural resources is generally gathered from the following sources:

- State and federally listed endangered and threatened animals of California
- CDFW Special Animals List
- CDFW California Wildlife Habitat Relationships
- CNPS Inventory of Rare and Endangered Vascular Plants of California
- Consortium of California Herbaria
- Aerial photographs of the location to be surveyed and surrounding areas

Common and Sensitive Wildlife: Reconnaissance-level surveys will be performed by methodically walking meandering transects through the entirety of the Project site at an average pace of approximately 1.5 km/hr while visually searching for and listening to wildlife songs and calls and searching for animal signs (i.e., scat, footprints, fur, burrows, etc.). The walking surveys will be halted approximately every 50 meters to listen for wildlife or whenever necessary to identify, record, or enumerate any other detected species. Terrestrial insects and other invertebrates are searched for on flowers and leaves, under loose bark and under stones and logs on the ground throughout the project site. Randomly selected areas within appropriate micro habitats (i.e., leaf litter, underneath felled logs, etc.) will be hand raked or visually inspected to determine the presence/absence of gastropods. Surveys will be conducted during daylight hours when temperatures are such that reptiles would be active (i.e., between 75 – 95 degrees F). Visual observations will be made to locate basking reptiles, and potential refuge areas, such as debris piles (i.e., woody debris, trash, etc.), are searched. All refugia sites search are returned to their original state upon survey completion.

Vegetation Mapping: Vegetation descriptions and names are based on Sawyer et al. (2009) and will be defined at least to the alliance level. Vegetation maps are prepared by drawing tentative vegetation type boundaries onto high-resolution aerial images while in the field, then digitizing these polygons into GIS. Most boundaries shown on the resulting maps are accurate within approximately three feet; however, boundaries between some vegetation types are less precise due to difficulties interpreting aerial imagery and accessing stands of vegetation. The Stantec Team utilizes the latest advances in technology to create highly accurate and descriptive vegetation maps. Utilizing a GPS enabled tablet, along with sub-meter GPS receivers, the Stantec team can map vegetation communities while on-site and immediately upload the data to the cloud for processing back at the office. This valuable tool limits the need for a large amount of paper maps, thus reducing overall costs while being environmentally conscious. The above scope does not propose to conduct any protocol surveys. This scope assumes that the field surveys would be conducted concurrently with Task 4.2.2 (Preliminary Jurisdictional

Wetlands/Waters Delineation Report). Stantec will prepare a draft report, address one round of consolidated comments on the draft report, and will prepare a final report to support permitting.

Task 4.2.3 Deliverables:

- Draft Biological Resources Technical Report (electronic)
- Final Biological Resources Technical Report (electronic)

4.2.4 - Cultural Resources Study for Geotechnical Borings in the Santa Clara River

Stantec understands that the Phase 1 Archaeological Resources Study conducted by Padre Associates, Inc. in support of the Project's certified Environmental Impact Report included archival and background research at the South Central Coastal Information Center (SCCIC) of the California Historical Resource Information System (CHRIS) included the areas Stantec proposes to advance geotechnical borings. However, the field survey effort does not appear to have included the Santa Clara River bottom. As such, Stantec will conduct a cultural resources field survey of the access to and locations of proposed geotechnical borings in the Santa Clara River.

Phase I Archaeological Survey: Stantec will provide an archaeologist who meets Secretary of the Interior (SOI) qualifications and will conduct an archaeological inventory within the bed of the Santa Clara River and at the locations of exploratory geotechnical borings, including a 200-foot (60-meter) buffer surrounding each boring location to allow for any potential design changes and/or for any staging of geotechnical equipment and vehicles (approximately 60 acres), to determine the presence of cultural resources. This task will include a 100% pedestrian survey of the entire Project area, with standard survey transects spaced at 10 to 15 meters apart. The entire Project area will be surveyed for cultural resources; however, areas with dense (impassable) vegetation, steep slope, or areas that are inaccessible or underwater will not be surveyed, but those areas will be depicted on the final survey coverage maps as "no coverage/inaccessible". The extent of the survey coverage will be depicted on the 7.5-minute topographic quadrangle and Project data will be captured with a handheld Trimble GPS or unit with less than 1-meter horizontal accuracy. The survey will focus on areas of human activities more than 50 years of age, including but not limited to prehistoric resources such as lithic scatters, midden deposits, bedrock milling stations; and historic resources such as structures, foundations, refuse deposits, and/or rock alignments.

Previously recorded cultural resources located within the Project Area will be updated and newly identified resources will be recorded according to current professional standards using the appropriate Department of Parks and Recreation forms (DPR-523). Photographs will be taken of each resource/isolated find and their surroundings to document the built environment within the Project Area. All Project related locational data will be captured with a Trimble GPS unit or GPS enabled tablet with less than 1-meter horizontal accuracy.

Research and Reporting: Stantec will prepare one draft cultural resource technical report which will address the findings and will provide recommendations regarding the geotechnical borings in the Santa Clara River. If any existing and/or new archaeological resources are identified and documented within the Project area, Stantec will make preliminary assessment of their significance and the California Register (CR) and/or National Register of Historic Places (NRHP) eligibility and will provide recommendations for future management considerations. Stantec will address one round of consolidated comments on the draft report and will prepare a final report to support permitting.

Task 4.2.4 Deliverables:

- Draft Santa Clara River Cultural Resources Technical Report (electronic)
- Final Santa Clara River Cultural Resources Technical Report (electronic)

4.2.5 - California Environmental Quality Act Documentation for Geotechnical Borings in the Santa Clara River

Stantec understands that the certified Project EIR did not consider advancing geotechnical borings in the Santa Clara River in support of designing the horizontal direction drill undercrossing. Because the geotechnical borings in the Santa Clara River are subject to discretionary agency approvals, additional CEQA documentation is needed to permit/authorize them. Stantec will analyze the proposed Santa Clara River geotechnical borings' potential impacts on all of the environmental factors considered in the Project's certified EIR. A comparison to the impacts identified in the previously Certified EIR would be conducted in order to determine whether any new significant environmental impacts not previously identified in the Certified EIR would result or whether previously identified significant impacts would be substantially more severe.

Stantec will present the results of the preliminary environmental impact analysis to Ventura Water and discuss the necessary level of additional CEQA review required prior to proceeding. Stantec has assumed for purposes of the proposed scope of work that an Addendum to the certified EIR will be sufficient to meet CEQA requirements. This assumption is based on Stantec's proposal to advance the geotechnical borings in the riverbed after the conclusion of breeding season for birds and in a manner that would avoid removal of vegetative root structures and construction within wetted portions of the river. As a result, the potential environmental impacts to key issues such as biological resources and water quality would be minimized.

Subsequent to Ventura Water's approval, Stantec will prepare an EIR Addendum, pursuant to the California Environmental Quality Act (CEQA), to Certified State Water Interconnection Project EIR (August 2019) to evaluate the potential impacts associated with the geotechnical borings which are proposed to take place within the bed of the Santa Clara River.

The Addendum will incorporate the findings of the technical studies prepared for the geotechnical boring activities within the Santa Clara River, including the Jurisdictional Delineation Report, Biological Resources Technical Report, and the Cultural Resources Study.

Task 4.2.5 Deliverables:

- Draft CEQA Addendum (electronic)
- Final CEQA Addendum (electronic and one hard copy)

Task 4.3 – Regulatory Permits for Geotechnical Borings/Soils Assessment**4.3.1 - U.S. Army Corps of Engineers – Section 404 Permit**

Pursuant to Clean Water Act (CWA) Section 404, the geotechnical borings in the Santa Clara River will require a permit for dredge or fill material placed within "waters of the United States." Stantec assumes that the geotechnical borings will qualify for a Nationwide Permit (NWP) based

on the nature of the activity and limited impacts to jurisdictional waters. Stantec will prepare the appropriate preconstruction notification forms/requests and prepare the application package for the Section 404 NWP.

Stantec will address one round of consolidated comments on the draft and will prepare a final permit application package for submission to USACE. This task includes preparing draft responses to one round of agency comments during the permit review and processing period. Stantec will also address one round of consolidated comments on the draft responses to agency comments and will prepare final responses to agency comments for submission to USACE.

Task 4.3.1 Deliverables:

- Draft permit package (electronic format)
- Final permit package (one electronic and one hard copy, for submittal to the USACE)
- Draft responses to one round of comments/requests for additional information from the USACE (electronic format)
- Final responses to one round of comments/requests for additional information from the USACE (electronic format)

4.3.2 - LARWQCB Section 401 Water Quality Certification

Section 401 of the CWA requires that any applicant for a USACE Section 404 Authorization/ Permit, for activities that result in a discharge of dredged or fill material into “waters of the United States”, shall provide the USACE a Section 401 Water Quality Certification that declares that the discharge will comply with the applicable provisions under the CWA. Therefore, before the USACE will issue a Section 404 permit, Ventura Water must apply for and receive a Section 401 Water Quality Certification from the LARWQCB. CEQA compliance is a predecessor to LARWQCB 401 Water Quality Certification issuance.

Stantec will prepare the appropriate preconstruction notification forms/requests and prepare the application package for the Section 401 Water Quality Certification. Stantec will address one round of consolidated City comments on the draft and will prepare a final permit application package for submission to LARWQCB. This task includes preparing draft responses to one round of agency comments during the permit review and processing period. Stantec will also address one round of consolidated comments on the draft responses to agency comments and will prepare final responses to agency comments for submission to LARWQCB.

Task 4.3.2 Deliverables:

- Draft permit package (electronic format)
- Final permit package (electronic and one hard copy, for submittal to the LARWQCB)
- Draft responses to one round of comments/requests for additional information from the LARWQCB (electronic format)
- Final Responses to one round of comments/requests for additional information from the LARWQCB (electronic format)

4.3.3 - California Department of Fish and Wildlife – Section 1602 Streambed Alteration Agreement

Section 1602 of the CFG Code requires that any entity proposing an activity, that will substantially affect a drainage feature under the jurisdiction of the CDFW, must notify the CDFW of the proposed activity. If the agency determines that the activity may substantially adversely affect the jurisdictional resource, a lake or Streambed Alteration Agreement (SAA) will be

required. A completed CEQA document must be submitted to the CDFW before the SAA is issued.

Stantec will prepare the appropriate preconstruction notification forms/requests and prepare a draft application package for the Section 1602 SAA for the proposed geotechnical borings in the Santa Clara River. Stantec will address one round of consolidated City Water comments on the draft and will prepare a final permit application package for submission to CDFW. This task includes preparing draft responses to one round of agency comments during the permit review and processing period. Stantec will also address one round of consolidated comments on the draft responses to agency comments and will prepare final responses to agency comments for submission to CDFW.

Task 4.3.3 Deliverables:

- Draft permit package (electronic format)
- Final permit package (electronic and one hard copy, for submittal to CDFW)
- Draft responses to one round of comments/requests for additional information from the CDFW (electronic format)
- Final responses to one round of comments/requests for additional information from the CDFW (electronic format)

4.3.4 - Ventura County Watershed Protection District – Encroachment and Watercourse Permits

Stantec will prepare applications for VCWPD Encroachment and Watercourse Permits, which are required for the geotechnical borings in the Santa Clara River. Stantec will address one round of consolidated City comments on the draft application and will prepare a final permit application package for submission to VCWPD. This task includes preparing draft responses to one round of agency comments during the permit review and processing period. Stantec will also address one round of consolidated comments on the draft responses to agency comments and will prepare final responses to agency comments for submission to VCWPD.

Task 4.3.4 Deliverables:

- Draft permit package (electronic format)
- Final permit package (electronic and one hard copy, for submittal to VCWPD)
- Draft responses to one round of comments/requests for additional information from the VCWPD (electronic format)
- Final responses to one round of comments/requests for additional information from the VCWPD (electronic format)

4.3.5 - City of Ventura, County of Ventura and Caltrans Encroachment Permits

Geotechnical borings are anticipated to be performed within the right-of-way of the City of Ventura, County of Ventura and Caltrans. Therefore, an encroachment permit may be required by each agency to support the geotechnical boring program. Stantec and Fugro will work together to prepare applications for and work with the City to obtain the three encroachment permits including traffic control.

Task 4.3.5 Deliverables:

- Encroachment permit package (electronic format) for each of the four agencies

Task 4.4 – Monitoring Support During Geotechnical Borings

4.4.1 – Biological Resources Monitoring for Geotechnical Borings

A Stantec biologist will conduct a pre-construction biological clearance survey within 72 hours of initiating the geotechnical borings in the Santa Clara River and will prepare a brief memorandum summarizing the findings. A Stantec biologist will also be on-site during access and advancement of geotechnical borings in the Santa Clara River to assist and document compliance with geotechnical boring permit conditions and/or CEQA Addendum mitigation measures to reduce potential impacts to biological resources. The biologist will complete daily compliance sheets and will prepare a brief summary report at the conclusion of monitoring. Any observations of potential non-compliance would be immediately reported to the City. It is assumed that a biological monitor would be present for up to fifteen days during access and drilling in the Santa Clara River and these activities would occur outside of bird nesting season.

It is however possible that geotechnical borings outside of the Santa Clara River could occur during bird nesting season. Stantec will complete a pre-construction nesting bird survey and prepare a findings memorandum prior to advancing the four proposed geotechnical borings along Segment 2 pursuant with the requirements of Certified EIR Mitigation Measure BIO MM-2.

Task 4.4.1 Deliverables:

- Draft and final biological monitoring report including daily logs (electronic)
- Pre-geotechnical boring nesting bird survey and results memorandum for Segment 2

4.4.2 – Archaeological Monitoring for Geotechnical Borings

Archaeological Monitoring: Stantec will arrange for a qualified professional archaeological monitor to be present during select geotechnical boring activities. These activities are assumed to include archaeological monitoring of the three proposed geotechnical borings located along Telegraph Road pursuant to EIR Mitigation Measure CR MM-3 and initial geotechnical boring access and advancement in the Santa Clara River; a total assumed eight days of archaeological monitoring.

Stantec will also coordinate with Native American tribal representatives regarding monitoring, if needed. The archaeological monitor will be present during advancement of geotechnical borings to ensure that, if any, new and undocumented cultural resources are unearthed during construction, their significance will be assessed according to CEQA guidelines. If the unearthed deposits are considered significant, Stantec will prepare a plan for recovery of the resource in accordance with CEQA guidelines. Additionally, Stantec's archaeological monitor will compile daily monitoring logs, will provide photographic documentation of construction activities, and will ensure that all construction crews were part of the cultural resource awareness training. In case new construction personnel is present at the construction site, Stantec's archaeological monitor will provide a brief cultural resource awareness training and will hand out sensitivity flyers summarizing the significance of cultural resources. Furthermore, daily monitoring logs and photographs will be used to prepare the final monitoring report at the conclusion of geotechnical borings. It is assumed that an archaeological monitor will be present during geotechnical borings for eight days which includes providing site personnel with the Worker Cultural Resources Sensitivity Program training.

Archaeological Monitoring Report: Once the geotechnical borings are complete, Stantec will prepare an archaeological monitoring report that will describe the finds, if any, as well as the methodology used. One copy of the report will be submitted to the City and one copy will be submitted to the SCCIC of CHRIS.

Task 4.4.2 Deliverables:

- Draft and final archaeological monitoring report including daily logs (electronic)

Task 4.5 – Permitting for Pipeline and HDD Construction**4.5.1 – U.S. Army Corps of Engineers - Section 408 Letter of Permission**

Since the pipeline would cross under a levee (referred to as SCR-1), that is under the U.S. Army Corps of Engineers (USACE) jurisdiction, the HDD would require authorization under Section 14 of the Rivers and Harbors Act of 1899 and codified in 33 USC 408 (Section 408). This task includes preparing a Section 408 permit application package for the HDD. Stantec will prepare and submit the required application (SPL Form 25) package that meet the requirements for a complete Section 408 Request specified in paragraph 11 of USACE Engineer Circular 1165-2-220.

Stantec will also address one round of consolidated the comments on the draft and will prepare a final permit application package for submission to USACE. This task includes preparing draft responses to two rounds of agency comments during the permit review and processing period. Stantec will also address one round of consolidated comments on each of the two draft responses to agency comments and will prepare final responses to agency comments for submission to USACE.

Task 4.5.1 Deliverables:

- Draft permit package (electronic format)
- Final permit package (one electronic and one hard copy for submittal to USACE)
- Draft responses to two rounds of comments/requests for the additional information from the USACE (electronic format)
- Final responses to two rounds of comments/requests for the additional information from the USACE 408 Permit (electronic format)

4.5.2 – California Department of Fish and Wildlife - Section 1602 Streambed Alteration Agreement

Section 1602 of the CFG Code requires that any entity proposing a Project, that will substantially affect a drainage feature under the jurisdiction of the CDFW, must notify the CDFW of the proposed Project. If the agency determines that the Project may substantially adversely affect the jurisdictional resource, a lake or Streambed Alteration Agreement (SAA) will be required. A completed CEQA document must be submitted to the CDFW before the SAA is issued. It is Stantec's experience that CDFW commonly exerts its SAA jurisdiction over proposed HDD undercrossing of waterways due to the potential for an inadvertent release of drilling fluids. As such, Stantec will prepare the appropriate preconstruction notification forms/requests and prepare a draft application package for the Section 1602 SAA for the HDD.

Stantec will address one round of consolidated comments on the draft and will prepare a final permit application package for submission to CDFW. This task includes preparing draft responses to one round of agency comments during the permit review and processing period. Stantec will also address one round of consolidated comments on the draft responses to agency comments and will prepare final responses to agency comments for submission to CDFW.

Task 4.5.2 Deliverables:

- Draft permit package (electronic format)
- Final permit package (electronic format and one hard copy for submittal to CDFW)
- Draft responses to one round of comments/requests for additional information from the CDFW (electronic format)
- Final responses to one round of comments/requests for additional information from the CDFW (electronic format)

4.5.3 – Ventura County Watershed Protection District - Encroachment and Watercourse Permits

Stantec will prepare applications for VCWPD Encroachment and Watercourse Permits, which are required for a HDD undercrossing of the Santa Clara River. Stantec will address one round of consolidated comments on the draft application and will prepare a final permit application package for submission to VCWPD. This task includes preparing draft responses to one round of agency comments during the permit review and processing period. Stantec will also address one round of consolidated comments on the draft responses to agency comments and will prepare final responses to agency comments for submission to VCWPD.

Task 4.5.3 Deliverables:

- Draft permit package (electronic)
- Final permit package (electronic)

4.5.4 – Construction Stormwater General NPDES Permit

Stantec understands the Project must comply with the State Water Resources Control Board General Construction Permit (General Permit No. CAS000002, Water Quality Order 2009-0009-DWQ). Stantec will review the Project drawings and estimated construction timeline to determine if the Project can qualify for an erosivity waiver. If an erosivity waiver is an alternative for the Project, Stantec will assist City with filing the waiver. If the Project does not qualify for an erosivity waiver, Stantec will assist City with filing the following Permit Registration Documents (PRDs):

- Notice of Intent (NOI);
- Risk Assessment;
- Site Maps; and
- Storm Water Pollution Prevention Plan (SWPPP) for a Linear Underground/Overhead Project (LUP) Type 1 or 2.

In order to meet the requirements of the General Construction Permit, a Qualified SWPPP Developer (QSD) will prepare the SWPPP and file the PRDs electronically using the State Water Board's Stormwater Multi-Application and Report Tracking System (SMARTS) website. The Certification Statement is to be signed by the Legally Responsible Person (LRP) and submitted along with the Annual Fee (excluded from Stantec's estimate of cost) based on project acreage to the State Water Board. After receipt of the complete PRD documents, the State will mail a receipt letter including a Waste Discharge Identification (WDID) number to the LRP. It is assumed the Project will qualify as a LUP Type 1 or 2 depending on when construction initiation (month) and duration (period of construction). Stantec will prepare the SWPPP with a Qualified SWPPP Developer (QSD) in accordance with the Construction General Permit and the Ventura Countywide NPDES MS4 Permit that regulates MS4 discharges for the City. The SWPPP will be submitted at the 90 percent, 100 percent, and final submittals.

Task 4.5.4 Deliverables:

- Draft Permit Registration Documents and SWPPP (electronic)
- Final Permit Registration Documents, SWPPP and SMARTS Filing (electronic)

4.5.5 – Groundwater Dewatering NPDES Permit

If groundwater is encountered during trenching for pipeline installation, the trench may require dewatering. Groundwater removed from the trench could either be transported to a treatment and disposal facility or discharged to surface waters in accordance with an NPDES Permit. Understanding at what depth groundwater could be encountered, if present, and what the quality of that groundwater is are important factors in determining a preferred disposal method and provide important information to potential pipeline installation contractors for bid purposes.

As discussed in Task 2.4, if groundwater is encountered, when drilling the borings, Stantec would convert up to three of the ten upland geotechnical borings into temporary groundwater monitoring wells if groundwater is encountered in the 20-foot borings. Under this task, Stantec would collect groundwater samples in up to three temporary groundwater monitoring wells and have them analyzed by a state-certified independent analytical laboratory. The water quality samples will be analyzed for the constituents listed in Tables 1 (Effluent Limitations Applicable to All Discharges), 2 (Organic Compounds Effluent Limitations), 3 (Hardness-Dependent Metals Effluent Limitations), 4 (Other Compounds Effluent Limitations), and 20 (WQBELs based on Basin Plan section 7-9 – Santa Clara River Nitrogen Compounds TMDL) in Los Angeles Regional Water Quality Control Board ORDER NO. R4-2018-0125 GENERAL NPDES PERMIT NO. CAG994004 Waste Discharge Requirements for Discharges of Groundwater from Construction and Project Dewatering to Surface Waters in Coastal Watersheds of Los Angeles and Ventura Counties.

This task additionally includes preparation of a memorandum summarizing the results of the groundwater sampling and analysis. While sufficient information is currently unavailable to permit a potential dewatering discharge, the proposed groundwater sampling will provide important information that can be used to further evaluate the potential need and feasibility of a surface waters discharge and what if any treatment would be required to meet the applicable effluent limitations. The findings would be incorporated into the project specifications. A future supplemental scope of work could then be advanced to obtain a permit if needed, or the City could elect to defer the groundwater dewatering management and permitting to the pipeline installation contractor's scope of work.

Task 4.5.5 Deliverables:

- Memorandum summarizing results of the groundwater sampling and analysis.

4.5.6 – Encroachment Permits

The proposed Project requires work within the right-of-way of the City of Ventura, County of Ventura, Caltrans, and Ventura County Transportation Commission. Therefore, an encroachment permit will be required by each agency for a total of four encroachment permits.

Stantec will work with the City to obtain the required encroachment permits. Stantec anticipates that the contractor will provide all final traffic control plans per each agencies requirement and will include the permit requirements in the contract documents. Stantec will submit the 90

Percent drawings for all four agencies review to allow for permit coordination. Final drawings will be provided for each agency submittal. Stantec anticipate up to two revisions of the plans based on comments received from each agency. Stantec will review the comments with the City and incorporate reasonable and agreed upon plan changes.

Caltrans Encroachment Permit

Stantec assumes the pipeline crossing will be installed using trenchless methods and will require an encroachment permit. Stantec will prepare a Caltrans Encroachment Permit application to meet the current Caltrans Encroachment Permit Manual. It is noted crossings over 30-inches in diameter will be classified as a tunnel and shall follow Caltrans tunnel standards. Construction is anticipated to be outside of the Caltrans right of way and therefore will not require a traffic control plan.

City of Ventura Encroachment Permit

Stantec assumes the pipeline will be installed with open trench methods within the City right of way and an encroachment permit is required. Stantec anticipates the contractor will obtain the encroachment permit utilizing standard traffic control requirements which will be outlined within the contract documents.

County of Ventura Encroachment Permit

Stantec assumes the pipeline installation within the County of Ventura right of way can be installed by either trenchless or open cut methods and will require an encroachment permit. Stantec will prepare a standard County of Ventura encroachment permit application for both County of Ventura right of way crossings. For open trench installation methods, Stantec will prepare conceptual traffic control plans to be used in discussion with the County of Ventura regarding constraints the contractor will need to know for bidding and construction purposes. It is anticipated the contractor will pull the final encroachment permit.

Ventura County Transportation Commission

Stantec assumes the pipeline will be installed using trenchless methods to avoid impact to the railway and will require a permit for crossing. Stantec will coordinate with VCTC for crossing the VCTC railway and construction within their right of way.

Task 4.5.6 Deliverables:

- Draft permit package (electronic format) for each of the four agencies
- Final permit package (electronic format) for each of the four agencies
- Draft responses to one rounds of comments/requests for additional information from each of the four agencies (electronic format)
- Final responses to one round of comments/requests for additional information from each of the four agencies (electronic format)

4.5.7 – City of Ventura Building Permit for Blending Station

Stantec will prepare an application for the City of Ventura Building Department for plan check of electrical and structural plans. Stantec will provide the draft application package to the City for review including 100 percent plans. Agreed upon comments will be incorporated into the final application package and submitted to the City of Ventura Building Department. Stantec assumes one round of building department review comments, which will be coordinated with the

City and agreed upon comments will be incorporated into the design plans and specifications. A final application package will be submitted to the City of Ventura Building Department for final acceptance.

Task 4.5.7 Deliverables:

- Draft permit package (electronic format) for City of Ventura Building Department
- Final permit package (electronic format) for City of Ventura Building Department
- Draft responses to one rounds of comments/requests for additional information from City of Ventura Building Department (electronic)
- Final responses to one round of comments/requests for additional information from City of Ventura Building Department (electronic)

Task 4.6 - Mitigation Support for Geotechnical Borings, Pipeline and HDD Construction

4.6.1 – Cultural Resources Extended Phase 1 Survey and Management Plan

Stantec will provide an archaeologist who meets Secretary of the Interior (SOI) qualifications and is experienced in coordinating and working with Native American Project managers, tribal elders, and tribal monitors to assist the City in meeting the requirements of cultural resources-related mitigation measures (CR-MM) in the Project's certified EIR. Stantec shall coordinate cultural resources related work with the designated Tribal Representative.

Extended Phase 1 Cultural Resources Study (Vineyard to Santa Clara Avenues)

CR-MM-4 Extended Phase 1 Survey: Stantec will conduct an extended Phase 1 survey for the portion of the pipeline alignment between Vineyard and Santa Clara Avenues (defined as Segments 6 and 10 in the EIR) as required in CR-MM-4 as an option to full time monitoring during construction. The goal is to determine presence or absence of buried Native American resources in areas determined sensitive through consultation with Native American representatives and landform assessments by a qualified archaeologist.

Twenty-four (24) Shovel Test Pits (STPs) will be excavated to determine presence or absence of cultural material. STPs placement will be determined by conditions in the field. Depth of STPs will be determined based on soil characteristics, level of previous disturbance, accessibility and safety. The STPs will be terminated if cultural materials are encountered with additional STPs positioned in the vicinity of positive units to make preliminary determinations regarding the nature of any finds. Results of the extended Phase 1 will be presented in a draft report. Stantec will review findings with the Tribal Representative and incorporate their comments into the draft report. Results will determine the need for additional work including potential monitoring of some segments that will be specified in the Cultural Resources Management Plan. Stantec will address one round of consolidated comments on the draft report and will prepare a final report to support permitting.

Cultural Resources Management Plan

Develop Cultural Resources Management Plan per CR MM-1: Stantec will prepare a draft comprehensive Project Cultural Resources Management Plan (CRMP) for the portion of the Project the City of Ventura is constructing. Stantec's qualified archaeologist will work with the City and appropriate tribal representative(s) to address Native American concerns and incorporate them into the CRMP, and to ensure specific measures are designed to minimize construction delays. The purpose of the CRMP is to document the actions and procedures to be

followed to ensure avoidance or minimization of impacts to cultural resources consistent with CEQA Guidelines Section 15126.4(b).

As defined in the Final EIR, the CRMP shall include:

- A description of the roles and responsibilities of cultural resources personnel (including Native American Project manager, Native American representatives, and archaeologists), and the reporting relationships with Project construction management, including lines of communication and notification procedures;
- Description of how (and where) the monitoring shall occur;
- Description of frequency of monitoring (e.g., full-time, part time, spot checking);
- Description of what resources are expected to be encountered;
- Description of circumstances that would result in the halting of work;
- Description of procedures for halting work on the site and notification procedures;
- Procedures for the appropriate treatment of human remains;
- Description of procedures for the treatment of artifacts encountered during construction. Potential procedures may include leaving the artifact in place, preserving materials within another portion of the site, and/or collecting the artifact for analysis. Description of artifact collection, retention/ disposal, and curation policies, including a statement that all cultural materials retained will be curated in accordance with the requirements of an identified, qualified curatorial facility, and that the agency responsible for constructing that portion of the Project shall be responsible for all expenses associated with the curation of the materials at the qualified curatorial facility; and
- A description of monitoring reporting procedures including the requirement that reports resulting from the Project be filed with the South-Central Coastal Information Center (SCCIC) within one year of Project completion.

In addition to the required components, each measure will include time frames associated with unexpected discoveries, and methods to resolve issues between Native American representatives, the construction contractor and the City. This scope includes two in-person meetings with tribal representatives. Stantec will address one round of consolidated comments on the draft management plan and will prepare a final management plan to support environmental compliance. Results will be incorporated into the project specifications, as appropriate.

Worker Cultural Resources Sensitivity Program for Exploratory Work

CR-MM-2 Worker Cultural Resources Sensitivity Program: Stantec shall prepare a Worker Cultural Resources Sensitivity Program which will include a Power Point printout and presentation by a qualified archaeologist that will be required prior to any ground-disturbing construction activities. The training program will include safety procedures, types of resources that may be encountered, the sensitivity of the area, the differences between tribal cultural resources and archaeological resources, the authority of both archaeological and tribal monitors and the responsibilities of construction personnel, the procedures to follow in the event a monitor requests work to halt because of an unexpected discovery, the importance of treating tribal representatives with respect and consequences of noncompliance or disrespect of tribal representatives.

Task 4.6.1 Deliverables:

- Draft Extended Phase 1 Cultural Resources Report for Segments 6 and 10 (electronic)
- Final Extended Phase 1 Cultural Resources Report for Segments 6 and 10 (electronic)

- Draft Cultural Resources Management Plan (electronic)
- Final Cultural Resources Management Plan (electronic)
- Draft Worker Cultural Resources Sensitivity Program (electronic)
- Final Worker Cultural Resources Sensitivity Program (electronic)

4.6.2 - Least Bell's Vireo Protocol Surveys

Pursuant with Mitigation Measure BIO MM-1, protocol level presence-absence surveys will be conducted at and within 500 feet of the HDD entry/exit locations with suitable habitat by a qualified biologist possessing a U.S. Fish and Wildlife Service Endangered Species Act Section 10(a)(1)(A) Recovery Permit. Stantec anticipates utilizing Werner Biological as a subconsultant, who holds the required regulatory permits, to conduct the necessary protocol surveys. The presence-absence survey methodology will follow the protocol described in Least Bell's Vireo Survey Guidelines (USFWS 2001), which requires eight surveys to be conducted at least ten days apart from April 10 to July 31. The presence-absence surveys will focus on locating vireos within a 500-foot buffer study area, but approximate locations of vireos heard outside the buffer were also recorded when possible.

Territory mapping surveys will be conducted concurrently with the eight presence-absence surveys. Territory mapping involves a spot-mapping technique to accumulate mapped vireo locations throughout the season and arrive at approximate territory boundaries. Upon arriving at a known or suspected territory, the qualified biologist will listen quietly for several minutes for vocalizing vireos and began a visual search if none were initially heard. Upon detection, the qualified biologist will use aerial photographs to record locations of all vireos as the birds moved through the vegetation, including males, females, fledglings, and juveniles. Breeding behaviors such as nest-building, carrying nesting material or food, or feeding fledglings will be recorded. After each survey event the mapped vireo locations will be digitized into a Geographic Information System (GIS). Territory polygons will be created using a 50-foot buffer around each vireo location. Polygons that overlapped due to the 50-foot buffer will be adjusted for clarity on the maps.

All wildlife species or sign observed during surveys will be recorded and locations of special-status species noted on maps and/or recorded via GPS. California Natural Diversity Data Base (CNDDB) forms will be prepared for observations of special-status species following standard CDFW reporting guidelines, which list specific criteria for reporting avian observations.

Task 4.6.2 Deliverables:

- Draft Protocol Survey Report (electronic)
- Final Protocol Survey Report (electronic)

Task 4.6.3 - Former Oil Well Geophysical Survey

Stantec proposes a geophysical survey near the former "Coffman 1" oil well and the reported oil well at Henderson Road near the connection point to facilitate compliance with EIR Mitigation Measure HZD MM-2. The geophysical survey will include the use of a magnetometer, a metal detector, groundwater penetrating radar, and a magnetic gradiometer to survey the area identified as the location of the aforementioned former oil wells, in an attempt to confirm the presence of the former oil well. Upon completion of the geophysical survey, Stantec will prepare a draft memorandum summarizing the geophysical survey and results. Stantec will address one round of consolidated comments on the draft geophysical survey memorandum and will prepare a final geophysical survey memorandum. If successfully located during the geophysical survey,

the location of the former oil wells be identified with sub meter accuracy on applicable pipeline alignment drawings.

Task 4.6.3 Deliverables:

- Draft geophysical survey memorandum
- Final geophysical survey memorandum

TASK 5 – OPERATIONS AND MAINTENANCE MANUAL

The Stantec design team will review the January 2019 preliminary Operation and Delivery Plan prepared by Kennedy Jenks. Stantec will create a written Operation and Maintenance Manual for the City that is to be used by City operations staff once the interconnection pipeline and blending station are operational.

The following is a preliminary outline of the Operations and Maintenance Manual for consideration. These may be revised as the plan develops.

Major System Components

This section will provide high-level overview of the interconnected water systems.

Regulatory Compliance

This portion of the Operations and Maintenance Manual will outline major compliance activities with appendices for inclusion of related material such as the Department of Drinking Water (DDW) permit, construction approval certificates, and sampling plans.

Standard Operating Procedures (SOPs)

SOPs will be developed to outline major activities of the proposed Project, referencing system plans and manufacturer information as required. SOPs will be developed in large part by interviews with utility operators and documenting current procedures as reported by operators, along with modifications necessary for the interconnection. The following SOPs are proposed:

1. Interconnection pipeline – bi-directional flow, summer and winter operations including start-up and shut down, prolonged shut-down periods, and maintenance;
2. System valves;
3. Chemical Feed Systems;
4. Regulatory Compliance Sampling;
5. Flushing procedures for disposal of water unsuitable for potable use and contingency plans;
6. Instrument Maintenance and Calibration.

Flow diagrams, schematics and narratives will be developed for expected operations modes related to SOPs. Coordination with operators is expected to be via an in-person workshop with additional coordination via email. The SOPs will be presented in the draft Operations and Maintenance Manual. The draft Operations and Maintenance Manual will be submitted to the City and partner agencies on behalf of the City for review. Agreed upon comments will be incorporated into a final Operations and Maintenance Manual.

Task 5 Deliverables:

- Draft Operation and Maintenance Manual will be submitted in electronic PDF format.
- Final Operation and Maintenance Manual hardcopy will be submitted in a three-ring binder and electronic PDF format.

TASK 6 – DESIGN SERVICES DURING BIDDING

The Stantec team will provide the following services during the bidding process:

- Stantec will prepare written responses to contractor questions that arise during the bidding process (for scope purposes Stantec assumes 10 requests for information or clarification)
- Stantec will assist the City in preparing necessary bid addenda and design clarifications. It is assumed the City will prepare and issue the formal addenda documents to all bidders (for scope purposes Stantec assumes three addenda)
- Stantec will attend and assist the City in conducting the pre-bid meeting with prospective bidders (assumes up to three team members will attend up to a three-hour meeting and site visit) and record minutes of the meeting. Stantec will assist the City in evaluating bids received to determine the reasonable responsive contractor.

Following bid opening and prior to contract award, Stantec will provide the following services to facilitate transitioning the project to the Construction Management Team:

- Prepare one set of conformed drawings and specifications.
- Conduct a Transition Meeting

The transition meeting shall include City staff, design team, construction management team, and other key team members. This meeting will provide an overview of the project, key design features, plan and specification sections of interest, and other projects requirements such as permitting, environmental mitigation measures, and special inspections. Stantec will prepare the agenda and meeting minutes.

Following contract award, Stantec will participate in a pre-construction meeting with the awarded Contractor, led by the Construction Management Team.

Task 6 Deliverables:

- One hardcopy of conformed drawings and specifications stamped and signed by a Professional Engineer registered in the State of California, and one PDF format
- One CD containing the electronic copies of all drawings in AutoCAD and PDF formats
- Agenda and meeting minutes for the Pre-Bid Meeting
- Agenda and meeting minutes for the Transition Meeting, including transition documents.

SCOPE OF WORK ASSUMPTIONS:

1. Blending station is located at the Saticoy Conditioning Facility
2. City will lead all public outreach efforts. Stantec will assist at public meetings as needed and prepare graphics per scope of work.
3. City will conduct all land acquisition. Stantec's scope includes assisting with preparing right-of-way acquisition documents as identified in Task 2.6.
4. All permit fees will be paid for by the City.
5. Design Reviews: Stantec assumes formal construction design package submittals will be reviewed by the City and partner agencies over a four-week period. Design review

- comments will be provided to Stantec as one consolidated set which includes comments from the City and partner agencies.
6. The number of plan revisions based on comments received during review periods are shown for estimation purposes. Revisions resulting in major design changes may be subject to additional fee and will be reviewed with the City.
 7. Preparation of the USACE Section 408 Letter of Permission assumes VCWPD coordinates USACE consultation/review.
 8. The Section 408 permit will either be categorically excluded from provisions of the National Environmental Policy Act (NEPA) or the USACE will prepare an Environmental Assessment to satisfy NEPA requirements, should it be required.
 9. It is assumed all exploration locations (geotechnical and potholes) will not be impacted by underground or overhead utilities and can be adequately offset from known underground and overhead utilities and conflicts.
 10. No restrictions, such as working hours or noise limitations, will be placed on environmental field exploration program, unless such restrictions are a requirement of the EIR or permitting agencies.
 11. A source of water for the geotechnical drilling work (near the work area) will be provided or made available at no charge through a temporary construction meter placed on a City of Ventura fire hydrant. This source will be used for the all drilling work.
 12. Explorations within private land will be backfilled with Portland cement grout and topped with quick-set concrete in areas of existing asphalt, or as otherwise coordinated with the Landowner. Explorations within public right of way will be backfilled in accordance to the published standards of the jurisdiction having authority over the work being performed.
 13. Soil and groundwater in work areas are free of hazardous substances; i.e. investigation derived waste is non-hazardous.
 14. Numbers, depths and drilling methods used at the HDD crossing of the Santa Clara River may be modified depending on conditions encountered in the initial mud rotary drill holes. Any proposed modification to the exploration plan will be reviewed with the Project team before being implemented.
 15. The cultural resources mitigation support task scope of services includes finding two cultural resources will be documented during the study. If additional resources are encountered during fieldwork, additional scope will be required.
 16. The City will pay fees associated with Native American monitoring, if required, during any of the tasks included in this proposed scope of work.
 17. All field work will take place over standard business hours on standard non-holiday days (Monday – Friday).
 18. All specific cultural resources information, including archaeological site/locality locations and descriptions, will be held in trust under Stantec's federal and/or state cultural resources use permit(s). Archaeological records released to Stantec by federal and/or state agencies will not be disclosed or disseminated to any private individual or organization without prior written consent of the permittee.
 19. The City will take the lead in advertising the prequalification package and construction package and maintain bidders list.
 20. Stantec cannot guarantee that regulatory agencies will issue permits approving the Project.
 21. Stantec assumes a Safety Assurance Review Plan, Risk Assessment, description of Real Property, water diversion plan, Operation, Maintenance, Repair, Replacement, and Rehabilitation Plan will not be required to support USACE permitting.

22. Access to the City owned facilities shall be provided by the City. Access to private property will be coordinated through the City and it is anticipated the City will obtain all Right of Entries.
23. All electronic PDFs will be provided in a searchable format.
24. Engineering Services during Construction is not included in this scope of services.

Notwithstanding the foregoing, the parties acknowledge the ongoing COVID-19 pandemic and agree that this Scope does not include any schedule impact that may occur as a result thereof. To the extent that there are schedule impacts resulting from the COVID-19 pandemic, Stantec shall work with City on reasonable schedule extensions.

**EXHIBIT B
PROFESSIONAL SERVICES AGREEMENT
FIRM'S SERVICES**

COMPENSATION SCHEDULE

Task Description	Fee Estimate		
	Pipeline Interconnection and Metering Station	Blending Station	Total
Task 1 - Project Management, QA/QC, Meetings			
<i>Task 1.1– Project Management</i>	\$110,289	\$49,490	\$159,779
<i>Task 1.2– Meetings and Workshops</i>	\$229,928	\$9,070	\$238,998
<i>Task 1.3– Agency Coordination (hours incl in other tasks)</i>	\$0	\$0	\$0
<i>Task 1.4– Quality Assurance/Quality Control</i>	\$98,276	\$52,000	\$150,276
Task 2 – Preliminary Design			
<i>Task 2.1– Review of Existing Documentation</i>	\$11,175	\$4,740	\$15,915
<i>Task 2.2– Proposed Alignment Evaluation</i>	\$75,771	\$0	\$75,771
<i>Task 2.3– Scour Analysis</i>	\$53,260	\$0	\$53,260
<i>Task 2.4– Geotechnical Investigation and Report</i>	\$357,305	\$0	\$357,305
<i>Task 2.5– Preliminary Design Report</i>	\$318,155	\$154,740	\$472,895
<i>Task 2.6– Topographical Survey and Boundary Mapping</i>	\$176,120	\$22,530	\$198,650
<i>Task 2.7– Base Mapping and Potholing</i>	\$188,427	\$13,180	\$201,607
<i>Task 2.8– Corrosion Analysis</i>	\$24,394	\$0	\$24,394
<i>Task 2.9– 30 Percent Design Documents</i>	\$58,283	\$13,295	\$71,578
Task 3 – Final Design			
<i>Task 3.1– Final Engineering</i>			
<i>3.1.1 60% Design Package</i>	\$380,952	\$124,930	\$505,882
<i>3.1.2 90% Design Package</i>	\$236,249	\$48,585	\$284,834
<i>3.1.3 100% Design Package</i>	\$132,289	\$21,740	\$154,029
<i>3.1.4 Final Design Package</i>	\$41,073	\$11,405	\$52,478
<i>Task 3.2– Horizontal Directional Drilling Prequalification</i>	\$11,636	\$0	\$11,636

COMPENSATION SCHEDULE (Continued)

Task Description	Fee Estimate		
	Pipeline Interconnection and Metering Station	Blending Station	Total
Task 4– Environmental and Permitting			
<i>Task 4.1– Pre-Application Regulatory Agency Consultation Meetings</i>	\$11,175	\$0	\$11,175
<i>Task 4.2– Technical Studies, Permits, CEQA for River Geotechnical Borings</i>	\$52,470	\$0	\$52,470
<i>Task 4.3– Regulatory Permits for Geotechnical Borings/Soils Assessment</i>	\$44,318	\$0	\$44,318
<i>Task 4.4– Monitoring Support During Geotechnical Borings</i>	\$47,580	\$0	\$47,580
<i>Task 4.5– Permitting for Pipeline and HDD Construction</i>	\$131,984	\$10,880	\$142,864
<i>Task 4.6– Mitigation Support</i>	\$95,975	\$0	\$95,975
Task 5 – Operation and Maintenance Manual	\$68,144	\$1,000	\$69,144
Task 6 – Design Services During Bidding	\$43,192	\$13,995	\$57,187
NOT-TO-EXCEED TOTAL TASKS 1 through 6	\$2,998,420	\$551,580	\$3,550,000

STANTEC CONSULTING SERVICES RATE SCHEDULE

PERSONNEL COMPENSATION

Labor Category	Hourly Rate
Principal Engineer II/Discipline Leads	\$280.00
Principal Engineer/Scientist/Surveyor	\$244.00
Senior Engineer/Scientist	\$230.00
Project Engineer/Scientist/Surveyor	\$195.00
Associate Engineer II	\$185.00
Associate Engineer/Scientist/Surveyor	\$170.00
Environmental Technician	\$155.00
Assistant Engineer	\$132.00
Senior CAD Designer	\$155.00
Tech Assistant	\$140.00
CAD Designer	\$135.00
Administrator	\$120.00

DIRECT EXPENSES

Reimbursement for direct expenses, as listed below, incurred in connection with the work, will be at cost for items such as:

- a. Maps, photographs, 3rd party reproductions, 3rd party printing, equipment rental, and special supplies related to the work.
- b. Rented vehicles, local public transportation and taxis, travel and subsistence.
- c. Project specific telecommunications and delivery charges.
- d. Special fees, insurance, permits, and licenses applicable to the work.
- e. Outside computer processing, computation, and proprietary programs purchased for the work.

Subconsultants, with the exception of HDR, Inc., will be billed at cost plus ten percent.

HDR Inc. will be billed at cost.

Reimbursement for vehicles used in connection with the work will be at the federally approved mileage rates or at a negotiated monthly rate.

PERSONNEL COMPENSATION – SUBCONSULTANTS

HDR ENGINEERING, INC.

	Hourly Rate
Principal	\$290
Quality Manager	\$290
Project Manager	\$270
Sr. Project Engineer	\$250
Project Engineer	\$215
Staff Engineer	\$185
EIT	\$145
Structural Engineer	\$225
E&I Engineer	\$185
Senior Corrosion Engineer	\$250
Corrosion Engineer	\$185
Field Corrosion Engineer	\$150
Corrosion Technician	\$140
CAD/BIM Designer	\$175
CAD/BIM Technician	\$135
Project Administrator	\$140
Project Coordinator	\$120

BENNETT TRENCHLESS ENGINEERS

Principal - Design, CM	\$260 / hr
Senior Project Manager	\$230 / hr
Project Manager	\$215 / hr
Senior Project Engineer	\$215 / hr
Senior Construction Inspector	\$210 / hr
Senior Scientist	\$215 / hr
Project Engineer	\$195 / hr
Associate Engineer	\$165 / hr
Eng. Assistant/AutoCAD Spec	\$160 / hr
Construction Inspector	\$150 / hr
Executive Assistant	\$130 / hr
Office Manager	\$105 / hr
Clerical Assistant	\$ 85 / hr

FUGRO GEOSERVICES, INC.

<u>Classification</u>	<u>Hourly Rate (\$)</u>
Staff Professional	135
Senior Staff Professional	145
Project Professional	160
Senior Project Professional	175
Senior Professional	190
Associate Professional	205
Principal Professional	235
Office Assistant	78
Word Processor/Clerical	85
CADD/Illustrator	125
Laboratory Technician	85
Engineering Field Technician.....	115

WERNER BIOLOGICAL CONSULTING

<u>Classification</u>	<u>Hourly Rate (\$)</u>
Principal	145
Senior Biologist	125
Project Manager	95
Associate Biologist	85
GIS Specialist	80
Technical Editor	75

T2 UTILITY ENGINEERS

Pothole Under Natural Ground	\$685.00	per hole
Pothole Under Paving / Concrete	\$855.00	per hole
Pothole Exceeding 6.99 feet in Depth	\$130.00	per foot
Senior Project Manager	\$205.00	per hour
Project Manager	\$145.00	per hour
Subsurface Utility Manager	\$125.00	per hour
CADD Supervisor	\$120.00	per hour
Subsurface Utility Engineer Tech III – Premarking verification	\$840.00	per day
CADD Technician	\$85.00	per hour
Mobilization	\$1000.00	per project

**EXHIBIT C
PROFESSIONAL SERVICES AGREEMENT
FIRM'S SERVICES**

TIME SCHEDULE

<u>Deliverable/Milestone</u>	<u>Time Schedule</u>
Notice to Proceed (NTP)	June 1, 2020 (anticipated)
Proposed Alignment Evaluation	August 28, 2020
Final Geotechnical Report	February 5, 2021
Final Preliminary Design Report	April 16, 2021
30% Design Submittal	June 11, 2021
60% Design Submittal	September 3, 2021
90% Design Submittal	November 26, 2021
Final Design Submittal	February 18, 2022

EXHIBIT D

GENERAL INSURANCE REQUIREMENTS

Prior to contract approval, CONSULTANT/CONTRACTOR/SELLER/BIDDER (hereafter referred to as “Contractor”) must procure, agree to maintain and supply evidence of insurance at the levels listed and in accordance with the other provisions listed in this document.

1. Coverage Types and Limits

<p>a) Commercial General Liability (ISO CGL CG 00 01) - including coverage for bodily injury, property damage, products & completed operations, and personal injury arising from the contractor’s activities. Commercial General Liability (CGL) per Occurrence Commercial General Liability Aggregate or Combined Single Limit (CSL)</p>	<p>\$2 million \$2 million</p>
<p>b) Auto Liability for owned, hired, and non-owned vehicles per Occurrence (or non-owned & hired if contractor has no autos). Auto Liability Aggregate or Combined Single Limit</p>	<p>\$1 million \$2 million</p>
<p>c) Worker's Compensation <i>with a Waiver of Subrogation in favor of the City</i> Employer's Liability</p>	<p>Statutory Limits \$500,000</p>
<p>d) Crime/Employee Dishonesty Policy <i>The Crime policy shall name The City of San Buenaventura as Loss Payee. Pertains to IT and Financial contracts. Contact Risk Manager for specific requirements.</i></p>	<p>n/a</p>
<p>e) Professional Liability Policy <i>See item (v) below for examples of Contractors that may need to supply evidence of this coverage.</i></p>	<p>\$2 million</p>
<p>f) Cyber Liability Policy with Network Security/Data Privacy Coverage <i>Pertains to contracts with IT component. Contact Risk Manager for specific requirements.</i></p>	<p>n/a</p>
<p>g) Technology E&O/Technology Professional Liability <i>Contact Risk Manager for specific requirements.</i></p>	<p>n/a</p>

2. Insurance Policy Provisions, Endorsements, and other Requirements

Contractor agrees to comply with the following additional requirements with respect to the insurance:

- a) Liability Coverage shall apply on a primary non-contributing basis in relation to any other insurance or self-insurance, primary or excess, available to City or any officer, employee, agent, or volunteer of City. As such, a Primary and Non-Contributory Endorsement (with coverage at least as broad as ISO CG 2001 04 13) is required on all liability policies.
- b) Contractor waives its right of subrogation against the City. As such, a Waiver of Subrogation Endorsement is required on the Contractor's Worker's Compensation policy.
- c) A "Blanket" Additional Insured Endorsement (a/k/a "automatic additional insured endorsement"), attached to the Commercial General Liability policy covering premises liability, ongoing operations, product liability, and completed operations is required. If a "Blanket" endorsement is not available, Contractor may submit a combination of the following endorsements:
An Additional Insured Endorsement covering Premises and Ongoing Operations CG 20 10 04 13 or its equivalent (CG 20 26, CG 20 33, or CG 20 38) AND
an Additional Insured Endorsement covering Completed Operations CG 20 37 04 13.
- d) Insurance Policies must be issued by an insurance company licensed to do business in the State of California with an *AM Best* rating of not less than A:VII.
- e) Each insurance policy required above shall provide that coverage shall not be canceled except with 30 days' notice to the City.
- f) The Description section of the Certificate must include the following language:
The City of San Buenaventura, its officers, officials, agents, employees and volunteers shall be named as an additional insured under the General Liability and Auto Liability policies. All Liability policies are primary and Non-Contributory. Waiver of Subrogation applies to the Worker's Compensation policy. 30-day notice of cancellation will be provided to the Certificate Holder.

g) A Certificate of Insurance must include the following language in the Certificate Holder section:

*City of San Buenaventura, its officers, officials, agents, employees and volunteers
501 Poli Street
Ventura, CA 93002*

h) Contractor will provide proof that policies of insurance required herein expiring during the term of this Agreement have been renewed or replaced with other policies providing at least the same coverage. Such proof will be submitted to the City within 10 days of renewal.

i) Contractor shall provide evidence of the insurance required herein, satisfactory to City, consisting of certificate(s) of insurance and any required endorsements evidencing all of the coverages required. Any failure on the part of City or any other additional insured under these requirements to obtain proof of insurance required under this Agreement in no way waives any right or remedy of City or any other additional insured in this or any other regard.

j) Contractor shall ensure that coverage provided to meet these requirements is applicable separately to each insured, and that there will be no cross-liability exclusions that preclude coverage for any legal action between Contractor and City, between Contractor and any other named insureds or additional insureds under the insurance policy, or between City and any party associated with City or City's officers, officials, employees, agents, or volunteers.

k) Coverage shall not be limited to the vicarious liability or supervisory role of any additional insured. There shall be no cross-liability exclusion and no Contractor limitation endorsement. In addition, there shall be no endorsement or modification limiting the scope of coverage for liability arising from pollution, explosion, collapse, underground property damage, or employment-related practices, except for a provision or endorsement limiting liability arising from pollution to liability caused by sudden or accidental pollution.

l) Any umbrella liability insurance over primary insurance provided to meet primary limits shall apply to bodily injury, personal injury, and property damage, at a minimum. Coverage shall be as broad as any required underlying primary coverage, and shall include a "drop down" provision providing primary coverage for liability not covered by primary policies but covered by the umbrella policy. Coverage shall be provided with defense costs payable in addition to policy limits. Coverage shall have starting and ending dates concurrent with the underlying coverage.

- m) Coverage shall be written on an “occurrence basis” if such coverage is available, or on a “claims made” basis if not available. When coverage is provided on a “claims made” basis, Contractor shall continue to maintain the insurance in effect for a period of three (3) years after this Agreement expires or is terminated. Such insurance shall have the same coverage and limits as the policy that was in effect during the term of this Agreement, and shall cover Contractor for all claims made by City arising out of any errors or omissions of Contractor, or the officers, employees or agents of Contractor during the time this Agreement was in effect.
- n) Contractor shall require all sub-contractors or other parties hired by Contractor to perform any part of the services required by this Agreement to purchase and maintain all of the insurance specified above and submit evidence of all such insurance. Contractor shall obtain certificates evidencing such coverage and make reasonable efforts to ensure that such coverage is provided as required herein.
- o) No contract used by any Contractor, or contracts Contractor enters into on behalf of City, will reserve the right to charge back to City the cost of insurance required by this Agreement. When requested, Contractor shall provide City with all agreements with sub-Contractors or others with whom Contractor contracts on behalf of City, and with all certificates of insurance obtained in compliance with this paragraph. Failure of City to request copies of such documents will not impose any liability on City, or its employees.
- p) In the event any policy of insurance required under this Agreement does not comply with these requirements or is canceled and not replaced, City has the right, but not the duty, to obtain the insurance it deems necessary to meet the requirements of this Agreement, and any premium paid by City for such insurance will be promptly reimbursed by Contractor, or, if not promptly reimbursed, deducted from any compensation to be paid by City to Contractor pursuant to this Agreement.
- q) Requirements of specific coverage features or limits contained in this Section are not intended as a limitation on coverage, limits or other requirements, or a waiver of any coverage normally provided by any insurance. Specific reference to a given coverage feature is for purposes of clarification only and is not intended by any party to be all inclusive, or to the exclusion of other coverage, or a waiver of any type. Coverage shall not be limited to the specific location, individual, or entity designated as the address of the project or services provided for by this Agreement. Insurance coverage limits are subject to change based on the unique liability associated with each project over and above standard coverage limits at the discretion of the City's Risk Manager or their designee.

- r) Contractor shall provide immediate notice to City of any claim against Contractor or any loss involving Contractor that could result in City or any of City's officers, employees, agents, or volunteers being named as a defendant in any litigation arising out of such claim or loss. City shall not incur any obligation or liability by reason of the receipt of such notice. However, City shall have the right, but not the duty, to monitor the handling of any such claim or loss that is likely to involve City.
- s) In the event of any loss that is not insured due to the failure of Contractor to comply with these requirements, Contractor will be personally responsible for any and all losses, claims, suits, damages, defense obligations, and liability of any kind attributed to City, or City's officers, employees, agents, or volunteers as a result of such failure.

Please note:

- t) Automobile Liability insurance is not required if the Vendor and its employees does NO traveling in providing services for completion of the Agreement (e.g. telecommuting). If the Vendor has employees but no vehicles registered to the business (personal vehicles only), the non-owned and hired automobile liability coverage should be included in the Vendor's Commercial Auto Liability policy
- u) Workers Compensation insurance is not required if the Contractor is a sole proprietor/partner/corporate officer with no employees. Otherwise, Worker's Compensation is required under CA Labor Code Section 3700. A Workers Compensation Insurance Waiver is required stating Contractor is a sole proprietor/partner/corporate officer with no employees. This waiver is to be included with the other submitted documents.
- v) Professional Liability may be required for the following types of contractors. These are only examples and not an all-inclusive list. Contact Risk Manager for clarification and requirements.

Examples:

Appraisers, notaries, imaging of records, EOC plan, Fair Housing assessments, trainers

Chemists, auditors, insurance agents and brokers, lawyers, laboratories, surveyors, building inspectors, traffic engineering services.

Ambulance services, actuaries, counselors, medical providers. Also includes engineers, architects, construction managers, hazardous materials evaluators, environmental impact evaluators. All IT related projects, contractors and consultants.

w) Cyber Liability and Network Security/Data Privacy Coverage and Technology E&O/Technology Professional Liability coverage may be required in agreements that have an IT or data component. Contact Risk Manager for clarification and requirements.