

**City and County of San Francisco
San Francisco Public Utilities Commission
525 Golden Gate Avenue
San Francisco, California 94102**

Agreement between the City and County of San Francisco and

Jacobs Associates, Inc. dba McMillen Jacobs Associates

CS-249 Planning & Design Services, Mountain Tunnel Improvements

This Agreement is made this **1st day of February, 2016**, in the City and County of San Francisco, State of California, by **Jacobs Associates, Inc. dba McMillen Jacobs Associates, 49 Stevenson, 3rd Floor, San Francisco, CA 94105** ("Contractor") and City.

Recitals

WHEREAS, the San Francisco Public Utilities Commission ("Department" or "SFPUC") wishes to provide planning and engineering design services for the Mountain Tunnel Inspection and Repair Project and the Mountain Tunnel Bypass Project ("Bypass Tunnel"); and

WHEREAS, the City issued a Request for Proposal ("RFP") on June 17, 2015, seeking proposals from parties interested in providing the Services; and

WHEREAS, Contractor submitted a proposal to the City and the City determined Contractor to be (1) qualified to perform the Services, and (2) to have submitted the highest scoring proposal in response to the RFP; and

WHEREAS, the Local Business Entity ("LBE") subcontracting participation requirement for this Agreement is 13.84 percent; and

WHEREAS, Contractor represents and warrants that it is qualified to perform the Services required by City as set forth under this Agreement; and

WHEREAS, the parties acknowledge that the potential environmental impacts of the proposed Bypass Tunnel and a full range of appropriate alternatives and mitigation measures must be evaluated through the California Environmental Quality Act ("CEQA") process before the SFPUC considers whether to approve the Bypass Tunnel as the Preferred Engineering Alternative; and

WHEREAS, the parties also acknowledge that the selection of Contractor is for the purpose of assessing the feasibility of the Bypass Tunnel and Rehabilitation of the Existing Tunnel, and preparing design documents based on available information about the proposed project at this time and does not commit the SFPUC to approve the Bypass Tunnel as the Preferred Engineering Alternative. Until the CEQA review process is completed, the City retains

sole and absolute discretion to: (i) make such modifications in the Bypass Tunnel deemed necessary to mitigate significant environmental impacts; (ii) select other feasible alternatives to the proposed Bypass Tunnel to avoid such impacts; (iii) balance the benefits of the Bypass Tunnel against unavoidable significant impacts prior to taking final action on the approval of the Bypass Tunnel if such significant impacts cannot otherwise be avoided; or, (iv) determine not to proceed with the proposed Bypass Tunnel; and

WHEREAS, the City's Civil Service Commission approved the Agreement on July 20, 2015 as 415/61-14/15; and

WHEREAS, the San Francisco Public Utilities Commission awarded this Agreement to Contractor under Resolution No. 15-0216 on October 27, 2015; and

WHEREAS, approval for this Agreement was obtained from the San Francisco Board of Supervisors by Resolution Number 519-15 on December 22, 2015.

Now, THEREFORE, the parties agree as follows:

Article 1 Definitions

The following definitions apply to this Agreement:

1.1 "Agreement" means this contract document, including all attached appendices, and all applicable City Ordinances and Mandatory City Requirements which are specifically incorporated into this Agreement by reference as provided herein.

1.2 "City" or "the City" means the City and County of San Francisco, a municipal corporation, acting by and through the San Francisco Public Utilities Commission.

1.3 "CMD" means the Contract Monitoring Division of the City.

1.4 "Contractor" or "Consultant" means Jacobs Associates, Inc. dba McMillen Jacobs Associates, 49 Stevenson Street 3rd Floor, San Francisco, CA 94105.

1.5 "Deliverables" means Contractor's work product resulting from the Services that are provided by Contractor to City during the course of Contractor's performance of the Agreement, including without limitation, the work product described in the "Scope of Services" attached as Appendix A.

1.6 "Effective Date" means the date upon which the City's Controller certifies the availability of funds for this Agreement as provided in Section 3.1.

1.7 "Mandatory City Requirements" means those City laws set forth in the San Francisco Municipal Code, including the duly authorized rules, regulations, and guidelines implementing such laws, that impose specific duties and obligations upon Contractor.

1.8 "Party" and "Parties" mean the City and Contractor either collectively or individually.

1.9 "Services" means the work performed by Contractor under this Agreement as specifically described in the "Scope of Services" attached as Appendix A, including all services, labor, supervision, materials, equipment, actions and other requirements that are necessary for Contractor to furnish the Deliverables to the City.

Article 2 Term of the Agreement

2.1 The term of this Agreement shall commence on the latter of: (i) **February 15, 2016; or (ii) the Effective Date and expires on February 14, 2026**, unless earlier terminated as otherwise provided herein.

2.2 The City has the option to extend this Agreement for up to three years. The City may extend this Agreement beyond the expiration date by exercising an option at the City's sole and absolute discretion and by modifying this Agreement as provided in Section 11.5, "Modification of this Agreement."

Article 3 Financial Matters

3.1 **Certification of Funds; Budget and Fiscal Provisions; Termination in the Event of Non-Appropriation.** This Agreement is subject to the budget and fiscal provisions of the City's Charter. Charges will accrue only after prior written authorization certified by the Controller, and the amount of City's obligation hereunder shall not at any time exceed the amount certified for the purpose and period stated in such advance authorization. This Agreement will terminate without penalty, liability or expense of any kind to City at the end of any fiscal year if funds are not appropriated for the next succeeding fiscal year. If funds are appropriated for a portion of the fiscal year, this Agreement will terminate, without penalty, liability or expense of any kind at the end of the term for which funds are appropriated. City has no obligation to make appropriations for this Agreement in lieu of appropriations for new or other agreements. City budget decisions are subject to the discretion of the Mayor and the Board of Supervisors. Contractor's assumption of risk of possible non-appropriation is part of the consideration for this Agreement.

THIS SECTION CONTROLS AGAINST ANY AND ALL OTHER PROVISIONS OF THIS AGREEMENT.

3.2 **Guaranteed Maximum Costs.** The City's payment obligation to Contractor cannot at any time exceed the amount certified by City's Controller for the purpose and period stated in such certification. Absent an authorized Emergency per the City Charter or applicable Code, no City representative is authorized to offer or promise, nor is the City required to honor, any offered or promised payments to Contractor under this Agreement in excess of the certified maximum amount without the Controller having first certified the additional promised amount and the Parties having modified this Agreement as provided in Section 11.5, "Modification of this Agreement."

3.3 Compensation.

3.3.1 **Payment.** Contractor shall provide an invoice to the City on a monthly basis for Services completed in the immediate preceding month, unless a different schedule is set out in Appendix B, "Calculation of Charges." Compensation shall be made for Services identified in the invoice that the General Manager of the SFPUC, in his or her sole discretion, concludes has been satisfactorily performed. Payment shall be made within 30 calendar days of receipt of the invoice, unless the City notifies the Contractor that a dispute as to the invoice exists. **In no event shall the amount of this Agreement exceed Twenty-One Million Dollars (\$21,000,000.)** The breakdown of charges associated with this Agreement appears in Appendix B and B-1, "Calculation of Charges," attached hereto and incorporated by reference as though fully set forth herein. In no event shall the City be liable for interest or late charges for any late payments except as set forth in Administrative Code Section 6.22(j).

3.3.2 **Payment Limited to Satisfactory Services.** Contractor is not entitled to any payments from City until SFPUC approves Services, including any furnished Deliverables, as satisfying all of the requirements of this Agreement. Payments to Contractor by City shall not excuse Contractor from its obligation to replace unsatisfactory Deliverables, including equipment, components, materials, or Services even if the unsatisfactory character of such Deliverables, equipment, components, materials, or Services may not have been apparent or detected at the time such payment was made. Deliverables, equipment, components, materials and Services that do not conform to the requirements of this Agreement may be rejected by City and in such case must be replaced by Contractor without delay at no cost to the City.

3.3.3 **Withhold Payments.** If the City determines that Contractor failed to provide Services in accordance with Contractor's obligations under this Agreement, the City may withhold any and all payments due Contractor until such failure to perform is cured, and Contractor shall not stop work as a result of City's withholding of payments as provided herein.

3.3.4 **Invoice Format.** Invoices furnished by Contractor under this Agreement must be in a form acceptable to the Controller and City, and must include a unique invoice number. Payment shall be made by City to Contractor at the address specified in Section 11.1, "Notices to the Parties," or in such alternate manner as the Parties have mutually agreed upon in writing.

3.3.5 **LBE Payment and Utilization Tracking System.** Contractor must submit all required payment information using the online LBE Utilization Tracking System (LBEUTS) as required by CMD to enable the City to monitor Contractor's compliance with the LBE subcontracting commitments in this Agreement. Contractor shall pay its LBE subcontractors within three working days after receiving payment from the City, except as otherwise authorized by the LBE Ordinance. The Controller is not authorized to pay invoices submitted by Contractor prior to Contractor's submission of all required CMD payment information. Failure to submit all required payment information to the LBEUTS with each payment request may result in the Controller withholding 20% of the payment due pursuant to

that invoice until the required payment information is provided. Following City's payment of an invoice, Contractor has ten calendar days to acknowledge using the online LBEUTS that all subcontractors have been paid. Contractor shall attend a LBEUTS training session. LBEUTS training session schedules are available at www.sfgov.org/lbeuts.

3.3.6 Getting paid for goods and/or services from the City.

(a) All City vendors receiving new contracts, contract renewals, or contract extensions must sign up to receive electronic payments through Paymode-X, the City's third party service that provides Automated Clearing House (ACH) payments. Electronic payments are processed every business day and are safe and secure. To sign up for electronic payments, visit www.sfgov.org/ach.

(b) The following information is required to sign up: (i) The enroller must be their company's authorized financial representative, (ii) the company's legal name, main telephone number and all physical and remittance addresses used by the company, (iii) the company's U.S. federal employer identification number (EIN) or Social Security number (if they are a sole proprietor), and (iv) the company's bank account information, including routing and account numbers.

3.3.7 Reserved. (Grant Funded Contracts.)

3.3.8 Subcontractor Prompt Payment. Except as otherwise required by Chapter 14B of the Administrative Code, and consistent with the provisions of Section 6.42(f) of the Administrative Code, Contractor shall pay its subcontractors within seven calendar days after receipt of each progress payment from the City, unless otherwise agreed to in writing by both Contractor and the subcontractor. In the event that there is a good faith dispute over all or any portion of the amount due on a progress payment from Contractor to a subcontractor, the Contractor may withhold the disputed amount, but shall pay the undisputed amount. If Contractor violates the provisions of Section 6.42(f), then Contractor shall pay to the subcontractor directly the penalty specified in Section 6.42(f).

3.4 Audit and Inspection of Records. Contractor agrees to maintain and make available to the City, during regular business hours, accurate books and accounting records relating to its Services. Contractor will permit City to audit, examine and make excerpts and transcripts from such books and records, and to make audits of all invoices, materials, payrolls, records or personnel and other data related to all other matters covered by this Agreement, whether funded in whole or in part under this Agreement. Contractor shall maintain such data and records in an accessible location and condition for a period of not fewer than five years after final payment under this Agreement or until after final audit has been resolved, whichever is later. The State of California or any Federal agency having an interest in the subject matter of this Agreement shall have the same rights as conferred upon City by this Section. Contractor shall include the same audit and inspection rights and record retention requirements in all subcontracts.

3.5 **Submitting False Claims.** Pursuant to Article V of Chapter 6 of the Administrative Code, any contractor, subcontractor, supplier, consultant or subconsultant who submits a false claim may be subject to monetary penalties, investigation and prosecution and may be declared an irresponsible bidder or an unqualified consultant and debarred as set forth in that Article. A contractor, subcontractor, supplier, consultant or sub consultant will be deemed to have submitted a false claim to the City if the contractor, subcontractor, supplier, consultant or subconsultant: (a) knowingly presents or causes to be presented to an officer or employee of the City a false claim or request for payment or approval; (b) knowingly makes, uses, or causes to be made or used a false record or statement to get a false claim paid or approved by the City; (c) conspires to defraud the City by getting a false claim allowed or paid by the City; (d) knowingly makes, uses, or causes to be made or used a false record or statement to conceal, avoid, or decrease an obligation to pay or transmit money or property to the City; or (e) is a beneficiary of an inadvertent submission of a false claim to the City, subsequently discovers the falsity of the claim, and fails to disclose the false claim to the City within a reasonable time after discovery of the false claim.

Article 4 Services and Resources

4.1 **Services Contractor Agrees to Perform.** Contractor agrees to perform the Services and provide the Deliverables specified in Appendix A, "Scope of Services." Officers and employees of the City are not authorized to request, and the City is not required to reimburse the Contractor for, Services beyond the Scope of Services listed in Appendix A, unless Appendix A is modified as provided in Section 11.5, "Modification of this Agreement."

4.2 **Qualified Personnel.** Contractor shall utilize only competent personnel under the supervision of, and in the employment of, Contractor (or Contractor's authorized subcontractors) to perform the Services. Contractor will comply with City's reasonable requests regarding assignment and/or removal of personnel, but all personnel, including those assigned at City's request, must be supervised by Contractor. Contractor shall commit adequate resources to allow timely completion within the project schedule specified in this Agreement.

4.3 **Subcontracting.** Contractor may subcontract portions of the Services only upon prior written approval of City. Contractor is responsible for its subcontractors throughout the course of the work required to perform the Services. All Subcontracts must incorporate the terms of Article 10 "Additional Requirements Incorporated by Reference" of this Agreement, unless inapplicable. Neither Party shall, on the basis of this Agreement, contract on behalf of, or in the name of, the other Party. Any agreement made in violation of this provision shall be null and void. City's execution of this Agreement constitutes its approval of the subcontractors listed in Appendix B-1, Fee Schedule. If the City (and CMD if needed) approves the replacement of a subcontractor, Contractor must effectuate the change in a modification via SFPUC's SOLIS system, consistent with Section 11.5, "Modification of this Agreement" and SFPUC policy.

4.4 **Independent Contractor; Payment of Employment Taxes and Other Expenses.**

4.4.1 Independent Contractor. For the purposes of this Article 4, "Contractor" shall be deemed to include not only Contractor, but also any agent or employee of Contractor. Contractor acknowledges and agrees that at all times, Contractor or any agent or employee of Contractor shall be deemed at all times to be an independent contractor and is wholly responsible for the manner in which it performs the services and work requested by City under this Agreement. Contractor, its agents, and employees will not represent or hold themselves out to be employees of the City at any time. Contractor or any agent or employee of Contractor shall not have employee status with City, nor be entitled to participate in any plans, arrangements, or distributions by City pertaining to or in connection with any retirement, health or other benefits that City may offer its employees. Contractor or any agent or employee of Contractor is liable for the acts and omissions of itself, its employees and its agents. Contractor shall be responsible for all obligations and payments, whether imposed by federal, state or local law, including, but not limited to, FICA, income tax withholdings, unemployment compensation, insurance, and other similar responsibilities related to Contractor's performing services and work, or any agent or employee of Contractor providing same. Nothing in this Agreement shall be construed as creating an employment or agency relationship between City and Contractor or any agent or employee of Contractor. Any terms in this Agreement referring to direction from City shall be construed as providing for direction as to policy and the result of Contractor's work only, and not as to the means by which such a result is obtained. City does not retain the right to control the means or the method by which Contractor performs work under this Agreement. Contractor agrees to maintain and make available to City, upon request and during regular business hours, accurate books and accounting records demonstrating Contractor's compliance with this section. Should City determine that Contractor, or any agent or employee of Contractor, is not performing in accordance with the requirements of this Agreement, City shall provide Contractor with written notice of such failure. Within five (5) business days of Contractor's receipt of such notice, and in accordance with Contractor policy and procedure, Contractor shall remedy the deficiency. Notwithstanding, if City believes that an action of Contractor, or any agent or employee of Contractor, warrants immediate remedial action by Contractor, City shall contact Contractor and provide Contractor in writing with the reason for requesting such immediate action.

4.4.2 Payment of Employment Taxes and Other Expenses. Should City, in its discretion, or a relevant taxing authority such as the Internal Revenue Service or the State Employment Development Division, or both, determine that Contractor is an employee for purposes of collection of any employment taxes, the amounts payable under this Agreement shall be reduced by amounts equal to both the employee and employer portions of the tax due (and offsetting any credits for amounts already paid by Contractor which can be applied against this liability). City shall then forward those amounts to the relevant taxing authority. Should a relevant taxing authority determine a liability for past services performed by Contractor for City, upon notification of such fact by City, Contractor shall promptly remit such amount due or arrange with City to have the amount due withheld from future payments to Contractor under

this Agreement (again, offsetting any amounts already paid by Contractor which can be applied as a credit against such liability). A determination of employment status pursuant to the preceding two paragraphs shall be solely for the purposes of the particular tax in question, and for all other purposes of this Agreement, Contractor shall not be considered an employee of City. Notwithstanding the foregoing, Contractor agrees to indemnify and save harmless City and its officers, agents and employees from, and, if requested, shall defend them against any and all claims, losses, costs, damages, and expenses, including attorneys' fees, arising from this section.

4.5 **Assignment.** The Services to be performed by Contractor are personal in character and neither this Agreement nor any duties or obligations hereunder may be assigned or delegated by Contractor unless first approved by City by written instrument executed and approved in the same manner as this Agreement. Any purported assignment made in violation of this provision shall be null and void.

4.6 **Warranty.** Contractor warrants to City that the Services will be performed with the degree of skill and care that is required by current, good and sound professional procedures and practices, and in conformance with generally accepted professional standards prevailing at the time the Services are performed so as to ensure that all Services performed are correct and appropriate for the purposes contemplated in this Agreement.

Article 5 Insurance and Indemnity

5.1 Insurance.

5.1.1 **Required Coverages.** Without in any way limiting Contractor's liability pursuant to the "Indemnification" section of this Agreement, Contractor must maintain in force, during the full term of the Agreement, insurance in the following amounts and coverages:

5.1.2 Workers' Compensation, in statutory amounts, with Employers' Liability Limits not less than \$1,000,000 each accident, injury, or illness; and

5.1.3 Commercial General Liability Insurance with limits not less than \$3,000,000 each occurrence Combined Single Limit for Bodily Injury and Property Damage, including Contractual Liability, Personal Injury, Products and Completed Operations; and

5.1.4 Commercial Automobile Liability Insurance with limits not less than \$2,000,000 each occurrence Combined Single Limit for Bodily Injury and Property Damage, including Owned, Non-Owned and Hired auto coverage, as applicable.

5.1.5 Professional liability insurance, applicable to Contractor's profession, with limits not less than \$10,000,000 each claim with respect to negligent acts, errors or omissions in connection with professional services to be provided under the Agreement. Contractor's professional liability policy should not have an exclusion for environmental compliance management or construction management.

5.1.6 Commercial General Liability and Commercial Automobile Liability Insurance policies must be endorsed to provide:

5.1.7 Name as Additional Insured the City and County of San Francisco, its Officers, Agents, and Employees.

5.1.8 That such policies are primary insurance to any other insurance available to the Additional Insureds, with respect to any claims arising out of this Agreement, and that insurance applies separately to each insured against whom claim is made or suit is brought.

5.1.9 All policies shall be endorsed to provide thirty (30) days' advance written notice to the City of cancellation for any reason, intended non-renewal, or reduction in coverages. Notices shall be sent to the City address set forth in the Section entitled "Notices to the Parties."

5.1.10 Should any of the required insurance be provided under a claims-made form, Contractor shall maintain such coverage continuously throughout the term of this Agreement and, without lapse, for a period of three years beyond the expiration of this Agreement, to the effect that, should occurrences during the contract term give rise to claims made after expiration of the Agreement, such claims shall be covered by such claims-made policies.

5.1.11 Should any required insurance lapse during the term of this Agreement, requests for payments originating after such lapse shall not be processed until the City receives satisfactory evidence of reinstated coverage as required by this Agreement, effective as of the lapse date. If insurance is not reinstated, the City may, at its sole option, terminate this Agreement effective on the date of such lapse of insurance.

5.1.12 Before commencing any Services, Contractor shall furnish to City certificates of insurance and additional insured policy endorsements with insurers with ratings comparable to A-, VIII or higher, that are authorized to do business in the State of California, and that are satisfactory to City, in form evidencing all coverages set forth above. Approval of the insurance by City shall not relieve or decrease Contractor's liability hereunder.

5.1.13 The Workers' Compensation policy(ies) shall be endorsed with a waiver of subrogation in favor of the City for all work performed by the Contractor, its employees, agents and subcontractors.

5.1.14 If Contractor will use any subcontractor(s) to provide Services, Contractor shall require the subcontractor(s) to provide all necessary insurance and to name the City and County of San Francisco, its officers, agents and employees and the Contractor as additional insureds.

5.1.15 Should any of the required insurance, except for the Professional Liability, be provided under a form of coverage that includes a general annual aggregate limit or provides that claims investigation or legal defense costs be included in such general annual aggregate

limit, such general annual aggregate limit shall be double the occurrence or claims limits specified above.

5.2 Indemnification For Design Professionals. To the fullest extent permitted by law, Contractor shall assume the defense of (with legal counsel subject to approval of the City), indemnify and save harmless the City, its boards, commissions, officers, and employees (collectively "Indemnitees"), from and against any and all claims, loss, cost, damage, injury (including, without limitation, injury to or death of an employee of the Contractor or its subcontractors), expense and liability of every kind, nature, and description (including, without limitation, incidental and consequential damages, court costs, attorneys' fees, litigation expenses, fees of expert consultants or witnesses in litigation, and costs of investigation), that arise out of, pertain to, or relate to, directly or indirectly, in whole or in part, the negligence, recklessness, or willful misconduct of the Contractor, any subcontractors, anyone directly or indirectly employed by them, or anyone that they control (collectively, "Liabilities").

5.2.1 Limitations. No insurance policy covering the Contractor's performance under this Agreement shall operate to limit the Contractor's Liabilities under this provision. Nor shall the amount of insurance coverage operate to limit the extent of such Liabilities. The Contractor assumes no liability whatsoever for the sole negligence, active negligence, or willful misconduct of any Indemnitee or the contractors of any Indemnitee.

5.2.2 Copyright Infringement. Contractor shall also indemnify, defend and hold harmless all Indemnitees from all suits or claims for infringement of the patent rights, copyright, trade secret, trade name, trademark, service mark, or any other proprietary right of any person or persons in consequence of the use by the City, or any of its boards, commissions, officers, or employees of articles, work or deliverables supplied in the performance of Services. Infringement of patent rights, copyrights, or other proprietary rights in the performance of this Agreement, if not the basis for indemnification under the law, shall nevertheless be considered a material breach of contract.

Article 6 Liability of the Parties

6.1 Liability of City. CITY'S PAYMENT OBLIGATIONS UNDER THIS AGREEMENT SHALL BE LIMITED TO THE PAYMENT OF THE COMPENSATION PROVIDED FOR IN SECTION 3.3.1, "PAYMENT," OF THIS AGREEMENT. NOTWITHSTANDING ANY OTHER PROVISION OF THIS AGREEMENT, IN NO EVENT SHALL CITY BE LIABLE, REGARDLESS OF WHETHER ANY CLAIM IS BASED ON CONTRACT OR TORT, FOR ANY SPECIAL, CONSEQUENTIAL, INDIRECT OR INCIDENTAL DAMAGES, INCLUDING, BUT NOT LIMITED TO, LOST PROFITS, ARISING OUT OF OR IN CONNECTION WITH THIS AGREEMENT OR THE SERVICES PERFORMED IN CONNECTION WITH THIS AGREEMENT

6.2 Liability for Use of Equipment. City shall not be liable for any damage to persons or property as a result of the use, misuse or failure of any equipment used by Contractor,

or any of its subcontractors, or by any of their employees, even though such equipment is furnished, rented or loaned by City.

6.3 **Liability for Incidental and Consequential Damages.** Contractor shall be responsible for incidental and consequential damages resulting in whole or in part from Contractor's acts or omissions.

Article 7 Payment of Taxes

7.1 Except for any applicable California sales and use taxes charged by Contractor to City, Contractor shall pay all taxes, including possessory interest taxes levied upon or as a result of this Agreement, or the Services delivered pursuant hereto. Contractor shall remit to the State of California any sales or use taxes paid by City to Contractor under this Agreement. Contractor agrees to promptly provide information requested by the City to verify Contractor's compliance with any State requirements for reporting sales and use tax paid by City under this Agreement.

7.2 Contractor acknowledges that this Agreement may create a "possessory interest" for property tax purposes. Generally, such a possessory interest is not created unless the Agreement entitles the Contractor to possession, occupancy, or use of City property for private gain. If such a possessory interest is created, then the following shall apply:

7.2.1 Contractor, on behalf of itself and any permitted successors and assigns, recognizes and understands that Contractor, and any permitted successors and assigns, may be subject to real property tax assessments on the possessory interest.

7.2.2 Contractor, on behalf of itself and any permitted successors and assigns, recognizes and understands that the creation, extension, renewal, or assignment of this Agreement may result in a "change in ownership" for purposes of real property taxes, and therefore may result in a revaluation of any possessory interest created by this Agreement. Contractor accordingly agrees on behalf of itself and its permitted successors and assigns to report on behalf of the City to the County Assessor the information required by Revenue and Taxation Code section 480.5, as amended from time to time, and any successor provision.

7.2.3 Contractor, on behalf of itself and any permitted successors and assigns, recognizes and understands that other events also may cause a change of ownership of the possessory interest and result in the revaluation of the possessory interest. (see, e.g., Rev. & Tax. Code section 64, as amended from time to time). Contractor accordingly agrees on behalf of itself and its permitted successors and assigns to report any change in ownership to the County Assessor, the State Board of Equalization or other public agency as required by law.

7.2.4 Contractor further agrees to provide such other information as may be requested by the City to enable the City to comply with any reporting requirements for possessory interests that are imposed by applicable law.

Article 8 Termination and Default

8.1 Termination for Convenience

8.1.1 City shall have the option, in its sole discretion, to terminate this Agreement, at any time during the term hereof, for convenience and without cause. City shall exercise this option by giving Contractor written notice of termination. The notice shall specify the date on which termination shall become effective.

8.1.2 Upon receipt of the notice of termination, Contractor shall commence and perform, with diligence, all actions necessary on the part of Contractor to effect the termination of this Agreement on the date specified by City and to minimize the liability of Contractor and City to third parties as a result of termination. All such actions shall be subject to the prior approval of City. Such actions shall include, without limitation:

(a) Halting the performance of all Services under this Agreement on the date(s) and in the manner specified by City.

(b) Terminating all existing orders and subcontracts, and not placing any further orders or subcontracts for materials, Services, equipment or other items.

(c) At City's direction, assigning to City any or all of Contractor's right, title, and interest under the orders and subcontracts terminated. Upon such assignment, City shall have the right, in its sole discretion, to settle or pay any or all claims arising out of the termination of such orders and subcontracts.

(d) Subject to City's approval, settling all outstanding liabilities and all claims arising out of the termination of orders and subcontracts.

(e) Completing performance of any Services that City designates to be completed prior to the date of termination specified by City.

(f) Taking such action as may be necessary, or as the City may direct, for the protection and preservation of any property related to this Agreement which is in the possession of Contractor and in which City has or may acquire an interest.

8.1.3 Within 30 days after the specified termination date, Contractor shall submit to City an invoice, which shall set forth each of the following as a separate line item:

(a) The reasonable cost to Contractor, without profit, for all Services prior to the specified termination date, for which Services City has not already tendered payment. Reasonable costs may include a reasonable allowance for actual overhead, not to exceed a total of 10% of Contractor's direct costs for Services. Any overhead allowance shall be separately itemized. Contractor may also recover the reasonable cost of preparing the invoice.

(b) A reasonable allowance for profit on the cost of the Services described in the immediately preceding subsection (a), provided that Contractor can establish, to the satisfaction of City, that Contractor would have made a profit had all Services under this Agreement been completed, and provided further, that the profit allowed shall in no event exceed 5% of such cost.

(c) The reasonable cost to Contractor of handling material or equipment returned to the vendor, delivered to the City or otherwise disposed of as directed by the City.

(d) A deduction for the cost of materials to be retained by Contractor, amounts realized from the sale of materials and not otherwise recovered by or credited to City, and any other appropriate credits to City against the cost of the Services or other work.

8.1.4 In no event shall City be liable for costs incurred by Contractor or any of its subcontractors after the termination date specified by City, except for those costs specifically enumerated and described in Section 8.1.3. Such non-recoverable costs include, but are not limited to, anticipated profits on the Services under this Agreement, post-termination employee salaries, post-termination administrative expenses, post-termination overhead or unabsorbed overhead, attorneys' fees or other costs relating to the prosecution of a claim or lawsuit, prejudgment interest, or any other expense which is not reasonable or authorized under Section 8.1.3.

8.1.5 In arriving at the amount due to Contractor under this Section, City may deduct: (i) all payments previously made by City for Services covered by Contractor's final invoice; (ii) any claim which City may have against Contractor in connection with this Agreement; (iii) any invoiced costs or expenses excluded pursuant to the immediately preceding subsection 8.1.4; and (iv) in instances in which, in the opinion of the City, the cost of any Service performed under this Agreement is excessively high due to costs incurred to remedy or replace defective or rejected Services, the difference between the invoiced amount and City's estimate of the reasonable cost of performing the invoiced Services in compliance with the requirements of this Agreement.

8.1.6 City's payment obligation under this Section shall survive termination of this Agreement.

8.2 Termination for Default; Remedies.

8.2.1 Each of the following shall constitute an immediate event of default ("Event of Default") under this Agreement:

(a) Contractor fails or refuses to perform or observe any term, covenant or condition contained in any of the following Sections of this Agreement:

3.5	Submitting False Claims	10.4	Nondisclosure of Private, Proprietary or Confidential Information
4.5	Assignment	10.10	Alcohol and Drug-Free Workplace
Article 5	Insurance and Indemnity		
Article 7	Payment of Taxes	11.10	Compliance with Laws

(b) Contractor fails or refuses to perform or observe any other term, covenant or condition contained in this Agreement, including any obligation imposed by ordinance or statute and incorporated by reference herein, and such default continues for a period of ten days after written notice thereof from City to Contractor.

(c) Contractor (i) is generally not paying its debts as they become due; (ii) files, or consents by answer or otherwise to the filing against it of a petition for relief or reorganization or arrangement or any other petition in bankruptcy or for liquidation or to take advantage of any bankruptcy, insolvency or other debtors' relief law of any jurisdiction; (iii) makes an assignment for the benefit of its creditors; (iv) consents to the appointment of a custodian, receiver, trustee or other officer with similar powers of Contractor or of any substantial part of Contractor's property; or (v) takes action for the purpose of any of the foregoing.

(d) A court or government authority enters an order (i) appointing a custodian, receiver, trustee or other officer with similar powers with respect to Contractor or with respect to any substantial part of Contractor's property, (ii) constituting an order for relief or approving a petition for relief or reorganization or arrangement or any other petition in bankruptcy or for liquidation or to take advantage of any bankruptcy, insolvency or other debtors' relief law of any jurisdiction or (iii) ordering the dissolution, winding-up or liquidation of Contractor.

8.2.2 On and after any Event of Default, City shall have the right to exercise its legal and equitable remedies, including, without limitation, the right to terminate this Agreement or to seek specific performance of all or any part of this Agreement. In addition, where applicable, City shall have the right (but no obligation) to cure (or cause to be cured) on behalf of Contractor any Event of Default; Contractor shall pay to City on demand all costs and expenses incurred by City in effecting such cure, with interest thereon from the date of incurrence at the maximum rate then permitted by law. City shall have the right to offset from any amounts due to Contractor under this Agreement or any other agreement between City and Contractor: (i) all damages, losses, costs or expenses incurred by City as a result of an Event of Default; and (ii) any liquidated damages levied upon Contractor pursuant to the terms of this Agreement; and (iii), any damages imposed by any ordinance or statute that is incorporated into this Agreement by reference, or into any other agreement with the City.

8.2.3 All remedies provided for in this Agreement may be exercised individually or in combination with any other remedy available hereunder or under applicable laws, rules and regulations. The exercise of any remedy shall not preclude or in any way be deemed to waive any other remedy. Nothing in this Agreement shall constitute a waiver or limitation of any rights that City may have under applicable law.

8.2.4 Any notice of default must be sent by registered mail to the address set forth in Article 11.

8.3 **Non-Waiver of Rights.** The omission by either party at any time to enforce any default or right reserved to it, or to require performance of any of the terms, covenants, or provisions hereof by the other party at the time designated, shall not be a waiver of any such default or right to which the party is entitled, nor shall it in any way affect the right of the party to enforce such provisions thereafter.

8.4 **Rights and Duties upon Termination or Expiration.**

8.4.1 This Section and the following Sections of this Agreement listed below, shall survive termination or expiration of this Agreement:

3.3.2	Payment Limited to Satisfactory Services	9.1	Ownership of Results
		9.2	Works for Hire
3.4	Audit and Inspection of Records	10.4	Nondisclosure of Private, Proprietary or Confidential Information
3.5	Submitting False Claims	11.6	Dispute Resolution Procedure
Article 5	Insurance and Indemnity	11.7	Agreement Made in California; Venue
6.1	Liability of City	11.8	Construction
6.3	Liability for Incidental and Consequential Damages	11.9	Entire Agreement
Article 7	Payment of Taxes	11.10	Compliance with Laws
8.1.6	Payment Obligation	11.11	Severability

8.4.2 Subject to the survival of the Sections identified in Section 8.4.1, above, if this Agreement is terminated prior to expiration of the term specified in Article 2, this Agreement shall be of no further force or effect. Contractor shall transfer title to City, and deliver in the manner, at the times, and to the extent, if any, directed by City, any work in progress, completed work, supplies, equipment, and other materials produced as a part of, or acquired in connection with the performance of this Agreement, and any completed or partially completed work which, if this Agreement had been completed, would have been required to be furnished to City.

Article 9 Rights In Deliverables

9.1 **Ownership of Results.** Any interest of Contractor or its subcontractors, in the Deliverables, including any drawings, plans, specifications, blueprints, studies, reports, memoranda, computation sheets, computer files and media or other documents prepared by Contractor or its subcontractors, shall become the property of and will be transmitted to City. However, unless expressly prohibited elsewhere in this Agreement, Contractor may retain and use copies for reference and as documentation of its experience and capabilities.

9.2 **Works for Hire.** If, in connection with Services, Contractor or its subcontractors creates Deliverables including, without limitation, artwork, copy, posters, billboards, photographs, videotapes, audiotapes, systems designs, software, reports, diagrams, surveys,

blueprints, source codes, or any other original works of authorship, whether in digital or any other format, such works of authorship shall be works for hire as defined under Title 17 of the United States Code, and all copyrights in such works shall be the property of the City. If any Deliverables created by Contractor or its subcontractor(s) under this Agreement are ever determined not to be works for hire under U.S. law, Contractor hereby assigns all Contractor's copyrights to such Deliverables to the City, agrees to provide any material and execute any documents necessary to effectuate such assignment, and agrees to include a clause in every subcontract imposing the same duties upon subcontractor(s). With City's prior written approval, Contractor and its subcontractor(s) may retain and use copies of such works for reference and as documentation of their respective experience and capabilities.

Article 10 Additional Requirements Incorporated by Reference

10.1 Laws Incorporated by Reference. The full text of the laws listed in this Article 10, including enforcement and penalty provisions, are incorporated by reference into this Agreement. The full text of the San Francisco Municipal Code provisions incorporated by reference in this Article and elsewhere in the Agreement ("Mandatory City Requirements") are available at www.sfgov.org under "Government."

10.2 Conflict of Interest. By executing this Agreement, Contractor certifies that it does not know of any fact which constitutes a violation of Section 15.103 of the City's Charter; Article III, Chapter 2 of City's Campaign and Governmental Conduct Code; Title 9, Chapter 7 of the California Government Code (Section 87100 *et seq.*), or Title 1, Division 4, Chapter 1, Article 4 of the California Government Code (Section 1090 *et seq.*), and further agrees promptly to notify the City if it becomes aware of any such fact during the term of this Agreement.

10.3 Prohibition on Use of Public Funds for Political Activity. In performing the Services, Contractor shall comply with San Francisco Administrative Code Chapter 12G, which prohibits funds appropriated by the City for this Agreement from being expended to participate in, support, or attempt to influence any political campaign for a candidate or for a ballot measure. Contractor is subject to the enforcement and penalty provisions in Chapter 12G.

10.4 Nondisclosure of Private, Proprietary or Confidential Information.

10.4.1 If this Agreement requires City to disclose "Private Information" to Contractor within the meaning of San Francisco Administrative Code Chapter 12M, Contractor and subcontractor shall use such information only in accordance with the restrictions stated in Chapter 12M and in this Agreement and only as necessary in performing the Services. Contractor is subject to the enforcement and penalty provisions in Chapter 12M.

10.4.2 In the performance of Services, Contractor may have access to City's proprietary or confidential information, the disclosure of which to third parties may damage City. If City discloses proprietary or confidential information to Contractor, such information must be held by Contractor in confidence and used only in performing the Agreement. Contractor shall

exercise the same standard of care to protect such information as a reasonably prudent contractor would use to protect its own proprietary or confidential information.

10.5 Nondiscrimination Requirements

10.5.1 **Non Discrimination in Contracts.** Contractor shall comply with the provisions of Chapters 12B and 12C of the San Francisco Administrative Code. Contractor shall incorporate by reference in all subcontracts the provisions of Sections 12B.2(a), 12B.2(c)-(k), and 12C.3 of the San Francisco Administrative Code and shall require all subcontractors to comply with such provisions. Contractor is subject to the enforcement and penalty provisions in Chapters 12B and 12C.

10.5.2 **Nondiscrimination in the Provision of Employee Benefits.** San Francisco Administrative Code 12B.2. Contractor does not as of the date of this Agreement, and will not during the term of this Agreement, in any of its operations in San Francisco, on real property owned by San Francisco, or where work is being performed for the City elsewhere in the United States, discriminate in the provision of employee benefits between employees with domestic partners and employees with spouses and/or between the domestic partners and spouses of such employees, subject to the conditions set forth in San Francisco Administrative Code Section 12B.2.

10.6 **Local Business Enterprise and Non-Discrimination in Contracting Ordinance.** Contractor shall comply with all applicable provisions of Chapter 14B ("LBE Ordinance"). Contractor is subject to the enforcement and penalty provisions in Chapter 14B. Contractor shall utilize LBE Subcontractors for at least **13.84%** of the Services except as otherwise authorized in writing by the Director of CMD. Contractor shall incorporate the requirements of the LBE Ordinance in each subcontract made in the fulfillment of Contractor's LBE subcontracting commitments.

10.7 **Minimum Compensation Ordinance.** Contractor shall pay covered employees no less than the minimum compensation required by San Francisco Administrative Code Chapter 12P. Contractor is subject to the enforcement and penalty provisions in Chapter 12P. By signing and executing this Agreement, Contractor certifies that it is in compliance with Chapter 12P.

10.8 **Health Care Accountability Ordinance.** Contractor shall comply with San Francisco Administrative Code Chapter 12Q. Contractor shall choose and perform one of the Health Care Accountability options set forth in San Francisco Administrative Code Chapter 12Q.3. Contractor is subject to the enforcement and penalty provisions in Chapter 12Q.

10.9 **First Source Hiring Program.** Contractor must comply with all of the provisions of the First Source Hiring Program, Chapter 83 of the San Francisco Administrative Code, that apply to this Agreement, and Contractor is subject to the enforcement and penalty provisions in Chapter 83.

10.10 Alcohol and Drug-Free Workplace. City reserves the right to deny access to, or require Contractor to remove from, City facilities personnel of any Contractor or subcontractor who City has reasonable grounds to believe has engaged in alcohol abuse or illegal drug activity which in any way impairs City's ability to maintain safe work facilities or to protect the health and well-being of City employees and the general public. City shall have the right of final approval for the entry or re-entry of any such person previously denied access to, or removed from, City facilities. Illegal drug activity means possessing, furnishing, selling, offering, purchasing, using or being under the influence of illegal drugs or other controlled substances for which the individual lacks a valid prescription. Alcohol abuse means possessing, furnishing, selling, offering, or using alcoholic beverages, or being under the influence of alcohol.

10.11 Limitations on Contributions. By executing this Agreement, Contractor acknowledges that it is familiar with section 1.126 of the City's Campaign and Governmental Conduct Code, which prohibits any person who contracts with the City for the rendition of personal services, for the furnishing of any material, supplies or equipment, for the sale or lease of any land or building, or for a grant, loan or loan guarantee, from making any campaign contribution to (1) an individual holding a City elective office if the contract must be approved by the individual, a board on which that individual serves, or the board of a state agency on which an appointee of that individual serves, (2) a candidate for the office held by such individual, or (3) a committee controlled by such individual, at any time from the commencement of negotiations for the contract until the later of either the termination of negotiations for such contract or six months after the date the contract is approved. The prohibition on contributions applies to each prospective party to the contract; each member of Contractor's board of directors; Contractor's chairperson, chief executive officer, chief financial officer and chief operating officer; any person with an ownership interest of more than 20 percent in Contractor; any subcontractor listed in the bid or contract; and any committee that is sponsored or controlled by Contractor. Contractor must inform each such person of the limitation on contributions imposed by Section 1.126 and provide the names of the persons required to be informed to City.

10.12 Reserved. (Slavery Era Disclosure.)

10.13 Reserved. (Working with Minors.)

10.14 Consideration of Criminal History in Hiring and Employment Decisions

10.14.1 Contractor agrees to comply fully with and be bound by all of the provisions of Chapter 12T, "City Contractor/Subcontractor Consideration of Criminal History in Hiring and Employment Decisions," of the San Francisco Administrative Code ("Chapter 12T"), including the remedies provided, and implementing regulations, as may be amended from time to time. The provisions of Chapter 12T are incorporated by reference and made a part of this Agreement as though fully set forth herein. The text of the Chapter 12T is available on the web

at <http://sfgov.org/olse/fco>. A partial listing of some of Contractor's obligations under Chapter 12T is set forth in this Section. Contractor is required to comply with all of the applicable provisions of 12T, irrespective of the listing of obligations in this Section. Capitalized terms used in this Section and not defined in this Agreement shall have the meanings assigned to such terms in Chapter 12T.

10.14.2 The requirements of Chapter 12T shall only apply to a Contractor's or Subcontractor's operations to the extent those operations are in furtherance of the performance of this Agreement, shall apply only to applicants and employees who would be or are performing work in furtherance of this Agreement, and shall apply when the physical location of the employment or prospective employment of an individual is wholly or substantially within the City of San Francisco. Chapter 12T shall not apply when the application in a particular context would conflict with federal or state law or with a requirement of a government agency implementing federal or state law.

10.15 **Reserved. (Public Access to Nonprofit Records and Meetings.)**

10.16 **Food Service Waste Reduction Requirements.** Contractor shall comply with the Food Service Waste Reduction Ordinance, as set forth in San Francisco Environment Code Chapter 16, including but not limited to the remedies for noncompliance provided therein.

10.17 **Reserved. (Sugar-Sweetened Beverage Prohibition.)**

10.18 **Tropical Hardwood and Virgin Redwood Ban.** Pursuant to San Francisco Environment Code Section 804(b), the City urges Contractor not to import, purchase, obtain, or use for any purpose, any tropical hardwood, tropical hardwood wood product, virgin redwood or virgin redwood wood product.

10.19 **Reserved (Preservative Treated Wood Products).**

Article 11 General Provisions

11.1 **Notices to the Parties.** Unless otherwise indicated in this Agreement, all written communications sent by the Parties may be by U.S. mail or e-mail, and shall be addressed as follows:

To City: **Johanna Wong**
San Francisco Public Utilities Commission
525 Golden Gate Avenue, 9th Floor
San Francisco, CA 94102
jiwong@sfwater.org

To Contractor: **Blake Rothfuss**
Jacobs Associates, Inc. dba McMillen Jacobs Associates
1350 Treat Boulevard, Suite 1000

Walnut Creek, CA 94597
rothfuss@mcmjac.com

Any notice of default must be sent by registered mail. Either Party may change the address to which notice is to be sent by giving written notice thereof to the other Party. If email notification is used, the sender must specify a receipt notice.

11.2 Compliance with Americans with Disabilities Act. Contractor shall provide the Services in a manner that complies with the Americans with Disabilities Act (ADA), including but not limited to Title II's program access requirements, and all other applicable federal, state and local disability rights legislation.

11.3 Reserved. (Payment Card Industry ("PCI") Requirements.)

11.4 Sunshine Ordinance. Contractor acknowledges that this Agreement and all records related to its formation, Contractor's performance of Services, and City's payment are subject to the California Public Records Act, (California Government Code §6250 et. seq.), and the San Francisco Sunshine Ordinance, (San Francisco Administrative Code Chapter 67). Such records are subject to public inspection and copying unless exempt from disclosure under federal, state or local law.

11.5 Modification of this Agreement. This Agreement may not be modified, nor may compliance with any of its terms be waived, except as noted in Section 11.1, "Notices to Parties," regarding change in personnel or place, and except by written instrument executed and approved in the same manner as this Agreement, except when a subcontractor is replaced and the change is approved by the City and (CMD if needed), this must be done in a modification via SFPUC's SOLIS system and SFPUC policy. Contractor shall cooperate with Department to submit to the Director of CMD any amendment, modification, supplement or change order that would result in a cumulative increase of the original amount of this Agreement by more than 20% (CMD Contract Modification Form).

11.6 Dispute Resolution Procedure.

11.6.1 Negotiation; Alternative Dispute Resolution. The Parties will attempt in good faith to resolve any dispute or controversy arising out of or relating to the performance of services under this Agreement. If the Parties are unable to resolve the dispute, then, pursuant to San Francisco Administrative Code Section 21.36, Contractor may submit to the Contracting Officer a written request for administrative review and documentation of the Contractor's claim(s). Upon such request, the Contracting Officer shall promptly issue an administrative decision in writing, stating the reasons for the action taken and informing the Contractor of its right to judicial review. If agreed by both Parties in writing, disputes may be resolved by a mutually agreed-upon alternative dispute resolution process. If the parties do not mutually agree to an alternative dispute resolution process or such efforts do not resolve the dispute, then either Party may pursue any remedy available under California law. The status of any dispute or

controversy notwithstanding, Contractor shall proceed diligently with the performance of its obligations under this Agreement in accordance with the Agreement and the written directions of the City. Neither Party will be entitled to legal fees or costs for matters resolved under this section.

11.6.2 Government Code Claim Requirement. No suit for money or damages may be brought against the City until a written claim therefor has been presented to and rejected by the City in conformity with the provisions of San Francisco Administrative Code Chapter 10 and California Government Code Section 900, et seq. Nothing set forth in this Agreement shall operate to toll, waive or excuse Contractor's compliance with the California Government Code Claim requirements set forth in San Francisco Administrative Code Chapter 10 and California Government Code Section 900, et seq.

11.6.3 Agreement Made in California; Venue. The formation, interpretation and performance of this Agreement shall be governed by the laws of the State of California. Venue for all litigation relative to the formation, interpretation and performance of this Agreement shall be in San Francisco.

11.7 Construction. All paragraph captions are for reference only and shall not be considered in construing this Agreement.

11.8 Entire Agreement. This contract sets forth the entire Agreement between the parties, and supersedes all other oral or written provisions. This Agreement may be modified only as provided in Section 11.5, "Modification of this Agreement."

11.9 Compliance with Laws. Contractor shall keep itself fully informed of the City's Charter, codes, ordinances and duly adopted rules and regulations of the City and of all state, and federal laws in any manner affecting the performance of this Agreement, and must at all times comply with such local codes, ordinances, and regulations and all applicable laws as they may be amended from time to time.

11.10 Severability. Should the application of any provision of this Agreement to any particular facts or circumstances be found by a court of competent jurisdiction to be invalid or unenforceable, then (a) the validity of other provisions of this Agreement shall not be affected or impaired thereby, and (b) such provision shall be enforced to the maximum extent possible so as to effect the intent of the parties and shall be reformed without further action by the parties to the extent necessary to make such provision valid and enforceable.

11.11 Cooperative Drafting. This Agreement has been drafted through a cooperative effort of City and Contractor, and both Parties have had an opportunity to have the Agreement reviewed and revised by legal counsel. No Party shall be considered the drafter of this Agreement, and no presumption or rule that an ambiguity shall be construed against the Party drafting the clause shall apply to the interpretation or enforcement of this Agreement.

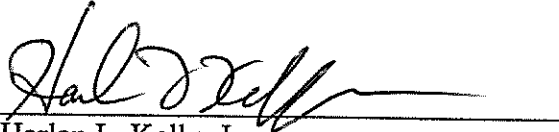
11.12 **Order of Precedence.** Contractor agrees to perform the services described below in accordance with the terms and conditions of this Agreement, implementing task orders, the RFP, and Contractor's proposal dated August 7, 2015. The RFP and Contractor's proposal are incorporated by reference as though fully set forth herein. Should there be a conflict of terms or conditions, this Agreement and any implementing task orders shall control over the RFP and the Contractor's proposal.

Article 12 MacBride And Signature

12.1 **MacBride Principles -Northern Ireland.** The provisions of San Francisco Administrative Code §12F are incorporated herein by this reference and made part of this Agreement. By signing this Agreement, Contractor confirms that Contractor has read and understood that the City urges companies doing business in Northern Ireland to resolve employment inequities and to abide by the MacBride Principles, and urges San Francisco companies to do business with corporations that abide by the MacBride Principles.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement on the day first mentioned above.


CITY



Harlan L. Kelly, Jr.
General Manager
San Francisco Public Utilities Commission

Approved as to Form:

Dennis J. Herrera
City Attorney

By: 
Julia H. Veit
Deputy City Attorney

CONTRACTOR

Jacobs Associates, Inc. dba McMillen Jacobs Associates



Dan Adams
Chief Executive Officer
Jacobs Associates, Inc.
dba McMillen Jacobs Associates
City vendor number: 20556

Appendices

- A: Scope of Services
- B: Appendix B & B-1 Calculation of Charges

Appendix A Scope of Services

1. Description of Services. Consultant agrees to perform the following Services: (1) perform tunnel inspection; (2) prepare CER; (3) perform geotechnical and hazardous materials investigations, laboratory testing and reports; (4) perform detailed analysis and design of a new deep rock tunnel and interim repair of an existing deep rock tunnel; (5) prepare contract documents including plans and specifications for inclusion in the construction contract documents; (6) prepare engineering cost estimates and construction schedules; (7) provide engineering support during environmental review, bid and award, and construction of the Mountain Tunnel Improvements; (8) provide transfer of technology to SFPUC staff or as requested; and, (9) other related tasks as needed or as requested.

2. Task Orders.

Performance of the Services under this Agreement will be executed according to a task order process, and Contractor is required to provide adequate quality control processes and deliverables in conformance with the technical requirements of the task order. The SFPUC Project Manager will initially identify tasks and request the contractor to propose a project scope, sub tasks, staffing plan, LBE utilization, schedule, deliverables, budget and costs to complete the task in accordance with Appendix B. All costs associated with the development of the scope of work for each task order shall be borne by Contractor. A final task order will be negotiated between the SFPUC Project Manager and the Contractor and then submitted to the SFPUC Bureau Manager for approval. However, as provided in the RFP, the budget, if applicable, identified for tasks is an estimate, and the City reserves the right to modify the applicable budget allocated to any task as more specific information concerning the task order scope becomes available.

The task order request will be processed for Controller certification of funding, after which a "Notice to Proceed" will be issued. The Contractor is hereby notified that work cannot commence until the Contractor receives a written Notice to Proceed in accordance with the San Francisco Administrative Code. Any work performed without a Notice to Proceed will be at the Contractor's own commercial risk. The calculations of costs and methods of compensation for all task orders under this Agreement shall be in accordance with Appendix B.

The following tasks provide general guidance to the Contractor as to the anticipated scope of work, which the SFPUC reserves the right to modify or delete. Beyond the Planning Tasks (Tasks 0100, 0300, 0400 and 0500) below, all other tasks are included based on the assumption that a new Bypass Tunnel is approved as the Preferred Engineering Alternative. If the Rehabilitation Alternative is approved as the Preferred Engineering Alternative by the Commission, the SFPUC and Consultant will revise the Scope of Work and modify the contract terms accordingly, including, but not limited to, the not to exceed amount and duration of the Contract.

OVERVIEW OF TASK DESCRIPTION

A. OVERVIEW

1. The Mountain Tunnel Project (Project) is approximately 19 miles long feeding from the Kirkwood Powerhouse and emptying into the Priest Reservoir. Access locations include Early Intake/Switchyard Adit, South Fork East and West, Adit 5/6, Adit 8/9, and Priest Portal when drained.
2. If approved and authorized, Consultant will develop contract documents for two construction contracts (Contract Packages). These include the following:
 - a. Interim Lining Repair and Rehabilitation of existing Mountain Tunnel.
 - b. Construction of a New Bypass Tunnel including re-alignment, repair and Restoration of the Access Road in and around the Project Site, if approved as the Preferred Engineering Alternative. This may be broken into two separate construction contracts.
3. SFPUC will provide access to private, City and County, State, and Federal property, as required to perform the scope of work, including geotechnical drilling and material sampling, survey and other field testing.
4. Applications for all required environmental permits and documentation will be prepared by SFPUC Bureau of Environmental Management. The Consultant shall support these activities with technical input as requested by the SFPUC under Task 1000.
5. Community relations services are optional within this Scope of Work. SFPUC will instigate, lead, and otherwise direct the Consultant in the execution of Community Relations work. The Consultant shall provide technical input, information and support, as requested.
6. The scope of work assumes 20 drawings for Task 200, 2018 Interim Repairs, and 50 drawings for Task 800, Tunnel Design and Engineering (Bypass Tunnel).
7. Electronic media and format for Deliverables will be as follows:

<u>Item</u>	<u>Description</u>
Software	AutoCAD 2012
Collaboration Software	Microsoft Sharepoint
Graphics and Display Boards	As identified in each Task section
Hard copies	As identified in each Task section

B. OBJECTIVES

The following are the objectives of the planning and design effort:

- Perform tunnel inspection and condition assessment;
- Advance the conceptual engineering of the Bypass Tunnel Alternative and the Rehabilitated Tunnel Alternative;
- Prepare a Conceptual Engineering Report which establishes the Basis of Design for the Preferred Engineering Alternative;
- Perform geotechnical and hazardous materials investigations, testing and reports;
- Perform design of interim repairs to the existing tunnel;
- Perform design of a new rock tunnel;
- Prepare contract documents for bidding and construction of two Contract Packages required to complete the Project.
- Prepare cost estimates and construction schedules;
- Meet the requirements of the various permits required to construct the project.
- Provide engineering support during environmental review, bid and award, and construction of the Mountain Tunnel Improvements.
- At the option of the SFPUC, provide the support services and exhibits to allow SFPUC to acquire the easements and properties necessary for construction and operation of a new Bypass Tunnel.
- At the option of the SFPUC, provide technical support to public outreach efforts.
- At the option of the SFPUC, provide engineering design services for limited improvements upstream of South Fork.

C. CONTRACT TASKS

The Consultant's work activities and products are categorized by the following tasks:

- 0100. Inspection and Condition Assessment of Existing Mountain Tunnel
- 0200. Phase 2 Interim Repairs of Existing Mountain Tunnel
- 0300. Planning Phase Consultant Management and Coordination
- 0400. Document Review and Compilation
- 0500. Conceptual Engineering
- 0600. Final Design Phase Consultant Management and Coordination
- 0700. Geotechnical Investigation and Site Characterization
- 0800. Tunnel Engineering and Final Design
- 0900. Design of Tunnel Improvements Upstream of Adit 5/6 (Optional)
- 1000. Environmental and Permit Support
- 1100. Engineering Support during Bid and Award
- 1200. Transfer of Technology
- 1300. Land Needs and Property Acquisition (Optional)
- 1400. Engineering Support During Construction
- 1500. Communications and Public Outreach (Optional)
- 1600. Community Benefits

Task 0100: Inspection and Condition Assessment of Existing Mountain Tunnel

The objective of this task is to determine the current condition of the existing Mountain Tunnel.

SUBTASK 0110: DEVELOP TUNNEL INSPECTION PLAN

Activities

1. Review previous Mountain Tunnel inspection reports provided by the SFPUC.
2. Develop a Tunnel Inspection Plan which will include:
 - a. Listing pre-inspection, inspection and post inspection activities to be performed;
 - b. Roles and responsibilities of the Inspection Team;
 - c. Schedule for Inspection Work, including site access, set up, tunnel unwatering and re-watering, and major milestones;
 - d. Identify utilities, services, and other non-labor requirements to complete the work.
 - e. Review and provide input to LOTO operations plan prepared by SFPUC for the shutdown.
3. Develop a Tunnel Lining and Rock Sampling (Condition Assessment) Plan:
 - a. Identify the information being collected that will be obtained during the inspection and analyses that will be performed to be able to assess the condition and reliability of the tunnel;
 - b. Identify the sampling and testing objectives;
 - c. Compile procedures to be used to perform sampling and testing;
 - d. Plans indicating describing sample locations, quantity, and estimated efforts for each;
 - e. Sample storage and disposal plan.

Deliverables

- Tunnel Inspection Plan (Draft and Final)

SUBTASK 0120: INSPECTION COORDINATION

Activities

1. Conduct meetings to coordinate with Operations for shutdowns and LOTO;
 - a. Coordinate with HHWP for dewatering, access, ventilation, disinfection, return-to-service, requirements;
2. Conduct meetings with other project teams that will be performing work during the 2017 shutdown:
 - a. Adits and Access Improvement Project (B&V/McMillen Jacobs Associates)
 - b. 2017 Interim Repair Project (B&V/McMillen Jacobs Associates)
3. Hold up to two site visits to define constraints, meet with SFPUC and other staff, and determine specific on-site coordination requirements;
4. Prepare, discuss, and in a workshop environment, walk through the Master Outage Checklist and brainstorm risks that could occur during the 2017 Mountain Tunnel Outage, including corresponding risk mitigation action items.

Deliverables:

- Coordination Meeting Minutes;
- Field Reports on Site Visits;
- Master Outage Checklist (Draft and Final)
- Risk Assessment Register for the 60-day 2017 Mountain Tunnel Outage

SUBTASK 0130: INSPECTION SAFETY AND RESCUE PLAN

Activities

1. Prepare a Safety and Rescue Plan which includes:
 - a. Site-specific safety procedures;
 - b. Identifies known hazards—methane gas, confined space, etc., and presents mitigation of same;
 - c. Job Hazard Analysis (JHA) worksheet for known hazards, including potential or possible self-imposed hazards.
 - d. Air monitoring and testing program, which includes software and instrumentation for fixed, continuous, remote real time monitoring (shall tie into SCADA) and instrumentation for hand-held monitoring by the inspection team.
 - e. Required training for all personnel entering the tunnel.
 - f. Certificates of qualified personnel including Tunnel Safety Representative / Gas Tester.
 - g. Notifications.
 - h. Emergency responses / Rescue team /Surface Support team.
 - i. Training requirements for all staff entering the tunnel.
2. Prepare a list of safety and communication equipment.
3. Coordinate review comments and input from Fire and Rescue Agencies and Cal/OSHA Mining and Tunneling Unit.
4. Assist SFPUC with application for Inspection Safety Permits.

Deliverables

- Safety and Rescue Plan (Draft and Final)
- Listing of Safety Equipment;
- Coordination Meeting Minutes;
- Inputs and technical material for permit submission

SUBTASK 0140: MOUNTAIN TUNNEL INSPECTION

Activities

1. Perform the inspection of the existing Mountain Tunnel between Early Intake Switchyard Adit to Priest Portal
 - a. Verify the condition of the temporary manifold upstream of the South Fork Siphon
 - b. Observe and quantify
 - Sediment at the invert of the South Fork Siphon.
 - Inflows into the tunnel.
 - Debris cleared from Priest rock trap.
 - Rock falls within tunnel.
 - Voids behind the concrete lining by visual methods.
 - Identify cracks that may affect structural integrity including aperture, offset, length, orientation.
 - c. Size, classify, map and photographing of defects based on methods established in the 2008 Condition Assessment.
 - d. Collect concrete cores and rock samples downstream of Sta. 386+75 based on methods established in Inspection Plan.

- e. Perform compressive strength testing and alkali reactivity testing of select concrete cores based on methods established in Inspection Plan.
- f. Perform non-destructive testing of concrete lined portions of tunnel between Early Intake Switchyard Adit and Priest Portal.
- g. Perform a high-definition video inspection of the existing Mountain Tunnel between Early Intake Switchyard Adit to Priest Portal in 1000-foot intervals. The video will provide a record of tunnel conditions as a baseline and for comparison with future conditions.

Deliverables

- Field Notes, Photos, and Draft Mapping (as part of Subtask 0150)
- High-definition Tunnel Inspection Video

SUBTASK 0150: MOUNTAIN TUNNEL INSPECTION AND ASSESSMENT REPORT

Activities

1. Present to SFPUC the approach to Condition Assessment of the existing Mountain Tunnel in predicting the rate of deterioration and Probability of Failure of the lining system.
2. Prepare a Tunnel Inspection Report documenting the detailed observations, measurements, mapping, testing, and photographing performed during the inspection.
 - a. Provide field note, photo, and mapping;
 - b. Identify lessons learned for future inspections.
3. Prepare an Existing Tunnel Lining Condition Assessment report:
 - c. Provide opinion of remaining service life;
 - d. Identify risks to continued operations;
 - e. Include recommendations for continued operations.
4. Present summary of Inspection and Assessment reports, and recommendations to SFPUC.

Deliverables

- Presentation of Approach to Assessing Probability of Failure
- Tunnel Inspection Report (Draft, Final)
- Tunnel Lining Condition Assessment Report (Draft/Final)
- Presentation (Draft and Final)

Task 0200 Phase 2 Interim Repairs of Existing Mountain Tunnel

The objective of this task is to provide the detailed design services for interim repairs performed in a shutdown subsequent to the 2017 shutdown, work products, and design support during construction of the repairs of the Mountain Tunnel lining to reduce the risk of collapse.

SUBTASK 0210: CONSULTANT MANAGEMENT AND COORDINATION

Activities

1. Attend kickoff meeting for the Phase 2 interim repair project to be held in Moccasin, CA.
2. Update Project Management Plan (Master PMWP developed in Task 0300) for the Phase 2 interim repair work that includes:
 - a. Approach to the overall engineering and design of the Phase 2 Interim Repairs;
 - b. Organization and responsibility of interim repair team members;
 - c. Critical Path Method (CPM) design schedule shall be updated to include
 - Phase 2 Interim Repair Tasks;
 - Phase 2 Interim Repair Milestones;
 - Phase 2 Interim Repair Deliverables;
 - Due dates; and,
 - City review time.
 - d. Quality Assurance Plan/ Quality Control Procedures; and
 - e. Communication Plan for interim repair team members
3. Attend biweekly progress meetings for the Phase 2 Interim Repair Project (via WebEx)
4. Attend 3 workshops in Moccasin to present the Tunnel Repair Design Report, 50% and 100% design submittals.

Deliverables

- Updated Project Management Plan including Phase 2 Interim Repairs work
- Meeting/Workshop agendas
- Meeting/Workshop minutes
- Presentations (Draft and Final)

SUBTASK 0220: DOCUMENT REVIEW AND SITE VISITS

Activities

1. Review the existing condition assessment of the Mountain Tunnel including:
 - a. 2008 Condition Assessment Report;
 - b. HH-986 2017 Interim Repair contract documents; and,
 - c. HH-981 Adit and Access Road Improvement Project contract documents.
2. Attend one site visit and perform site reconnaissance as necessary to define site constraints and project requirements for detailed design and construction.
 - a. Document date, list of participants, summary of discussions, and pertinent observations including photographs and geo-tagging as applicable.

Deliverables

- Field Report on Site Visit

SUBTASK 0230: PHASE 2 INTERIM REPAIR DESIGN

Activities

1. Develop a Tunnel Repair Design Report which will include:
 - a. Basis of design
 - b. Engineering strategy and design criteria
 - c. Approach to executing construction including methods;
 - d. Construction traffic criteria;
 - e. Power and other utility requirements; and,
 - f. Staging area requirements.
2. Perform calculations for proposed tunnel repairs.
3. Prepare construction cost estimates.
4. Develop design documents for repairs to the existing Mountain Tunnel lining.
 - a. Construction Drawings (50%, 100%, Issued for Bid)
 - b. Technical Specifications (50%, 100%, Issued for Bid)
 - c. Construction Cost Estimate and Schedule (50% and 100%)
 - d. Provide support to the SFPUC EMB Project Engineer for the development of Division 00 and 01 specifications including:
 - Schedule requirements and constraints
 - Environmental mitigations

Deliverables

- Tunnel Repair Design Report (Draft and Final)
- Construction drawings, technical specifications at 50%, 100%, and Bid Levels
- Construction cost estimates at 50% (Class 3) and 100% (Class 1)

SUBTASK 0240: ENGINEERING SUPPORT DURING BID AND CONSTRUCTION

Activities

1. Provide engineering support services during the bidding period:
 - a. Attend pre-bid conference in Moccasin, CA;
 - b. Present design information at a pre-bid conference;
 - c. Prepare written responses to bidder inquiries,
 - d. Prepare addenda to Contract Documents
 - e. Assist SFPUC Project Team in the evaluation of construction bids.
2. Provide engineering support services during construction:
 - a. Participate in weekly construction meetings, site meetings, and inspections;
 - b. Enter the tunnel and observe the work. Provide written confirmation of completion and recommendations, as required, for modifications to quantities and location of repairs;
 - c. Provide written responses to requests for information (RFIs);
 - d. Review submittals and reviewing change orders.

Deliverables

- Responses to RFIs, Submittals
- Responses to change order requests

SUBTASK 0250: RECORD DRAWINGS

Activities

1. Develop Record Drawings based on the Contractor's red-line drawings.

Deliverables

- Record Drawings

Task 0300 Planning Phase Management and Coordination

The objective of this task is to provide overall project coordination during the Planning Phase in order to keep project participants informed of progress, technical issues, planned activities, and events.

SUBTASK 0310: PROJECT MANAGEMENT WORK PLAN

Activities

1. Develop a Project Management Work Plan (PMWP) for the Planning Phase. The Plan will include:
 - a. Organization and responsibilities for Project Team members.
 - b. Contact information for key team members.
 - c. Planning tasks with corresponding staff and budget.
 - d. Critical Path Method (CPM) schedule including planning tasks, milestones, and deliverable due dates.
 - e. Cost-loaded work breakdown structure.
 - f. List of Planning Phase deliverables with the proposed deliverable schedule.
 - g. Quality Assurance/Quality Control procedures
 - h. Approach to confirm, modify, or refine the currently Preferred Engineering Alternative.
 - i. This PMWP shall serve as the master PMWP for the project with updates for the work performed under Task 0200 Phase 2 Interim Repairs and the Design Phase tasks.

Deliverables

- Project Management Work Plan (Draft and Final)

SUBTASK 0320: PROJECT KICK-OFF, WORKSHOPS, AND BIWEEKLY PROGRESS MEETINGS

Activities

1. Conduct a Planning Phase kick-off meeting.
2. Conduct biweekly project meetings, in the San Francisco SFPUC office, between the SFPUC and at least 2 members of the Project Team.
 - a. Review latest project developments and requirements;
 - b. Review action items;
 - c. Review and resolve technical and management issues; and,
 - d. Coordinate items of work.
3. Prepare for and conduct six Coordination Workshops, in Moccasin, including the following topics:
 - a. Hydraulic modeling with SFPUC and HHWP staff;
 - b. System Operations with SFPUC and HHWP staff;
 - c. O&M strategies with SFPUC and HHWP staff;
 - d. Draft and Final Conceptual Engineering Report to a Technical Panel and/or Steering Committee.

4. Incorporate comments from workshops into the Conceptual Engineering Report as agreed to by the SFPUC.

Deliverables

- Agendas for progress meetings and workshops
- Meeting minutes
- Workshop summaries
- Presentations (Draft and Final)

SUBTASK 0330: PROJECT DOCUMENTATION

Activities

1. Maintain both hard copy and electronic project files (utilizing SharePoint) including:
 - a. Plans;
 - b. Reports;
 - c. Pertinent correspondence;
 - d. Calculations; and
 - e. Other relevant documents.
2. Coordinate review comments provided by others on deliverables. Document and disseminate responses to review comments
3. Confirm adherence to Quality Assurance/Quality Control procedures including:
 - a. Final deliverable stamped and signed by a California Professional Licensed Engineer.

Deliverables

- Responses to review comments

SUBTASK 0340: PROGRESS REPORTS

Activities

1. Prepare Monthly Progress Reports, including anticipated accruals.

Deliverables

- Monthly Progress Reports

Task 0400 Document Review and Compilation

The objective of this task is to review relevant project documents from all available sources.

SUBTASK 0410: REVIEW OF BACKGROUND DOCUMENTS

Activities

1. Review background documents provided by SFPUC relevant to Mountain Tunnel and studies performed for the improvement of the tunnel.
2. Prepare Review of Background Information Memorandum
 - a. Confirm the adequacy and applicability of information found in existing documentation;
 - b. Identify any data gaps that must be completed during the planning and design phases of the project.

- c. Develop a schedule and plan for recovery of the data.

Deliverables:

- Technical Memorandum on Mountain Tunnel Background Information (Draft and Final)

SUBTASK 0420: SITE RECONNAISSANCE OF ACCESS POINTS

Activities

1. Perform a site reconnaissance of existing conditions with up to 10 new members of the team.

Deliverables:

- Field Report on Site Visit

Task 0500 Conceptual Engineering

The objective of this task is to develop a Conceptual Engineering Report (CER) containing preliminary design criteria and site layouts, conceptual drawings, and analysis developed to arrive at the Preferred Engineering Alternative.

SUBTASK 0501: PERFORM HYDRAULIC FIELD STUDY

Activities

1. Measure hydraulic characteristics of the Mountain Tunnel for a high discharge steady-state flow.
2. Compute theoretical hydraulic gradients.
3. Compare results with previous test results.

Deliverables:

- N/A

SUBTASK 0502: PERFORM HYDRAULICS ANALYSES

Activities

1. Collect and review available data pertinent to a determination of the Mountain Tunnel flow characteristics, including
 - a. Reports,
 - b. Drawings,
 - c. Inspections,
 - d. Test records, and
 - e. Calculation data.
2. Perform comprehensive hydraulic and transient analysis of the Mountain Tunnel alternatives including a simulation model.

Deliverables:

- Calculations
- Simulation model

SUBTASK 0510: HYDRAULIC ANALYSIS REPORT

Activities

1. Prepared a Hydraulic Analysis Report including
 - a. Current and future operations;
 - b. Hydraulic design parameters;
 - c. Recommended shape/size of new tunnel;
 - d. Sensitivity of repairs/replacement linings on existing tunnel;
 - e. Hydraulic analyses results
 - f. Field study results
 - g. Hydraulic profile throughout the Mountain Tunnel at different flow and operating scenarios

Deliverables

- Hydraulic Analysis Report (Draft and Final)

SUBTASK 0520: DRAFT CONCEPTUAL ENGINEERING REPORT

Activities

1. Perform conceptual analyses to address both the Rehabilitation Alternative and the Bypass Tunnel Alternative, including:
 - a. Preliminary rock mass characterization
 - b. Conceptual engineering for lining of the existing and new tunnel
 - c. Developing outage concepts
 - d. Preliminary groundwater evaluation with respect to infiltration/exfiltration
2. Prepare a draft Conceptual Engineering Report including:
 - a. Project history, purpose, and summary;
 - b. Existing condition and Condition Assessment summary from the Tunnel Lining Condition Assessment Report and other available As-Built information;
 - c. Basis of Design including design objectives and preliminary design criteria;
 - d. Description of proposed major project elements and anticipated construction method and phasing that will be utilized;
 - e. Hydraulic modeling results from the Hydraulic Analysis Report(s);
 - f. System Operations and O&M strategies incorporating input from HHWP;
 - g. Right-of-way considerations (temporary and permanent);
 - h. Environmental considerations;
 - i. Anticipated regulatory requirements;
 - j. Critical constraints
 - k. Identification of key interfaces with existing facilities;
 - l. Project schedule;
 - m. Construction and O&M cost estimates;
 - n. Draft specifications section list;
 - o. Preliminary Conceptual Level Drawings; and,
 - a. Site plan and site access;
 - b. Preliminary plans and elevations;
 - c. Topography as provided by aerial mapping provided by SFPUC;
 - d. Break-in concepts.
 - p. Coordination needed with other projects in the vicinity.

Deliverables

- Draft Conceptual Engineering Report
- Calculations supporting the Draft Conceptual Engineering Report

SUBTASK 0530: FINAL CONCEPTUAL ENGINEERING REPORT

Activities

1. Prepare a final Conceptual Engineering Report including:
 - a. Incorporating comments from the draft CER and workshop; and,
 - b. Identify Recommended Final Engineering Alternative.

Deliverables

- Final Conceptual Engineering Report
- Calculations supporting the Final Conceptual Engineering Report

SUBTASK 0540: CEQA CHECKLIST

Activities

1. Prepare Draft CEQA Checklists in accordance with SFPUC standards for the two top-scoring alternatives in the AAR Addendum:
 - a. 12-mile Bypass Tunnel Alternative, and
 - b. Rehabilitated Tunnel Alternative.
2. Prepare Final CEQA Checklist in accordance with SFPUC standards within 10 months after NTP to enable the initiation of the Environmental Review.

Deliverables

- Draft CEQA Checklists.
- Final CEQA Checklists.

Task 0600 Final Design Consultant Management and Coordination

The objective of this task is to provide overall project coordination during the design phase for keeping project participants informed of progress, technical issues, planned activities, and events.

SUBTASK 0610: PROJECT MANAGEMENT WORK PLAN

Activities

1. Update Project Management Work Plan (PMWP) for the Design Phase. The Plan will include:
 - a. Organization and responsibilities for Project Team members.
 - b. Contact information for key team members.
 - c. Design tasks with corresponding staff and budget.
 - d. Critical Path Method (CPM) schedule including Design Phase tasks, milestones, and deliverable due dates.
 - e. Cost-loaded work breakdown structure.
 - f. List of Design Phase deliverables with the proposed deliverable schedule.
 - g. Quality Assurance/Quality Control procedures

Deliverables

- Updated Project Management Work Plan for Design Phase

SUBTASK 0620: PROJECT KICKOFF, WORKSHOPS AND BIWEEKLY PROGRESS MEETINGS

Activities

1. Conduct a Design Phase kick-off meeting.
2. Conduct biweekly project meetings, in the San Francisco SFPUC office, between the SFPUC and at least 2 members of the Project Team.
 - a. Review latest project developments and requirements;
 - b. Review action items;
 - c. Review and resolve technical and management issues; and,
 - d. Coordinate items of work.
3. Prepare for and conduct seven workshops in Moccasin including the following topics:
 - a. Design Criteria Report;
 - b. Risk Assessment;
 - c. 35%, 65%, and 95% design submittals.

Deliverables

- Agendas for progress meetings and workshops
- Meeting minutes
- Workshop summaries
- Presentations (Draft and Final)

SUBTASK 0630: PROJECT DOCUMENTATION

Activities

1. Maintain both hard copy and electronic project files (utilizing SharePoint) including:
 - a. Plans;
 - b. Reports;
 - c. Pertinent correspondence;
 - d. Calculations; and
 - e. Other relevant documents.
2. Coordinate review comments provided by others on deliverables. Document and disseminate responses to review comments
4. Confirm adherence to Quality Assurance/Quality Control procedures including:
 - a. Final deliverable stamped and signed by a California Professional Licensed Engineer.

Deliverables

- Responses to review comments

SUBTASK 0640 SUBCONSULTANT COORDINATION

Activities

1. Coordinate subconsultant activities.
2. Prepare Monthly Progress Reports.

Deliverables

- Monthly Progress Reports

Task 0700 Geotechnical Investigation and Site Characterization

The geotechnical investigation will take part in two Phases. Phase 1 will support the development of the Conceptual Engineering Report and Phase 2 will support the design of a new bypass tunnel, if approved as the Preferred Engineering Alternative. The objective of this task is to define and implement a geotechnical investigation and site characterization program to determine required design parameters and to assess ground and groundwater conditions along the alignment of the tunnel facilities. The program will take into account previous work and investigations.

TASK 0710: DEVELOP GEOTECHNICAL WORK PLAN

Activities

1. Develop a Work Plan for Phase 1 and update/re-issue it for Phase 2 which will include:
 - a. Description of the geotechnical investigation and site characterization program.
 - b. Sufficient detail for obtaining permits for fieldwork.
 - c. Sufficient detail for use by public information staff to notify the affected public in advance of fieldwork.
2. Prepare final Work Plan within two weeks after receiving review comments from the SFPUC.

Deliverables

- Phase 1 Geotechnical Investigation and Site Characterization Work Plan (Draft and Final)
- Phase 2 Geotechnical Investigation and Site Characterization Work Plan (Draft and Final)

SUBTASK 0720: SITE EXPLORATION AND SUPPORT OF ENVIRONMENTAL EVALUATION

Activities

1. Provide technical support as needed to secure permits and access for drilling.
2. Perform site exploration in accordance with the approved Work Plan including:
 - a. Drilling and sampling boreholes;
 - b. Sampling for soil and groundwater corrosivity tests;
 - c. Sampling for presence of hazardous materials in soil and observation wells.
 - d. Installation of groundwater monitoring instrumentation.
 - e. Testing and monitoring including:
 - Groundwater monitoring;
 - Hazardous gas monitoring and testing;
 - Hazardous materials testing;
 - Downhole logging; and
 - Hydraulic conductivity testing.
3. Coordinate field activities, which include daily direction to field staff, confirmation of sample development and storage, field checks, and trouble-shooting during exploration program.
4. Perform fieldwork in consideration of public safety, per industry standards, and in accordance with applicable permit and environmental regulations, traffic control guidelines, and guidelines outlined in the Field Manuals published by the SFPUC Land & Resource Management Section.

5. Prepare field borehole logs by hand and final borehole logs with gINT software.
6. Monitor groundwater instrumentation and prepare Groundwater Monitoring Report(s).

Deliverables

- Borehole logs will be part of the Geotechnical Data Report(s).
- Groundwater Monitoring Reports at monitoring intervals.

SUBTASK 0730: LABORATORY TESTING

Activities

1. Perform laboratory testing including:
 - a. Material gradation (as applicable) and strength;
 - b. Index property testing (as applicable);
 - c. Geotechnical parameter testing;
 - d. Boreability; and
 - e. Testing for hazardous materials to assess soil and groundwater handling and disposal requirements and to assess the nature and extent of hazardous gases.

Deliverables

- Test results as part of the Geotechnical Data Report.

SUBTASK 0740: GEOTECHNICAL DATA REPORT

Activities

1. Prepare a Phase 1 Geotechnical Data Report including:
 - a. Support for the CER development.
 - b. Providing factual data and information obtained from the Phase 1 geotechnical investigation efforts including:
 - Geologic background;
 - Description of field activities;
 - Plan of boring locations;
 - Logs of borings
 - Results of in-situ testing;
 - Results of laboratory testing; and,
 - Other factual data.
2. Prepare a Final (Phase 1 and Phase 2) Geotechnical Data Report
 - a. Support for the final design of a bypass tunnel
 - b. Providing factual data and information obtained from the geotechnical investigation efforts during Phase 1 and Phase 2, respectively, including:
 - Geologic background;
 - Description of field activities;
 - Plan of boring locations;
 - Logs of borings
 - Results of in-situ testing;

- Results of laboratory testing; and,
- Other factual data.

Deliverables

- Phase 1 Geotechnical Data Report (Draft and Final)
- Phase 1 and Phase 2 Geotechnical Data Report (Draft and Final)

SUBTASK 0750: SEISMICITY EVALUATION

Activities

1. Prepare a Seismicity Report which will include:
 - a. Overview of the regional geologic setting;
 - b. State of knowledge about the Foothills fault system;
 - c. Regional, local, and site geologic maps;
 - d. Documentation of site-specific conditions related to seismic sources, ground motions, and fault offset;
 - e. Design ground motions;
 - f. Methods of analysis;
 - g. Stress/strain calculations for tunnel facilities;
 - h. An assessment of geologic hazards for the Mountain Tunnel Improvements;
 - i. At a minimum, the report will include the figures and plots listed below:
 - Regional Geologic and Fault Map
 - Regional Seismicity Map
 - Response Spectra (deterministic) and PGA
 - Site Geologic and Engineering Geologic Map (showing Tunnel and infrastructure locations)
 - Field Exploration Map
 - j. Assessment of liquefaction and lateral spreading (not applicable);
 - k. Risk assessment related to ability of tunnel facility to remain operational after design-level seismic event.
 - l. Recommendations on future subsurface investigation to better evaluate geologic hazards to the project.

Deliverables

- Seismicity Report (Draft and Final)

SUBTASK 0760: TUNNEL EXCAVATION METHODS MEMORANDUM

Activities

1. Conduct a study to assess mechanized excavation by TBM including:
 - a. Appropriate laboratory testing, conducted under Task 7.3, of the materials for the types of mechanized excavation methods considered.
2. Prepare a Tunnel Excavation Methods Memorandum including:

- a. Evaluation of the technical feasibility of different excavation methods and ground modifications considered for applicability to the Mountain Tunnel Bypass and associated connecting tunnels;
- b. Evaluation of impact of groundwater; and
- c. Recommendations as to the types of methods that should be allowed or excluded for tunnel construction.

Deliverables

- Tunnel Excavation Methods Memorandum (Draft and Final)

SUBTASK 0770: GEOTECHNICAL INTERPRETIVE TECHNICAL MEMORANDUM

Activities

1. Prepare a Geotechnical Interpretive Technical Memorandum which will include:
 - a. Limited interpretation of factual data derived from field investigations.
 - b. Documentation and summarized data used in design and in preparation of final and specific baselines for the Geotechnical Baseline Report.

Deliverables

- Geotechnical Interpretive Report (Draft and Final)

TASK 0780: GEOTECHNICAL BASELINE REPORT

Activities

1. Memo on geotechnical risks and risk allocation.
2. Memo on linkage between geotechnical baselines and cost estimate.
3. Prepare a Geotechnical Baseline Report

Deliverables

- Geotechnical Risks and Risk Allocation Memorandum
- Geotechnical Baselines and Cost Impacts Memorandum
- Geotechnical Baseline Report (Draft Report at 65% Design Milestone and Final Report)

SUBTASK 0790: HAZARDOUS MATERIALS ASSESSMENT REPORT

Activities

1. Prepare a Hazardous Materials Assessment Report which will include:
 - a. Estimated locations of soils and groundwater containing hazardous constituents;
 - b. Information for developing methods and locating sites for handling, treatment, storage, and disposal of excavated materials;
 - c. Provide information on the presence of hazardous gases.
2. Use the findings for planning and design of materials management of the project.
3. Preparing of contact specifications regarding testing of excavated materials during construction and handling and disposal of clean and contaminated solids and groundwater.

Deliverables

- Hazardous Materials Assessment Report (Draft and Final)

SUBTASK 0795: OTHER REPORTS

Activities

1. Develop other reports as requested by the SFPUC. Topics may include:
 - a. Settlement estimates and monitoring or other measures
 - b. Investigation and evaluation of muck disposal locations for various construction scenarios.
 - c. Groundwater interpretation through analysis and modeling in relationship to various construction scenarios and rehabilitation options.

Deliverables

- Other Reports as requested (Draft and Final)

Task 0800 Tunnel Engineering and Final Design

The objective of this task is to provide engineering and design services to perform, document, and prepare a complete detail design package for a new bypass tunnel, if approved as the Preferred Engineering Alternative. If approved and authorized, the design work will include the tunnel, tunnel portal shafts, vent or intermediate structures, lining, and connecting tunnel or pipeline to new control structures, and ancillary appurtenances along the tunnel alignment.

DESIGN SUBMITTAL REQUIREMENTS:

1. 35% Design Submittal Requirements. At a minimum, 35% Design documents shall encompass the following:
 - Sufficient definition of the facility to identify all major elements required, and verification of feasibility of the design; and a list of permit requirements.
 - Identification of construction contract method.
 - Preliminary horizontal (plans) and vertical alignments (sections) of the elements being designed; excavation and shoring support methods; methods of groundwater control, handling, and treatment; identification of any road relocations and traffic routing; utility search.
 - Coordination with SFPUC Design Team to establish location of near-surface and surface facilities associated with the elements being designed.
 - Design Criteria based on inclusion and expansion of criteria supplied by the SFPUC, most particularly the General Seismic Design Requirements for SFPUC facilities.
 - Identification of design issues
 - Drawings, in conformance with SFPUC standards, outline of specifications a construction schedule, and a construction cost estimate ($\pm 30\%$ accuracy). The 35% construction cost estimate will be used as a baseline estimate for monitoring design development impacts.

2. 65% Design Submittal Requirements. At a minimum, 65% Design documents shall encompass the following:
 - Incorporation of SFPUC and project team comments from 35% submittal.
 - Integration of drawings and specifications with those produced by SFPUC Design Team, including appropriate drawing numbers, match lines, and cross referencing on all drawings.
 - A preliminary list of proposed pre-purchase materials and equipment.
 - Updated technical specifications; contract plans/drawings; and bid item descriptions including method of payment to integrate with SFPUC standard descriptions.
 - Updated detailed construction cost estimates ($\pm 20\%$ accuracy) and construction schedule.

3. 95% Design Submittal Requirements. At a minimum, 95% Design documents shall encompass the following:

- Incorporation of SFPUC and project team comments from 65% submittal.
- Incorporation of design interfaces and coordination issues relevant to designs performed by the SFPUC.
- Updated detailed construction cost estimates ($\pm 10\%$ accuracy) and construction schedule.
- Completion of construction plans and specification for integration with construction plans/drawings and specifications produced by the SFPUC Design Team. The package shall be ready for stamping and signatures by the Engineer of Record and for review by SFPUC Contract Preparation staff.

4. 100% Design Submittal Requirements. At a minimum, 100% Design documents shall encompass the following:

- Finalized, signed and wet stamped plans and specifications inclusive of all comments generated by SFPUC Contract Preparation staff, reflecting SFPUC and Project Team comments on 95% design documents, and final QA audit.
- A detailed itemized final construction cost estimate ($\pm 10\%$ accuracy) for the construction.
- All final signed and wet stamped analysis results, design calculations, design report, geotechnical, hydraulic, survey and other reports submittals as described within the Scope of Services.
- All necessary supporting documents for permit applications.

5. The final submittal shall encompass 1 bound copy and 1 unbound copy of reports; 1 reproducible master set of the construction documents, including a vellum set; and 1 digital copy of the drawings in AutoCAD.

6. All Contractor submittals shall be compatible with the SFPUC standards to allow easy entry into the SFPUC Records Management System.

SUBTASK 0810: DESIGN AND ANALYSIS

Activities

1. Conduct design criteria workshop in Moccasin, California (refer to Task 0600).
2. Prepare a draft and final Tunnel Design Report that will include:
 - a. Design criteria;
 - b. Tunnel alignment;
 - c. Shaft locations;
 - d. Muck disposal;
 - e. Groundwater control and disposal;
 - f. Tunnel and shaft construction methods;
 - g. Initial tunnel support;

- h. Final lining;
 - i. Staging areas;
 - j. Utilities in conflict with alignment or facilities; and,
 - k. Summary of ancillary facilities.
3. The draft design report will allow for augmentation and expansion of report sections into a final design report.
 4. Develop plans and technical specifications at approximately 35%, 65%, 95%, and 100% levels of completion.
 5. Incorporate environmental mitigation requirements contained in the EIR/ES and permit documents into Contract Documents.
 6. Develop Division 0 and 1 Specifications, with assistance from SFPUC staff including:
 - a. Identifying technical project requirements;
 - b. Identifying schedule requirements and constraints; and
 - c. Preparing environmental mitigation specifications.

Deliverables

- Preliminary Tunnel Design Report (Draft and Final)
- Final Tunnel Design Report (Draft and Final)
- Construction Drawings (plans) at 35%, 65%, 95%, and 100% design levels
- Technical Specifications at 35%, 65%, 95%, and 100% design levels
- Comments on Division 00 and 01

SUBTASK 0820: CONSTRUCTION COST ESTIMATION AND SCHEDULING

Activities

1. Develop construction cost estimates at 35%, 65%, and 100% design levels
2. Develop construction schedules at 35%, 65%, and 95% design levels
 - a. Indicate major milestones and activities.

Deliverables

- Construction Cost Estimate Report at 35%, 65%, and 100% design levels.
- Construction Schedules at 35%, 65%, and 95% design levels.

SUBTASK 0830: RISK MANAGEMENT

Activities

1. Conduct a risk workshop as part of Task 0600 at around the 35% design level for risk identification and qualitative risk analysis.
2. Develop a risk register based on workshop
3. Update the risk register at the 65% and 95% design levels with risk quantification and mitigation.

Deliverables

- Risk Assessment Register Technical Memorandum (Draft and Final)

SUBTASK 0840: SURVEY AND UTILITY COORDINATION

Activities

1. Develop survey information from conventional field survey or laser scanning for staging areas and access roads used in construction as noted:
 - a. Priest Portal Topography, up to 5 acres. The topography will delineate visible surface improvements, roadways, spot elevations, grade breaks and visible utilities.
 - b. Adits 5/6 & 8/9 Staging Area Topography, approximately ½ acre each. The topography will delineate visible surface improvements, roadways, spot elevations, and grade breaks.
 - c. Adits 5/6 and 8/9 Access Road Topography. The roadway topography mapping shall delineate visible surface improvements, roadway edges, spot elevations, grade breaks and limited portions of the upslope/downslope sideslopes.
 - d. Shaft Site Topography, up to 1 acre. The topography will delineate visible surface improvements, roadways, spot elevations, grade breaks and visible utilities.
2. Perform additional field surveying required for the Project including location of geotechnical boreholes and utility potholes.
3. Prepare and submit the results of utility and facility location work including identifying:
 - e. Information on utilities and facilities that may conflict with the tunnel facilities;
 - f. Existing and abandoned utilities and facilities;
 - g. Utilities and facilities requiring relocation;
 - h. Proposed utilities and facilities that would be impacted by tunnel facilities construction or may impact the completed tunnel facilities; and,
 - i. Potholing information including summary information and detailed field data.
4. Update existing base map with new information surveying and utility information.

Deliverables

- Survey field notes
- Utilities and Facilities Coordination Memorandum including Utilities Map
- Survey base maps

SUBTASK 0850: TUNNEL OPERATIONS AND MAINTENANCE

Activities

1. Prepare a draft and final report on operation and maintenance procedures during commissioning and post-construction inspection including description and procedures for ancillary facilities.

Deliverables

- Tunnel Operations and Maintenance Memorandum (Draft and Final)

SUBTASK 0860: OUTAGE COORDINATION

Activities

1. Conduct meetings to coordinate with Operations to plan anticipated shutdowns and LOTO;
 - a. Coordinate with HHWP for dewatering, access, ventilation, disinfection, return-to-service, requirements;
2. Hold up to four site visits to define constraints, meet with SFPUC and other staff, and determine specific on-site coordination requirements;

3. Identify contingency measures to reduce outage risks.
4. Prepare, discuss, and in a workshop environment, walk through the Master Outage Checklist.
5. Assist in preparation of project Division 0 and 1 Specifications for outage coordination issues including:
 - a. Identifying outage requirements; and
 - b. Identifying outage related schedule requirements and constraints.

Deliverables:

- Coordination Meeting Minutes;
- Master Outage Checklist (Draft and Final)

Optional Task 0900

Design of Tunnel Improvements upstream of station Adit 5/6 (Tunnel Access Improvements, South Fork Siphon, and Infiltration Mitigation Scope)

Detailed project components of this task may include:

Surface Access Improvements

- Rehabilitate/Expand Access Road South Fork
- South Fork Crossing Surface Improvements.

Existing Adit Improvements

- Switchyard Adit
- South Fork East Adit

Activities within the Existing Tunnel

- Permanent Solution for Infiltration under Middle Fork Tuolumne River
- Debris Removal from South Fork Siphon and Construct Rock Trap

Upon implementation of this Task, HHWP will have the ability to efficiently access the tunnel to perform maintenance and repairs, or respond in the event of an emergency. Access points will be well-spaced along the alignment of the tunnel. The section of the tunnel downstream of Station 386+75, which is judged to present the greatest risk to the reliable operation of the tunnel, will be accessible from Priest Portal (using existing portal) and Adits 8/9 and 5/6.

This Task will include a permanent solution to the infiltration under Middle Fork Tuolumne River, cleaning of the South Fork Siphon, and construction of a rock trap upstream of the siphon . These activities are considered necessary to achieve the project needs of restoring the hydraulic capacity of the tunnel and finding a permanent solution to the infiltration upstream of South Fork. Rehabilitation of the South Fork East Adit will accommodate construction in these areas.

This Task does not address the deterioration of the lined sections of the tunnel downstream of Station 386+75. The localized repairs upstream of Station 386+75 are also not included in this alternative. This Task is meant to provide an interim solution to allow access for emergency repairs and ongoing maintenance activities.

Under direction of the SFPUC Project Engineer, the Contractor may be required provide engineering and design services to prepare a complete detail design package for the components discussed above,

including road upgrades, access improvements and adit improvements along the tunnel alignment. Prepare work products including design reports, plans, specifications, cost estimates, and construction schedules. Determine the recommended construction methodology for all access components of the project.

Deliverables

- Conceptual Engineering Report – Include sections regarding tunnel access improvements, the South Fork Siphon, and infiltration mitigation design in the draft and final Conceptual Engineering Reports described in Task 0500.
- Design Criteria Report – Include sections regarding tunnel access improvements, the South Fork Siphon, and infiltration mitigation design in the draft and final Design Criteria described in Task 0500.
- Detail Design Plans – Provide plans and specifications regarding tunnel access improvements, the South Fork Siphon, and water infiltration mitigation design in conjunction with the design submittals described in Task 0800.
- Division 0 and 1 Specifications – Incorporate pertinent information regarding tunnel access improvements, the South Fork Siphon, and water infiltration mitigation design into the Division 0 and 1 specifications in conjunction with the design submittals described in Task 8.
- Construction Cost Estimates and Schedules – Include sections regarding tunnel access improvements, the South Fork Siphon, and water infiltration mitigation design in the construction cost estimates described in Task 0800.
- Risk Assessment Register Technical Memorandum and Matrix Table – Include sections regarding tunnel access improvements, the South Fork Siphon, and infiltration mitigation design in the submittals described in Task 0800.

Task 1000 Environmental and Permit Support

The objective of this task is to provide project support to the environmental review and permitting efforts.

SUBTASK 1010: INFORMATION REVIEW

Activities

1. Review available information on the project including:
 - a. Previously identified environmental concerns associated with the Mountain Tunnel Project,
2. Identify interested agency and private stakeholders.

Deliverables

- N/A

SUBTASK 1020: PROJECT DESCRIPTIONS FOR ENVIRONMENTAL PERMITTING PURPOSES

Activities

1. Prepare a draft project description for each of the two alternatives.

Deliverables

- Project Description for the 12-mile Bypass Tunnel Alternative.
- Project Description for the Rehabilitated Tunnel Alternative.

SUBTASK 1030: TECHNICAL MEMORANDA

Activities

1. Develop technical memoranda addressing:
 - a. Technical challenges of the project alternatives likely to have environmental implications.
 - b. Engineering challenges imposed by the mitigation measures.

Deliverables

- Technical Memorandum on Proposed Mitigation Measures (Draft and Final)
- Technical Memorandum on Technical Input into Environmental Review

SUBTASK 1040: PUBLIC / AGENCY MEETINGS

Activities

1. Prepare displays of technical information.

2. Prepare presentations of technical materials.
3. Attend public/agency meetings to provide support on technical topics.

Deliverables

- Handouts/Presentation Materials for 2 public scoping meetings

Task 1100 Engineering Support during Bid and Award

The objective of this task is to provide engineering support services during the bidding period, if construction is approved and authorized.

SUBTASK 1110: PRE-BID CONFERENCE

Activities

1. Assist the City in preparation for the Pre-Bid Conference.
2. Prepare presentation materials to demonstrate the key project features to contractors.
3. Attend the Pre-Bid Conference with the appropriate key staff.
4. Assist with site tour arrangements.
5. Present materials as requested by the City.

Deliverables

- Presentation
- Pre-bid Conference Handouts
- Meeting minutes

SUBTASK 1120: RESPONSES TO BIDDER'S QUESTIONS AND REVIEW OF SUBSTITUTIONS

Activities

1. Document bidders' questions
2. Evaluate complex questions by bidders collaboratively with City staff when requested.
3. Provide written responses to bidders' questions transmitted to City staff.
4. Review product substitutions submitted during the bid period and provide written recommendations.

Deliverables

- Response to QBDs
- Response to product substitution requests

SUBTASK 1130: PREPARATION OF ADDENDA

Activities

1. Prepare addenda to the contract documents.
 - a. Addenda may include drawings, specifications, the GBR, or other contract documents.

Deliverables

- Addenda to contract documents as requested.

SUBASK 1140: BID ANALYSIS AND EVALUATION

Activities

1. Evaluate bid documents, as requested by the SFPUC. The evaluation will review:
 - a. Responsiveness
 - Completion of all forms per the directions provided on the bid documents.
 - b. Responsibility:
 - Review of required bidder qualifications, including references, licensure, and experience.
 - c. Evaluation of bid prices
 - Comparison to the engineer's estimate.

Deliverables

- Technical Memorandum on Bid Evaluation

Task 1200 Technology Transfer

The objective of this task is to identify and facilitate opportunities for technology transfer between the McMillen Jacobs Associates team and the SFPUC.

TASK 1210: TECHNOLOGY TRANSFER

Activities

1. Transfer knowledge to SFPUC operational staff through construction site visits, hands-on training, and O&M manuals.
2. Develop a list of potential technical topics for consideration throughout the project development.
3. Prepare requested training plan outlines in sufficient detail to describe the objectives, curricula, and qualified instructors.
4. Schedule and coordinate training courses with the SFPUC and stakeholders.
5. Develop course presentations for selected topics.
6. Prepare course workbooks and handouts for participants.
7. Deliver training by lecturing, facilitating tabletop discussions, and visiting underground construction work in progress.

Deliverables

- Presentation
- Course Materials (training plan outlines, topical curricula, workbooks, handouts)

Optional Task 1300 Land Needs and Property Acquisition

SFPUC will lead the effort as it relates to property acquisition, right-of-way (ROW) and real estate services (RES). SFPUC staff will conduct an evaluation of property requirements and an assessment of properties adjacent and near the Mountain Tunnel. Contractor is to provide technical support with respect to property rights required for the project as described herein:

This task includes all real estate pre-acquisition activities required to assist the SFPUC Right of Way staff necessary to allow construction of the proposed project. Pre-acquisition activities are defined as activities that can occur in advance of the necessary environmental clearances required for the construction of the proposed project.

These types of activities will include but not be limited to identifying the activities requiring ROW coordination for each project component; review of existing deeds, leases and easements; review of documents related to the acquisition of ROW and/or property necessary for the project; coordinate with project manager to identify ROW needs; conduct field observations; coordinating with property owners and local jurisdictions; preparing ROW data sheets.

- Contractor shall review existing plats and descriptions, mapping, deeds, title reports, easements, leases and other documents related to the acquisition of properties (title and easements) along the project alignment.
- Contractor shall coordinate with SFPUC project manager to determine the type of ROW and acquisition services required, timing, and whether there are reasonable alternatives.
- Contractor shall conduct a site reconnaissance at properties requiring real estate acquisition services. Field observations shall note condition of existing ROW, and identify opportunities and constraints to securing ROW.
- Contractor shall assist SFPUC staff and coordinate with property owners and identify property owner concerns and needs. Contractor shall develop an approach for coordinating with property owners and jurisdictions that own more than one parcel that may be impacted by acquisition activities.
- Contractor shall assist Right of Way/RES in securing Permits to Enter to allow project manager to perform necessary surveying, geotechnical investigations and environmental assessments any other project related investigations required related to the design of the project.
- Contractor shall prepare ROW data sheets as requested by Right of Way staff.
- Contractor shall assist Right of Way in assessing the overall ROW needs for the proposed project including an estimate of the approximate level of effort, person hours required during high activity periods, gaps in staffing and approaches how to complete acquisitions within the project schedule constraints.
- Contractor shall provide as needed: Title reports for properties required to complete the project along with any related land surveys, preparation of plat maps and appraisal maps, preparation of

legal descriptions, and any other work required to properly appraise the property rights required and to ultimately acquire those property rights.

The acquisition activities may only begin after receiving approval from the SFPUC. Right of Way activities include but are not limited to identification of feasible property, land surveys, preparation of appraisal maps and legal descriptions for the required property rights, fair market value appraisals, preparation of government code offers to purchase, presenting the government code offer to the property owners in person unless impractical, negotiations with property owners, and if required: securing rights of entry, preparation of resolution of necessity package, assist the San Francisco City Attorney with preparation and filing of condemnation documents, providing Relocation Assistance Services as necessary, and all other activities required to secure possession of property rights required to advertise the proposed project.

Deliverables:

- Draft and Final Technical Memorandum for proposed project describing the extent of the acquisition related activities required, critical analysis of the ROW issues, and recommendations how to secure the necessary ROW
- Deliverables as itemized in the subtask scope, as needed.

Task 1400 Engineering Support During Construction

The objective of this task is to provide engineering support and design-related services to City during the construction phase, if construction is approved and authorized.

SUBTASK 1410: REVIEW OF SUBMITTALS/RFIS/RFSS AND CHANGE ORDERS

Activities

1. Review and provide written responses as requested by the Construction Management (CM) staff to design-related issues in responding to:
 - a. Shop drawings;
 - b. Submittals;
 - c. Requests for Information; and,
 - d. Requests for substitution from the contractor
2. Prepare drawings and/or specifications for design-related proposed change orders.
3. Provide technical support with analysis of contractor requests for additional compensation.

Deliverables

- Written response to shop drawings, submittals, RFIs, and RFS review requests.
- Written recommendations in response to the City's requests for review of proposed change orders, including drawings and/or specifications, as needed

SUBTASK 1420: FIELD ENGINEERING SUPPORT

Activities

1. Attend bimonthly coordination meetings at construction site and issue-specific meetings at job sites and SFPUC offices.
2. Provide field engineering services including:
 - a. Monitoring and documentation of field conditions, tunneling activities, water inflow, spoils characteristics, grouting, and other field activities.
3. Provide a field engineer to provide technical support related to:
 - a. Quality assurance;
 - b. Change orders;
 - c. Claims analysis and mitigation; and,
 - d. Other issues.
4. Transmit information related to as-built conditions to the Project Engineer.
5. Provide assistance during testing, start-up, and project closeout.
6. Provide support with in-plant inspection products, including factory site visits and site visit reports, and preparation of checklist for review and inspection of fabrication items.

Deliverables

- Field Notes as requested

SUBTASK 1430: RECORD DRAWINGS

Activities

1. Prepare record drawings based on Contractor's as-builts.

Deliverables

- Record drawings (AutoCAD per City drafting standards)

Optional Task 1500 Communications and Public Outreach

The City will be implementing a comprehensive public information effort to educate the public on the Hetch Hetchy System and the Mountain Tunnel Rehabilitation Project. SFPUC Communications will be the lead entity on this effort. The Contractor will provide substantial support to SFPUC Communications.

Provide assistance in developing and implementing a public involvement plan in support of the design of this project. Such communication and public outreach activities will likely include evening and/or weekend community meetings. These types of activities include by are not limited to:

- Public Meeting Logistics – create illustrative displays and collateral material for distribution and other support of the meeting related to the design work performed. Identify and secure meeting locations, note taking during meetings, and production of meeting summaries and follow-up documents.
- Support of City speakers – assist City staff with scheduling and developing public and Commission presentation about this project at local neighborhood, community and merchant association meetings. This may include PowerPoint presentations, meeting scheduling, and translation services.
- Notifications/Direct Mail Services – create and mail newsletters, project updates, and workshop notification pieces to residents, businesses and other stakeholders. This will also include development and placement of advertisement in print, television, or radio formats. Assist SFPUC staff in preparation of a complete contacts list and schedule for communication with key contacts, including general public, neighbors, landowners, non-governmental agencies, department staffs, and elected officials.
- Translations – provide oral and written translation capabilities for project materials and workshops.
- Printed services – provide printing services for mailed notices, newsletters, project displays, streetlight banners, decals, billboards, etc.
- Other outreach services as needed – assist City with contractor outreach.

Contractor shall provide video, graphic art, and 3D/virtual animation skill sets to support the overall communications of this project to the general public, media, public officials, staff, and/or technical audience members throughout the planning and detailed design of the project. This will include, but is not limited to, video development and creation, GIS overlays of aerial photos, animated virtual flyovers, or representations of the subsurface conditions.

Task 1600: Community Benefits

Following issuance of the Notice-to-Proceed (NTP) for the first task to be performed by Contractor under this Agreement, Contractor commits to providing the Community Benefits Commitments detailed below during the 10 year term of the Agreement. Contractor's commitments shall be funded independently by Contractor and shall not be tied to or dependent upon SFPUC funds or sources of funding, receivables from SFPUC, or retention associated with this Project. In the event that the contract value is not fully expended or is otherwise amended, the parties hereby agree to meet and discuss the impact to the corresponding Community Benefit Commitments. The representations, warranties and other terms contained in this Community Benefit Commitments section have been designed by Contractor as the basis for a Community Benefit Plan, but are for the sole benefit of the parties hereto and shall not be construed as conferring any rights on any other persons or entities.

As stated in the Request for Proposals

“Although this Task 16 is a deliverable task, it is a zero-dollar task. Zero hours should be allotted in your Overhead and Profit Schedule (OPS) for this task. No hours or dollars should be allotted or included in Contractor's costs for this Project in order to perform or deliver your voluntarily proposed Community Benefits commitments. If the Contractor commits any funds to delivering the Community Benefits commitments it proposes, all such funds must be independent of SFPUC funding or any dollars associated with this Project. If the Contractor commits to contributing any funds to performing or delivering its commitments related to this task, such funds may not be dependent in any way upon receipt of SFPUC funding, including not being dependent upon release of retention, etc.”

Community Benefits Plan and Timeline

Contractor shall work with the SFPUC Assistant General Manager for External Affairs or designee to develop a Community Benefits Plan and Timeline within three months of issuance of NTP. The Community Benefits Plan and Timeline will provide details regarding expenditures, a schedule, and timelines related to the Community Benefits Commitments described below. Contractor shall develop the Community Benefits Plan and Timeline so that all of the deliverables, including the dollars and hours associated with the Community Benefits Commitments described below, are aligned with and driven by SFPUC's priorities and broader Agency-wide community benefits strategy. Contractor's team will develop the Community Benefits Plan and Timeline with the necessary flexibility relating to timing, expenditure of funds, partners, strategic delivery, scale, and performance of Community Benefits Commitments so that they are all aligned with, directed by, and driven by the SFPUC Assistant General Manager for External Affairs' community benefits strategy for the SFPUC and in order to best leverage our collective resources and positive community impacts. Once the initial Community Benefits Plan and Timeline are developed, SFPUC and Contractor shall meet at least once a year during the

term of the Agreement to discuss the work plan and associated timelines, and make any adjustments or updates as necessary.

Community Benefits Commitments

Contractor shall develop a work plan, schedule, and timeline as one component of the Community Benefits Plan and Timeline that will be aligned with and driven by SFPUC's priorities to deliver, perform and produce the following Community Benefits Commitments:

Community Benefits Summary Table

Description of Community Benefit/Category	Community Partner (when needed)	Expected Outcomes (be as specific as possible)	Timetable & Duration	(A) Direct Financial Contribution	(B) Volunteer Hours	(C) Volunteer Hourly Rate (Specify a rate for all hours)	(D) Total Value of Volunteer Hours (B x C)	(E) In-Kind Contributions	(F) Total Contributions (A + D + E)
1. Workforce Development	Columbia College, Sonora	Scholarships for continued higher education	2 years	\$8,000	16	\$175	\$2,800		\$10,800
2. Economic Development	Mariposa, Tuolumne, and San Francisco Vendors	Spend money in the community	2 years	\$10,000					\$10,000
3. Environmental	Yosemite National Park	Preservation and maintenance in Yosemite National Park	2 years	\$1000	96	\$175	\$16,800		\$17,800
4. Environmental	Camp Mather	Cleanup in Tuolumne County	2 years		64	\$175	\$11,200	\$2,000	\$13,200
5. Education	Mariposa Unified School District	Technology Donation	2 years	\$10,000					\$10,000
6. Corporate Social Responsibility	Varies	Staff contribution and volunteering in affected areas	2 years		80	\$175	\$14,000		\$14,000
TOTAL FOR YEAR 1 and 2				\$29,000	256		\$44,800	\$2000	\$75,800
7. Commitments over the life of the agreement	Varies	Support corporate social responsibility	8 years	\$40,000	350	\$175	\$61,250		\$101,250
TOTAL				\$69,000	606		\$106,050	\$2000	\$177,050

OVER THE LIFE OF THE AGREEMENT									
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Contractor shall commit \$177,050 in community benefits commitment over the life of the agreement. For the first two years of the agreement, Contractor will provide \$29,000 in direct financial contributions, \$44,800 in volunteer hours, and \$2,000 in in-kind contribution for a total of \$75,800 in community benefits commitments. For the remaining eight years of the agreement, Contractor will provide \$40,000 in direct financial contributions and \$61,250 spent in volunteer hours for a total of \$101,050 of community benefits commitments.

Contractor’s community benefits work will be executed as a major task for the Project. As stated above, Contractor shall coordinate and develop the timing, schedule, partners, and size/scale of the delivery, performance and dollar expenditures related to all of Contractor’s Community Benefits Commitments throughout the term of the Agreement with the necessary flexibility so that they are all aligned with and driven by the SFPUC in order to leverage and maximize our collective resources and positive community impacts.

Community Benefits Work Approach, Project Team/Organization, and Accountability

McMillan Jacobs Associates CFO Hamid Erfan shall serve as the Executive in Charge to manage the Contractor’s community benefits commitments and provide fiduciary oversight. The Executive in Charge shall ensure that the community benefits commitments herein are delivered to the communities that they are intended to benefit in a transparent and accountable manner. The Executive in Charge shall coordinate the senior management of Contractor’s subconsultants to ensure the entire team participates in providing benefits to the San Francisco community. The Executive in Charge shall work with the Contractor’s Community Benefits Plan Lead to organize, plan, track, measure, and report on Contractor’s community benefits commitments. Contractor’s Community Benefits Plan Lead, Renee Fippin, shall submit a stand-alone annual report on progress in fulfilling Contractor’s community benefits commitments, detailing factors such as the total number of dollars and hours contributed to each of the proposed tasks and organizations over the year. Contractor shall also provide independently verifiable documentation (such as certified payroll records, receipts, etc.) that the SFPUC can use to independently and easily verify that the dollars and volunteer hours contributed by Contractor as part of its Community Benefits Commitments were delivered to and actually reached the communities they were intended to benefit.

Contractor’s Community Benefits Plan Lead shall ensure that quarterly reports are prepared and submitted to SFPUC on the last business day of the month following the close of each quarter. The reports shall describe Contractor’s community benefits efforts under the program both in the prior quarter and contract to date. Contractor’s quarterly reports shall include the name and description of all projects commenced, underway, and completed; the dollar and hour values of all activities and elements of each project; the progress to date of each project; and the outcomes

of projects that are underway. Contractor shall submit such documentation to substantiate that the Community Benefits Commitments and any funds associated thereto were in fact delivered to the communities they were intended to benefit within the three months immediately following delivery of such Community Benefits Commitments or dollars associated thereto.

Contractor's Community Benefits Commitments shall be performed prospectively during the term of the Agreement, after the award of the Agreement and following issuance of NTP on the first task assigned to Contractor under this Agreement. Commitments performed as part of previous contracts or prior to Contractor being awarded the Agreement cannot be used as part of Contractor's Community Benefits Commitments for this Project.

Contractor's Community Benefits Commitments Task 16 Proposal is incorporated herein. Contractor shall provide all of the Commitments, consistent with all of the terms of Contractor's attached Proposal (including Contractor's Work Approach, Project Team and Organization, and Accountability), which are not explicitly detailed in this Task 16. Where and if there are any conflicts or discrepancies between the language above in Task 16 of this Agreement and the attached Proposal, the terms of the language of Task 16 above shall prevail as Contractor and SFPUC's final mutual understanding and agreement.

Deliverables

- Community Benefits Plan
- Community Benefits Schedule
- Documentation and Correspondence.
- Quarterly Reports
- Annual Report

All written Deliverables, including any copies, shall be submitted on recycled paper and printed on double-sided pages to the maximum extent possible.

3. Services Provided by Attorneys. Any services to be provided by a law firm or attorney must be reviewed and approved in writing in advance by the City Attorney. No invoices for services provided by law firms or attorneys, including, without limitation, as subcontractors of Contractor, will be paid unless the provider received advance written approval from the City Attorney.

4. Department Liaison. In performing the Services provided for in this Agreement, Contractor's liaison with the SFPUC Project Management Bureau will be Johanna Wong ("SFPUC Project Manager"). SFPUC reserves the right to assign a different project manager at any time and in its sole discretion.

5. Reports. Contractor shall submit written reports as requested by the SFPUC. Format for the content of such reports shall be determined by the SFPUC. The timely submission of all reports is a necessary and material term and condition of this Agreement. The reports shall be

submitted electronically, unless otherwise specified by the SFPUC Project Manager. Written reports, including any copies, shall be submitted on recycled paper and printed on double-sided pages to the maximum extent possible.

6. Performance Evaluation. Performance evaluations support the SFPUC's objective of continuously improving the quality of Contractor services. The SFPUC may or may not, at its sole discretion, conduct evaluation/s of Contractor's performance. Ratings are ultimately the decision of the SFPUC and are not subject to negotiation with the Contractor. However, the Contractor may provide comments on a performance evaluation form if an evaluation is performed. In the event that the SFPUC conducts performance evaluation(s) of the Contractor, such performance evaluation(s) shall not confer any express or implied rights upon Contractor, nor shall they shift any liability to the SFPUC for the Contractor's performance of the contract.

7. Standard of Care for Design Professionals. Contractor acknowledges and agrees that Contractor shall perform its services under this Agreement in accordance with the professional standard of care applicable to professionals providing similar services for projects of similar type, size and complexity in the San Francisco Bay Area.

Appendix B Calculation of Charges

As part of Contractor's proposal dated **August 7, 2015** Contractor submitted proposed billing rates, attached hereto as Appendix B-1 Fee Schedule, for the requested tasks identified in Appendix A, Scope of Services , which are incorporated herein by this reference.

As provided in the Fee Schedule, the budget identified for tasks is an estimate, and the City reserves the right to modify the budget allocated, if applicable, to any task as more specific information concerning the task order scope becomes available.

No invoices for Services provided by law firms or attorneys, including, without limitation, as subcontractors of Contractor, will be paid unless the provider received advance written approval from the City Attorney.

1. Billing Rates. Contractor's billing rates and each and every staff classification as stated in Appendix B-1 will be the billing rates for the listed individuals. The billing rate may not exceed the lowest rate charged to any other governmental entity except the City and County of San Francisco. Billing rates will be fixed for the first one year of the contract, and may be adjusted annually thereafter. The first adjustment may be made no earlier than the first anniversary of the effective start date as indicated in the original Notice of Contract Award letter. The amount of the adjustment is limited to a maximum of the CPI annual percentage change increase (San Francisco Bay Area for Urban Wage Earners and Clerical Workers) for the previous calendar year. No increase, including the annual CPI adjustment, is allowed to billing rates exceeding \$250 per hour, unless Project Manager and Bureau Manager authorize an increase to the rate in writing.

2. Personnel Changes. Any proposed changes to project personnel or staff classification as listed in Appendix B-1 must be approved in advance of any work commencing on the project and in writing by the SFPUC Project Manager. These personnel changes may include but are not limited to:

- Proposed addition of new project personnel to perform requested services that are within the scope of the Agreement;
- Proposed change of staff classification for existing personnel; and/or
- Proposed replacement or substitution of any employee listed in Appendix B-1 due to termination, promotion or reclassification.

The proposed substitution of any Key/Lead Team Members identified to perform Planning Tasks (Tasks 0100,0300,0400 and 0500) services will be subject to the following rule in addition to other applicable requirements set forth in the Agreement. Application of the following rule

presumes that the City determines that the proposed substitute Key/Lead Team Member ("Substitute Key/Lead Team Member") is qualified to perform the applicable services.

Rule: If the existing/outgoing Key/Lead Team Member ("Outgoing Key/Lead Team Member"), after leaving that key/lead position, will remain employed by or associated with the same firm, then the Outgoing Key/Lead Team Member must continue to work on the project in collaboration with the Substitute Key/Lead Team Member for a two-month transition period. During this two-month transition period, Contractor shall ensure that the Outgoing Key/Lead Team Member devotes sufficient time to the transition to facilitate a smooth and seamless hand-off of responsibilities and duties to the Substitute Key/Lead Team Member. The Outgoing Key/Lead Team Member's time associated with such transition duties during the two-month transition period will not be billable to the City. Contractor's failure to provide transition services as described above shall constitute a material breach of this Agreement.

The rule described above will not apply to a proposed substitution if (i) the Outgoing Key/Lead Team Member, after leaving the position, will no longer be employed by or associated with the same firm (e.g., the individual will leave the firm to work for a different firm); or (ii) there is good cause shown as determined by the City. If the rule does not apply, based on the exceptions described above, and the proposed Substitute Key/Lead Team Member is acceptable to the City, then Contractor may proceed with the substitution provided that it implements reasonable, good faith measures to mitigate the impacts of the transition to the project. Such measures will be subject to review and pre-approval by the City. Costs associated with such mitigation measures will not be billable to or subject to reimbursement by the City.

3. Effective Overhead and Profit Rate. The Effective Overhead and Profit Rate (EOPR) for CS-249 is **2.84**. The EOPR or Individual Firm Overhead and Profit Rate will apply to the billing rate of all individuals of Firms not listed in Appendix B-1. For any new individual of a firm listed in Appendix B-1, the Individual Firm Multiplier shall apply. The EOPR will also apply to all amendments to the Agreement. If a new subcontractor is added during the duration of the Agreement, the new individual firm multiplier can be no more than the EOPR.

4. Other Direct Costs (ODC). Direct reimbursable expenses (ODCs – Other Direct Costs) shall include actual direct costs (with no mark up) of expenses directly incurred in performing the work. All ODCs are subject to pre-approval in writing by the SFPUC Project Manager.

The following items will be eligible for reimbursement as ODCs:

- Out-of-town travel ("out-of-town" shall mean outside the nine Bay Area counties: San Francisco, Alameda, Marin, Santa Clara, Sonoma, Contra Costa, Napa, San Mateo, Solano);

- Out- of town meal, travel and lodging expenses for project-related business trips, including, but not limited to:
 - Rental vehicle: traveler must select the most economical contractor and type of vehicle available and acquire any commercial rate or government discount available when the vehicle is rented;
 - Personal vehicle use: Contractor will be paid per mile as established by the United State Internal Revenue Service and only for that portion of travel that is outside the nine Bay Area counties and non-routine. Should the travel begin or end on a normal workday, the Contractor shall subtract commuting mileage from total mileage to calculate reimbursable mileage. The Contractor shall submit to the City an approved mileage log with its monthly invoices;
 - Meal and lodging expenses shall be reasonable and actual but limited to Federal government per diem rates;
- Specialty printing (“specialty” as used herein shall mean large volume printing and color printing and requires **prior** written approval by SFPUC project staff and documentation of the written approval by the SFPUC must be included with the invoice);
- Direct costs associated with field investigations (such as but not limited to, supplies, equipment, analytical and vehicle costs);
- Specialty computer hardware and software (only with **prior** written approval by SFPUC project staff and documentation of the written approval by the SFPUC must be included with the invoice – all hardware and software will be the property of the City);
- Courier services that are project related and originated from the project site offices;
- Permit fees;
- Expedited courier services when requested by SFPUC staff; and
- Safety equipment.

Anything not listed above is not eligible for reimbursement. They include, but are not limited to:

- All other travel expenses such as parking, bridge tolls, public transit, vehicle mileage within the nine Bay Area Counties, travel from Contractor’s home office to SFPUC facilities;
- Contractor personnel relocation costs;
- Any home or regional office labor charges or pass-throughs, including but not limited to, administrative and clerical personnel time;
- Personnel relocation and temporary assignment expenses;

- Entertainment expenses;
- Cell phones;
- Home office expenses;
- Telephone calls and faxes originating in the firm's home office, standard computer use charges, computer hardware or software computer hardware or software (other than the specialty hardware or software mentioned above), communication devices, and electronic equipment;
- Meal expenses which are not related to project-related business trips, including refreshments and working lunches with SFPUC staff;
- Equipment to be used by SFPUC staff; and
- Postage and courier services which are not requested by SFPUC staff.

5. Subcontractor make-up and documentation. Second-tier and pass-through subcontracting is prohibited. Additional subcontractors may be added to the contractor team after obtaining pre-authorization by the SFPUC Project Manager, Bureau/Division Manager and the Contract Monitoring Division (CMD).

6. Subcontractor Fees:

- Subject to the restrictions in this Section;
- Shall be subject to written pre-approval by the Contractor's liaison with the SFPUC;
- Subcontractor administration markup is limited to five percent (5%) of subcontractors' actual labor costs.

7. Retention. Five percent (5%) of each invoice payment will be withheld for each task order. When the work for the task order or defined critical milestones has been completed to the satisfaction of the SFPUC Project Manager and all work products have been received and approved by the SFPUC Project Manager, the Contractor may request that the retention be released. In lieu of money retention, an irrevocable letter of credit acceptable to the City will be accepted.

8. Invoice Requirements. The SFPUC is automating its contracting and invoice payment processes with online software systems (SOLIS). The following processes are being automated: Contract Certification, Insurance Compliance, Task Order Certification, Timekeeping, Invoice Approval, and Invoice Payment. As part of its contracting obligations, the Contractor is required to 1) become an authorized user of these systems, 2) attend user training for these systems; and 3) utilize these systems for the purposes for which they are intended. Contractor shall not bill the SFPUC to use these systems. Contractor shall not charge SFPUC to send appropriate personnel to user training.

Contractor shall follow the invoicing and supporting documentation instructions as detailed in the SOLIS training or otherwise prescribed by the SFPUC.

Invoice Supporting Documentation:

All labor hours must be substantiated by timesheet summaries extracted from the Contractor's accounting system. Each timesheet summary shall include the staff person's name, company, dates of the days worked, and the number of hours worked each day.

Mileage ODCs must be accompanied by mileage logs providing the beginning and ending mileage to substantiate the variable portal-to-portal distance and local driving required while performing the work. All other ODCs must be substantiated with copies of original receipts including a brief description for each receipt memorializing the purpose.

CMD Form 7 "Progress Payment Form" must be included with each invoice to identify the participation and amount payable to the subcontractors.

CMD Form 9 "Payment Affidavit" must be submitted within ten (10) days of receiving payment for each invoice to document the subcontractor's payment by the prime contractor.

9. Prevailing Wages

a. Services to be performed by Contractor under this Agreement may involve the performance of trade work covered by the provisions of Section 6.22(e) [Prevailing Wages] of the Administrative Code (collectively, "Covered Services"). The provisions of Section 6.22(e) of the Administrative Code are incorporated as provisions of this Agreement as if fully set forth herein and will apply to any Covered Services performed by Contractor and its subcontractors.

b. The latest prevailing wage rates for private employment on public contracts as determined by the San Francisco Board of Supervisors and the Director of the California Department of Industrial Relations, as such prevailing wage rates may be changed during the term of this Agreement, are hereby incorporated as provisions of this Agreement. Copies of the prevailing wage rates as fixed and determined by the Board of Supervisors are available from the SFPUC Contract Administration Bureau, and are also available on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Contractor agrees that it shall pay not less than the prevailing wage rates, as fixed and determined by the Board, to all workers employed by Contractor who perform Covered Services under this Agreement. Contractor further agrees as follows:

- As required by Section 6.22(e)(5) of the Administrative Code, Contractor shall insert in every subcontract or other arrangement, which it may make for the performance of Covered Services under this Agreement, a provision that said subcontractor shall pay to all persons performing labor in connection with Covered Services under said subcontract or other arrangement not less than the highest general prevailing rate of wages as fixed and determined by the Board of Supervisors for such labor or services.

- As required by Section 1771.4 of the Labor Code, Contractor shall post job site notices prescribed by the California Department of Industrial Relations ("DIR") at all job sites where Covered Services are to be performed.
- As required by Section 6.22(e)(6) of the Administrative Code and Section 1776 of the Labor Code, Contractor shall keep or cause to be kept complete and accurate payroll records for all trade workers performing Covered Services. Such records shall include the name, address and social security number of each worker who provided Covered Services on the project, including apprentices, his or her classification, a general description of the services each worker performed each day, the rate of pay (including rates of contributions for, or costs assumed to provide fringe benefits), daily and weekly number of hours worked, deductions made and actual wages paid. Every subcontractor who shall undertake the performance of any part of Covered Services shall keep a like record of each person engaged in the execution of Covered Services under the subcontract. All such records shall at all times be available for inspection of and examination by the City and its authorized representatives and the DIR.
- The City will not process monthly progress payments which include payment for Covered Services until Contractor and each subcontractor performing Covered Services submits weekly certified payrolls to the City for the applicable time period. (Unless directed by the DIR to do so before then, effective January 2016, Contractor and each subcontractor performing Covered Services must also submit weekly certified payrolls directly to the DIR before the City will process monthly progress payments.) Certified payrolls shall be prepared pursuant to Administrative Code Section 6.22(e)(6) and California Labor Code Section 1776 for the period involved for all employees, including those of subcontractors, who performed labor in connection with Covered Services. Contractor and each subcontractor performing Covered Services shall submit certified payrolls to the City (and , when applicable, to the DIR) electronically. Contractor shall submit payrolls to the City via the Project Reporting System ("PRS") selected by the City, an Internet-based system accessible on the World Wide Web through a web browser. (The DIR will specify how to submit certified payrolls to it.) The Contractor and each subcontractor that will perform Covered Services will be assigned a log-on identification and password to access the PRS. Use of the PRS may require Contractor and applicable subcontractors to enter additional data relating to weekly payroll information including, but not limited to, employee identification, labor classification, total hours worked and hours worked on this project, and wage and benefit rates paid. Contractor's payroll and accounting software may be capable of generating a "comma delimited file" that will interface with the PRS software. The City will provide basic training in the use of the PRS at a scheduled training session. Contractor and all Subcontractors that will perform Covered Services must attend the PRS training session. Contractor and applicable subcontractors shall comply with electronic certified payroll requirements (including training) at no additional cost to the City.

- Covered Services to be performed under this Agreement are subject to compliance monitoring and enforcement of prevailing wage requirements by the DIR and /or the Office of Labor Standards Enforcement. Contractor and any subcontractors performing Covered Services will cooperate fully with the DIR and/or the Labor Standards Enforcement Officer and other City employees and agents authorized to assist in the administration and enforcement of the prevailing wage requirements, and agrees to take the specific steps and actions as required by Section 6.22(e)(7) of the Administrative Code.

d. Should Contractor, or any subcontractor who shall undertake the performance of any Covered Services, fail or neglect to pay to the persons who perform Covered Services under this Contract, subcontract or other arrangement for the Covered Services, the general prevailing rate of wages as herein specified, Contractor shall forfeit, and in the case of any subcontractor so failing or neglecting to pay said wage, Contractor and the subcontractor shall jointly and severally forfeit, back wages due plus the penalties set forth in Administrative Code Section 6.22 (e) and/or Labor Code Section 1775. The City, when certifying any payment which may become due under the terms of this Agreement, shall deduct from the amount that would otherwise be due on such payment the amount of said forfeiture or forfeitures as so certified.

Appendix B-1

Consultant Name [A]	Staff Classification [B]	Name of Proposed Staff Person [C]	Billing Rate (\$/hour) [D]	Firm's Project Multiplier [E]
McMillan Jacobs Associates	Project Engineer	Adam Wintlin	\$135.44	3.13
	Project Engineer	Andrew Wozencroft	\$125.80	
	Project Manager/Principal	Blake Rothfuss	\$250.00	
	Testing/Senior Project Consultant	Brian Dodge	\$154.03	
	Project Director/Principal	Dan Adams	\$250.00	
	Tunnel Rehabilitation Design/Principal	David Crouthamel	\$245.02	
	Staff Engineer	Geoffrey Bee	\$96.25	
	Lead Tunnel Engineer/Principal	Glenn Boyce	\$250.00	
	2017 Inspection & 2018 Repair/Sr. Project Engineer	Jennifer Allen	\$143.45	
	Geotechnical Planning/Senior Associate	John Waggoner	\$250.00	
	Project CAD	Jon Clugston	\$128.98	
	Project Engineer	Kushwant Chohan	\$128.18	
	Principal	Mark Havelcoat	\$250.00	
	Project Engineer	Mark Kroncke	\$126.02	
	Portal Development/Senior Associate	Mark Lawrence	\$229.34	
	Technical Review Committee/Principal	Michael McRae	\$250.00	
	Senior Project Engineer	Phaidra Campbell	\$127.21	
	Lead Associate	Renee Fippin	\$202.87	
	Lead Geotechnical Engineer/Senior Associate	Richard Nolting	\$241.89	
	Project Controls	Robin Blair	\$95.12	
	Project Engineer	Russell Arend	\$125.70	
	Tunnel Lining/Lead Associate	Sam Swartz	\$199.82	
	Bypass Tunnel Design/Associate	Shawn Spreng	\$170.89	
	Constructability Review/Principal	Theodore DePooter	\$250.00	
	Senior Associate	Thomas Hennings	\$236.06	
Senior Staff Engineer	Timothy Shu	\$104.41		
Excavation Methods/Associate	Tom Pennington	\$184.76		
Cost Estimates/Senior Associate	Troy Page	\$249.84		
Numerical Modeling/Lead Associate	Yiming Sun	\$225.80		
Deep Shafts/Associate	Zeynep Bade Sozer	\$174.87		
Black & Veatch	Outage Management/Civil Engineer 7	Ame Nervik	\$250.00	3.20
	Lead Civil Engineer/Project Director 6	Chris Mueller	\$250.00	
	Hydraulic Structures/Civil Engineer 6	David Woodward	\$241.41	
	Tunnel Water Discharge/Civil Engineer 6	Derek Wurst	\$237.80	
	CEQA Checklist/Project Manager 3	Doug Timpe	\$229.85	
	VC Engineer 5	Jason Hise	\$197.13	
	Civil Engineer 4	Jesse Walkin	\$182.45	
	Ventilation Support/Mechanical Engineer 6	Michele Roth	\$184.28	
	Risk Assessment/Director, Consulting	Mike Elenbaas	\$250.00	
	O&M/Project Manager 5	Paul Kneitz	\$250.00	
	Engineering Support to Environmental/Geotechnical Engineer 7	Scott Huntaman	\$250.00	
	Hydraulic Analysis & Modeling/Civil Engineer 5	Stephane Lecina	\$175.77	
	Hydromechanical/Mechanical Engineer 7	Tom Brittain	\$250.00	
Electrical/Electrical Engineer 7	William Chu	\$250.00		
STRUCTUS	Associate Principal	Ann Trong Nguen	\$210.16	2.84
	Project Engineer	Burhan Surjana	\$133.48	
	Sr. Project Engineer	Clair Song	\$158.20	
	Principal	Donald Chappell	\$204.48	
	Structural Support/Sr. Principal	Henry Chang	\$250.00	
Saylor	Principal	Peter Yu	\$227.20	2.49
	Project Engineer	Zhihui Huang	\$119.28	
GEI Consultants	Estimator/Scheduler	Sajjad Khan	\$139.84	2.90
	Senior Engineering Geologist	Enrico Ruffini	\$153.77	
	Senior Engineer	Mark Freitas	\$222.53	
	Senior Engineer	Matt Powers	\$143.61	
	Administrative Assistant	Nellie Reyna	\$91.52	
	Project Engineer	Noan Sheemaker	\$89.17	
	GIS Professional	Ryan Snyder	\$79.45	
Project Engineer	Tim Haynes	\$109.20		
Independent Consultant	Geology/Senior Engineering Geologist	Todd Crampton	\$187.50	1.00
	Technical Review Committee/Consultant	Gregg Korbin	\$250.00	
Lettis Consultant International	Technical Review Committee/Consultant	Tom O'Rourke	\$250.00	2.91
	Seismicity/Sr. Project	Andrew Seifried	\$130.43	
	Seismicity/Sr. Principal I	John Baldwin	\$240.57	
	Seismicity/Staff	Matthew Huebner	\$89.19	
	Seismicity/Admin	Phillips Carrillo	\$91.58	
Joe Hill Consulting Engineers	Seismicity/Principal	Stephen Thompson	\$192.21	2.60
	Seismicity/Sr. Principal II	William Lettis	\$250.00	
	Senior Engineer	Christine Ko	\$149.97	
GeoPentech, Inc.	Outage Management/Principal Engineer	Joe Hill	\$182.13	2.35
	Operations Specialist	Leland Fong	\$218.40	
	Project Engineer	Tina Edwards	\$117.00	
Telamon Engineering Consultants, Inc.	Principal Hydrogeologist	Eric Fordham	\$244.05	2.88
	Surveys/Survey Manager	Earl Woods	\$172.80	
	Access Road Design/Project Manager	Memon Chan	\$184.32	
	Surveys/CAD Tech	Anthony Nguyen	\$87.52	
	CAD Tech	Fred Bayani	\$108.04	
	Surveys/Office Surveyor	Jeff Keane	\$78.82	
	Surveys/Survey Party Chief	Paul De Costa/TBD	\$123.03	
Surveys/Survey Rodman	Veronica Salinas/TBD	\$102.27		
Robert Chew Geotechnical	Field Exploration/Senior Geologist	Eric Ford	\$128.60	2.76
	Field Exploration/Office Manager	Louisa Chew	\$104.52	
	Field Exploration/Senior Geologist	Patrick Drumm	\$128.60	
	Field Exploration/Principal Engineer	Robert Chew	\$204.60	
Levent Ozdemir	TBM Performance/Tunneling Consultant	Levent Ozdemir	\$200.00	1.00

Effective Project Multiplier:

2.84