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SAN FRANCISCO PUBLIC UTILITIES COMMISSION

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MICHAEL E. QUAN - MANAGER



file : W374.01.PL.ID.2.F
Contract

September 22, 2003

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MAYOR

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ASHOK KUMAR BHATT
VICE PRESIDENT
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ROBERT J. COSTELLO

PATRICIA E. MARTEL
GENERAL MANAGER

Mr. Guilaine Roussel
Senior Vice President
U R S Corporation
221 Main Street, #600
San Francisco, CA 94105

RE: 1) Notice of Contract Award—Conceptual Engineering Report for Calaveras Dam (CS-716)
2) Transmittal—Executed Agreement between the City and County of San Francisco Public Utilities Commission and U R S Corporation.

Dear Mr. Roussel :

This letter provides *notification of contract award* for the following contracted work:

DOCUMENT REFERENCE No.: BPUC04000193—*Work may not be charged against this blanket purchase order number.*

SCOPE:

The consultant shall develop and implement a plan for comprehensive geotechnical investigation, developing and evaluating project alternatives, investigating potential alternative dam sites, developing conceptual level designs, cost estimates, and schedules, recommending a preferred alternative, providing technical support during the environmental review process, and other services described in the RFP dated January 23, 2003.

EFFECTIVE DATE:

September 11, 2003 through September 10, 2007.

CONTRACT TO DATE:

Total value of contract not to exceed **\$4,000,000.**

The above-referenced document number is assigned to the blanket purchase order only. Invoices must be charged against specific task orders only after a *Notice to Proceed* has been issued.

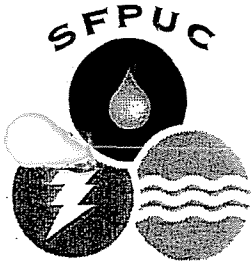
Should you have any questions, please do not hesitate to contact me at (415) 554-3148.

Sincerely,

Linda M. Denari
Contract Administration

Enclosure: Executed Agreement
cc: Barbara Palacios
File/tlt-CS-716

COPY



WATER
HETCH HETCHY
WATER & POWER
CLEAN WATER

SAN FRANCISCO PUBLIC UTILITIES COMMISSION



AGREEMENT BETWEEN

THE CITY AND COUNTY OF SAN FRANCISCO

AND

URS CORPORATION

TO FURNISH
ENGINEERING DESIGN SERVICES

FOR THE

CONCEPTUAL ENGINEERING FOR CALAVERAS DAM, CS-716

SEPTEMBER 2003

TABLE OF CONTENTS

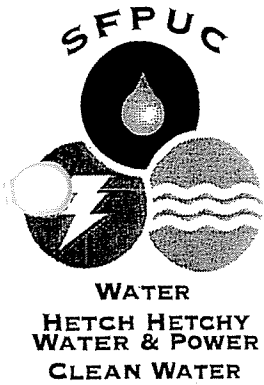
<u>ARTICLE</u>	<u>Page</u>
1. THE PROJECT.....	1
1.1. DESCRIPTION	1
1.2. AGREEMENT DATE AND TERM OF AGREEMENT	2
1.3. SCHEDULE OF SERVICES	2
2. DEFINITIONS	2
2.1. ADDITIONAL SERVICES.....	3
2.2. APPROPRIATE AUTHORITIES.....	3
2.3. CONSULTANT/CONTRACTOR	3
2.4. AUTHORIZATION	3
2.5. BASIC SERVICES.....	3
2.6. CITY.....	3
2.7. CONCEPTUAL ENGINEERING/ REPORT (CER).....	4
2.8. CONSULTANT PROJECT MANAGER	4
2.9. CONSULTANT PRINCIPAL-IN-CHARGE	4
2.10. CONTROLLER	4
2.11. CITY CONSULTANTS	4
2.12. CITY STAFF TEAM.....	4
2.13. MAYOR.....	5
2.14. PROJECT MANAGER (PM)	5
2.15. REQUEST FOR PROPOSAL (RFP).....	5
2.16. PUC GENERAL MANAGER	5
2.17. SUBCONTRACTOR/SUBCONSULTANT	5
2.18. SFPUC	5
3.0 SERVICES CONSULTANT AGREES TO PERFORM	5
3.1. BASIC SERVICES.....	5
3.2. TASK ORDERS.....	8
3.3. STANDARD OF PERFORMANCE.....	9
3.4. ADDITIONAL GEOTECHNICAL SERVICES.....	9
3.5. REPORTS.....	9
4. COMPENSATION	9
4.1. CALCULATION OF COMPENSATION.....	9
4.1.1. PAYMENT SCHEDULE.....	10
4.1.2. WITHHOLDING OF PAYMENT	11
4.1.3. DISALLOWANCE.....	12
4.1.4. PAYMENT DOES NOT IMPLY ACCEPTANCE OF WORK.....	12

4.1.5.	LIQUIDATED DAMAGES	12
5.	CITY'S RESPONSIBILITIES	12
6.	DOCUMENTS	13
6.1.	OWNERSHIP OF DOCUMENTS	13
7.	TERMINATION OF AGREEMENT	13
7.1.	BY EITHER PARTY.....	13
7.2.	BY CITY.....	14
7.3.	CONDITIONS OF TERMINATION	14
8.	SUCCESSORS AND ASSIGNS	15
9.	NOTICES	15
10.	INSURANCE	16
11.	INDEMNIFICATION	20
12.	NONDISCRIMINATION: PENALTIES	21
12.1.	CONTRACTOR SHALL NOT DISCRIMINATE.....	21
12.2.	SUBCONTRACTS	22
12.3.	NONDISCRIMINATION IN BENEFITS	22
12.4.	CONDITION TO CONTRACT	22
12.5.	INCORPORATION OF ADMINISTRATIVE CODE PROVISIONS BY REFERENCE.....	22
13.	MINORITY/WOMEN/LOCAL BUSINESS ORDINANCE	23
13.1.	COMPLIANCE.....	23
13.2.	ENFORCEMENT	23
13.3.	SUBCONTRACTING GOALS	24
13.4.	SUBCONTRACT LANGUAGE REQUIREMENTS.....	24
13.5.	PAYMENT OF SUBCONTRACTORS.....	24
14.	ERRORS AND OMISSIONS	25
15.	MODIFICATIONS	25
16.	INDEPENDENT CONTRACTOR	25
17.	BUDGET AND FISCAL PROVISIONS	25
18.	CONFLICT OF INTEREST	26
19.	AUDIT AND INSPECTION OF RECORDS	26
20.	SUBCONTRACTING	26
21.	TAXES	27
22.	PROPRIETARY INFORMATION OF CITY	28
23.	ADMINISTRATIVE REMEDY FOR AGREEMENT INTERPRETATION	28
24.	SEVERABILITY.....	28
25.	ENTIRE AGREEMENT	29
26.	MACBRIDE PRINCIPLES.....	29
27.	TROPICAL HARDWOOD BAN.....	29

28. RESOURCE CONSERVATION	29
29. DRUG-FREE WORKPLACE POLICY	29
30. GUARANTEED MAXIMUM COSTS	29
31. QUALIFIED PERSONNEL	30
32. RESPONSIBILITY FOR EQUIPMENT	30
33. ASSIGNMENT	31
34. NON-WAIVER OF RIGHTS	31
35. OTHER CONDITIONS OF SERVICES	31
36. AGREEMENT MADE IN CALIFORNIA; VENUE	31
37. SUBMITTING FALSE CLAIMS	32
38. INCIDENTAL AND CONSEQUENTIAL DAMAGES	32
39. LIABILITY OF THE CITY	32
40. OTHER AGREEMENTS BETWEEN THE CITY AND THE CONSULTANT	33
41. WORKS FOR HIRE	34
42. COMPLIANCE WITH AMERICANS WITH DISABILITIES ACT	34
43. EQUAL BENEFITS ORDINANCE	34
44. SUNSHINE ORDINANCE	34
45. CONSTRUCTION	35
46. COMPLIANCE WITH LAWS	35
47. SOLE BENEFIT	35
48. EARNED INCOME CREDIT (EIC) FORMS	35
49. REQUIRING MINIMUM COMPENSATION FOR EMPLOYEES	36
50. REQUIRING HEALTH BENEFITS FOR COVERED EMPLOYEES	39
51. FIRST SOURCE HIRING PROGRAM	41
52. PROHIBITION ON POLITICAL ACTIVITY WITH CITY FUNDS	42
53. PRESERVATIVE-TREATED WOOD CONTAINING ARSENIC	43
54. SERVICES PROVIDED BY ATTORNEYS	43
55. PUBLIC ACCESS TO MEETINGS AND RECORDS	43
56. NOTIFICATION OF LIMITATIONS ON CONTRIBUTIONS	44

ATTACHMENTS

1. Calculation of Charges
2. Services to be Provided
3. Projected Task Budget
4. Preliminary Project Schedule



SAN FRANCISCO PUBLIC UTILITIES COMMISSION



City and County of San Francisco
Purchasing Department
City Hall, Room 430
1 Cr. Carlton B. Goodlet Place
San Francisco, California 94102 - 4685

AGREEMENT BETWEEN THE CITY AND COUNTY OF SAN FRANCISCO AND

URS CORPORATION
221 Main Street, Suite 600
San Francisco, CA 94105-1917

THIS AGREEMENT is made and entered into by and between the City and County of San Francisco (the "City"), a municipal corporation acting through its San Francisco Public Utilities Commission (SFPUC), and URS Corporation (the "Consultant").

WHEREAS, the City desires that the Consultant render geotechnical and design engineering services to conduct the conceptual engineering for the repair or replacement of Calaveras Dam; and

WHEREAS, the Consultant represents that it possesses the requisite professional expertise, experience and resources to render said services in accordance with the terms of this Agreement; and,

WHEREAS, approval for said Agreement was obtained from a **Civil Service Commission Notice of Action for Contract No. 4098-02/03** on March 3, 2003:

NOW, THEREFORE, the City and the Consultant agree as follows:

1. THE PROJECT

1.1. DESCRIPTION

The City does hereby engage the Consultant to perform, under the terms and conditions in this Agreement, professional engineering and related technical services to conduct the Conceptual Engineering of the repair or replacement of Calaveras Dam (the "Project"). The Consultant shall develop and implement a plan for comprehensive geotechnical investigation, developing and evaluating project alternatives, investigating potential alternative dam sites, developing conceptual level designs, cost estimates, and schedules, recommending a preferred alternative,

providing technical support during the environmental review process, and other services described in the Request for Proposals (RFP) dated January 23, 2003 which are incorporated herein by reference.

This Agreement initiates the Conceptual Engineering phase of repairing or replacing Calaveras Dam. The Consultant will produce Conceptual Engineering documents with the project details needed for the SFPUC to make an informed selection of the preferred alternative for design and construction, and to advance the Project through the environmental review and permitting process required by the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA). The Consultant will produce a preferred dam design alternative that is acceptable to the Division of Safety of Dams (DSOD) that can then be advanced with certainty through the permitting process.

1.2. AGREEMENT DATE AND TERM OF AGREEMENT

The effective date of this Agreement is the date of its certification by the Controller. The term of this agreement shall be **forty-eight (48) months** from the effective date. The Conceptual Engineering shall be completed within the first **eighteen (18) months** from the effective date; during the remaining term of the agreement, the Consultant shall provide engineering and technical support for the completion of the environmental review process (CEQA/NEPA).

1.3. SCHEDULE OF SERVICES

Time is of the essence for this Agreement in respect to the performance of all provisions of this Agreement and in respect to all Project schedules, in which a definite time for performance by the Consultant and the Consultant's Consultants is specified; provided, however, that the foregoing shall not be construed to limit or deprive a party of the benefits of any grace period provided for in this Agreement. The parties acknowledge that delay is one of the greatest causes of waste and increased expense in any project. The Consultant shall act diligently in anticipating and performing their required tasks in a manner so as to not unreasonably delay the prosecution of any services or work with respect to the Project.

2. DEFINITIONS

For all purposes of this Agreement, the following definitions shall apply:

2.1. ADDITIONAL SERVICES

shall mean the services that the City, in writing, authorizes the Consultant to perform which are in addition to the services included within Basic Services. The written authorization to perform Additional Services must include a statement describing the services as Additional Services. In the event the City believes certain services to be part of Basic Services which the Consultant contends are Additional Services, the Consultant shall not perform such services until the Consultant provides the City with written notice of the contention and the reasons thereof and the City thereafter instructs the Consultant in writing to proceed, in which case the issue with respect to whether the services are Additional Services shall be determined pursuant to Article 23 below.

2.2. APPROPRIATE AUTHORITIES

shall mean any private, local, municipal, county, state, regional or federal authority or agency having jurisdiction of any kind over the Project. This term is intended to include those agencies and authorities that may require information or the filing of plans, specifications, etc., in connection with the Project on either a voluntary or non-voluntary basis.

2.3. CONSULTANT/CONTRACTOR

shall mean URS Corporation.

2.4. AUTHORIZATION

shall be the Term Purchase Agreement, Contract Order or Purchase Order of the City and County of San Francisco properly executed by the Project Manager, and the SFPUC General Manager and certified by the Controller for the specific funding of this Agreement or any modification thereof and other written approvals by the City.

2.5. BASIC SERVICES

shall mean the services described in Article 3 below that the Consultant is required to provide for the Fee and Reimbursable Expense/Other Direct Costs provision set forth in Article 4 below.

2.6. CITY

shall mean the City and County of San Francisco, a municipal corporation.

2.7. CONCEPTUAL ENGINEERING/ REPORT (CER)

shall mean the technical work or tasks that produce data or information required to lead to the development of conceptual level designs for a project, with sufficient level of detail for the selection of a preferred alternative, and sufficient detail to advance the project through environmental and other permitting processes. The CER is the report that documents the findings and recommendations of work completed as well as the selection of the preferred project alternative.

2.8. CONSULTANT PROJECT MANAGER

shall mean one prime individual, empowered by the Consultant and representing the entire consultant team, whose responsibility is to direct, coordinate and control the entire team in its efforts successfully to prepare and complete the Basic Services described herein, regardless of any other key persons provided.

2.9. CONSULTANT PRINCIPAL-IN-CHARGE

shall mean the individual empowered by the Consultant to ensure that the Consultant team has the resources and support it needs to carry out the work to the City's full satisfaction; who is responsible for monitoring the performance of the Consultant team; and who commits corporate resources and legally obligates the corporation.

2.10. CONTROLLER

shall mean the Controller of the City and County of San Francisco.

2.11. CITY CONSULTANTS

are consultants under direct contract with the City such as geotechnical and civil engineers. Communication by the Consultant with City Consultants shall be through the Project Manager only, unless authorized by the City to do otherwise. When authorized by the City to make such direct communication, the City shall be copied promptly on all such communication. If such authorized communication is oral, then the Consultant shall provide the City with written confirmation of the same.

2.12. CITY STAFF TEAM

Shall mean employees of the City assigned to work on this project by the City's Project Manager.

2.13. MAYOR

shall mean the Mayor of the City and County of San Francisco or his designee or his authorized representative.

2.14. PROJECT MANAGER (PM)

shall mean the City personnel designated by the Mayor or the SFPUC General Manager to represent the City in all matters pertaining to the Project.

2.15. REQUEST FOR PROPOSAL (RFP)

shall mean the City's Request for Proposals for professional conceptual engineering design services for this Project and the Consultant's Proposal to provide such services. All requirements of the RFP and the representations made in the Consultant's Proposal that are not in conflict with provisions of this contract are hereby incorporated by reference and made an integral part of the contract as though fully set forth herein. With respect to any conflict or ambiguity between this Agreement and the RFP, this Agreement shall control except where the RFP refers to services not otherwise mentioned in this Agreement, in which case and to such extent the RFP shall control.

2.16. PUC GENERAL MANAGER

shall mean the San Francisco Public Utilities General Manager or her authorized representative.

2.17. SUBCONTRACTOR/SUBCONSULTANT

shall mean those firms or individuals contracted by the Consultant to perform specified services related to this Agreement.

2.18. SFPUC

shall mean the San Francisco Public Utilities Commission.

3. SERVICES CONSULTANT AGREES TO PERFORM

3.1. BASIC SERVICES

The Consultant shall provide as its Basic Services all conceptual engineering design and related technical services as required to carry out the Project described in Article 1. Portions of Basic Services shall not become part of the Contract until authorized

by the City as described more fully in Article 3.2 - Task Orders. Basic Services shall include, without limitation, the following:

- a. Confirm that the scope of work as described in Attachment 2 – Services to be Provided in its response to the RFP is complete.
- b. Provide qualified personnel to perform work as described in the tasks of Attachment 2 – Services to be Provided, which is hereby incorporated by reference during the agreement period. The City reserves the right to change the Approach proposed for the Tasks presented in Attachment 2 – Services to be Provided, in response to new or differing information that is uncovered or developed over the course of the Project.
- c. Ensure timely delivery of quality services within proposed budget. The budget to complete each task is included in Attachment 3 – Projected Task Budget, and the corresponding project schedule is included in Attachment 4 – Preliminary Project Schedule.
- d. Contract for or employ, at Consultant's expense within the Basic Services fee, the normal consulting services as may be necessary or required. The Consultant shall submit for approval by the City and the Human Rights Commission any changes in the subconsultants listed in Attachment 1 – Calculation of Charges.
- e. Designate Steven R. Ritchie as Principle-in-Charge, Noel C. Wong as Project Manager, whose roles shall be as defined in the RFP submittal produced by URS. The representatives of the Consultant who shall, so long as their respective performances continue to be acceptable to the City, remain in charge of the Consultant's services for the Project. Any changes in assignment or replacement of the Consultant's Project Representative or of any other personnel of Consultant or, of any of the Consultant's Consultants listed in Attachment 1 – Calculation of Charges, whether or not as a result of death, disability, or otherwise, may be done only with the prior written consent of the City, which consent may be given or withheld in the sole, subjective (but not arbitrary) discretion of the City.
- f. Meet regularly with the City's Project Manager and Review Team at reasonable frequencies to be determined by the Project Manager so as to keep the design on the desired track and promptly resolve any questions and

issues that may arise. City's Review Team includes the City's consultants and City staff assigned to work on this project as described in Article 3.1(b) of this agreement.

- g. Comply with requirements of codes, regulations, and current written interpretation thereof published and in effect during the Consultant's services. In the event of changes in such codes, regulations or interpretations during the course of the Project that were not and could not have been anticipated by the Consultant and which result in a substantive change to the conceptual engineering designs, the Consultant shall not be held responsible for the resulting additional costs, fees or time, and shall be entitled to reasonable additional compensation for the time and expense of responding to such changes.
- h. Assist in establishing a means of electronic communication and fully participate in the City's effort to develop an electronic file for this project of all correspondence with related attachments.
- i. Submit invoices with proper supporting documentation in accordance with the terms of this Agreement.
- j. Attend meetings with the Project Manager, City and State of California agencies, commissions and committees, and other Appropriate Authorities as described in this Agreement in connection with the Project. Such meetings shall be held at reasonable times and frequencies and with proper notice. It is anticipated that the following meetings and/or presentations to the following groups will be required:
 - (1) Project Manager Meetings: Weekly, or as often as necessary, through the completion of the Final Draft CER.
 - (2) Board of Supervisors and Committees of the Board of Supervisors. Not less than (2), but no more than (4). The purpose of these meetings will be to assist the Project Manger to present design concepts and answer questions.
 - (3) SFPUC. Not less than (2), but no more than (4). The purpose of these meetings will be to assist the Project Manger to present design concepts and answer questions.
 - (4) Others: To be determined.

- (5) Partnering: If implemented at the discretion of the City, meet as reasonably required by the partnering program developed by the City through the conceptual design phase.
- (6) Community or Environmental Groups: anticipate not less than three (3), no more than six (6) presentations to other community or environmental protection groups.
- (7) State and County Authorities, and Park Districts, including, but not limited to, the Alameda and Santa Clara Counties, East Bay Regional Park District, and the State Fire Marshall: not less than three (3) meetings, no more than five (5) meetings.
- (8) Division of Safety of Dams: As necessary.

3.2. TASK ORDERS

Performance of the professional engineering and related technical services will be executed according to a task order process. Attachment 2 – Service to be Provided describes the proposed tasks to complete the Project. A final task order scope proposal will be negotiated between the SFPUC Project Manager and the Consultant and then submitted to the Program Management Bureau (PMB) Manager for approval. Labor rates, overhead rates and certain other unit costs or prices, including profit will be accordance with Attachment 1 – Calculation of Charges. The estimated budget for each task shall be as specified in Attachment 3 – Projected Task Budget.

Contract Administration will forward all task order requests and proposals to other City Departments to determine whether City staff can provide any portion of the services. Then, the task order request will be processed for Controller certification of funding, after which a *Notice to Proceed* will be issued. The Consultant is hereby notified that work cannot commence until the Consultant receives a written Notice to Proceed in accordance with Chapter 6 of the San Francisco Administrative Code. Any work performed without a Notice to Proceed will be at the Consultant's own commercial risk. The calculations of costs and methods of compensation for all task orders under this contract shall be in accordance with the billing rates set forth in Attachment 1 – Calculation of Charges.

3.3. STANDARD OF PERFORMANCE

The Consultant's obligation is to perform all of its services in accordance with generally accepted standards of professional practice in the design and construction administration of projects of similar size, scope, and complexity.

3.4. ADDITIONAL GEOTECHNICAL SERVICES

In the event that dam permitting agencies require significant addition of scope to the geotechnical field investigation program proposed in Attachment 2 – Services to be Provided, and the proposed changes impact the budget for the task, the Consultant will submit the additional scope and budget in writing to the SPFUC Project Manager for approval prior to beginning work. Payment for these Additional Geotechnical Services shall be in accordance with Article 4.1.1(5).

3.5. REPORTS

The Contractor shall submit written reports as requested by the SFPUC Project Manager. Reports shall be thorough, competent, and professional. Draft reports submitted for review shall be analyzed for technical content clarity, language or technical content shall be subject to resubmission as referred to in Article 4.1.4 – Payment does not imply Acceptance of Work. The SFPUC Project Manager shall determine the format for the content of such reports. Submission of all reports shall be in accordance with the schedule set forth in individual task orders. The reports, including any copies, shall be submitted on recycled paper and printed on double-sided pages to the maximum extent possible.

4. COMPENSATION

In no event shall the amount of this Agreement exceed **\$4,000,000 (four million dollars)**. No charge shall be incurred under this Agreement nor shall any payments become due to the Consultant until reports, documents, or services as required under this Agreement are received from the Consultant and approved by the City as being in accordance with this Agreement, or until the City agrees that services covered under the payment request have been satisfactorily performed.

4.1. CALCULATION OF COMPENSATION

The City shall compensate the Consultant as follows:

4.1.1. PAYMENT SCHEDULE

- (1) The Consultant will submit monthly invoices for Basic Services with fees to be charged on an hourly basis within the course of each task. Fees paid will be based on the actual hours charged up to the percentage of work completed in the task, subject to the estimated budget per task as noted in Attachment 3 – Projected Task Budget. Costs remaining unspent in each task and/or Task Order may be reallocated to other tasks and/or Task Orders at the discretion of the SFPUC Project Manager.
- (2) All invoices submitted to the City for services performed under this Agreement shall describe the work completed for each task and subtask, identify the percentage of completion for the tasks, cost expended for each task, estimated cost to complete the task, total task budget, and shall be in accordance Invoice Requirements, as defined in Attachment 1 – Calculation of Charges.
- (3) For both lump sum and hourly work, the Consultant shall furnish copies of invoices submitted by sub-consultants to substantiate payment, and the invoices shall provide the same type of information requested above, together with the percentage and cost of work completed by MBE/WBE sub-consultants.
- (4) The Consultant shall receive compensation only for those Additional Services authorized in writing by the SFPUC Project Manager in accordance with the rate schedule found in Attachment 1- Calculation of Charges, which includes subconsultant fee schedules.
- (5) The Consultant shall receive compensation for Additional Geotechnical Services described in Article 3.3 and authorized by the SFPUC Project Manager at a rate equivalent to direct labor rates plus overhead, and Other Direct Costs associated with the work, in accordance with the rate schedule in Attachment 1 – Calculation of Charges; direct fee or profit will not be paid for these services.
- (6) The hourly rates on Attachment 1 – Calculation of Charges, shall be the best discount given to any client of the Consultant under similar circumstances.
- (7) Allowable mark-ups for Professional Consultants shall be **1.05** times the subconsultants' bill to the Consultant; reimbursable expenses, i.e., Other Direct

Costs, as defined in Attachment 1 – Calculation of Charges, will be reimbursed at actual cost – no mark up shall be included.

- (8) Alternatively, a lump or guaranteed maximum fee for Additional Services may be authorized by the City prior to commencement of work on these services.
- (9) In no event shall the City be liable for interest or late charges for any late payments.
- (10) No deductions shall be made from the Consultant's compensation on account of penalty, liquidated damages or other sums withheld from payments to the Contractor or on account of the cost of changes in the work other than those for which the Consultant is responsible.
- (11) Payments of Reimbursable Expenses/Other Direct Costs, as described in Attachment 1 – Calculation of Charges, shall be made monthly upon presentation by the Consultant of an itemized statement of expenses incurred with a detailed cost breakout.
- (12) The Other Direct Costs allowances set forth in Attachment 1 provide only for costs which are defined as part of Basic or Additional Services Fees and are not subject to the MBE/WBE participation requirements of Chapter 12D of the San Francisco Administrative Code.
- (13) Subject to the provisions of Article 7.3 below, if the Project is suspended for more than one hundred twenty (120) days or abandoned in whole or in part, the Consultant shall be compensated for services performed prior to receipt of written notice from the City of such suspension or abandonment. If the Project is resumed after being suspended for more than three months, the Consultant's compensation shall be subject to re-negotiation. Modification of the Consultant's compensation shall be based on increased costs incurred due to the project delay, but shall exclude costs (including labor) for work not performed for the project.

4.1.2. WITHHOLDING OF PAYMENT

The City may reasonably withhold payment to the Consultant pending resolution, in an amount equal to questioned, disputed or disapproved amounts, or for work not completed or delivered as required by this Agreement or for amounts incurred by the City in connection with the Consultant's negligent errors or omissions. Payments for other amounts due on the same or other invoice shall not be unreasonably withheld

or delayed. The City shall endeavor to issue payments of undisputed amounts to the Consultant within thirty (30) days following the receipt of invoices.

4.1.3. DISALLOWANCE

In the event the Consultant claims or receives payment from the City for a service, reimbursement for which is later disallowed by the City, the Consultant shall promptly refund the disallowed amount to the City upon the City's request. At its option, the City may offset the amount disallowed from any payment due or to become due to the Consultant.

4.1.4. PAYMENT DOES NOT IMPLY ACCEPTANCE OF WORK

The issuance of any progress payment by the City, or the receipt thereof by the Consultant, shall in no way lessen the liability of the Consultant to correct unsatisfactory work although the unsatisfactory nature of such work may or may not have been apparent or detected at the time such payment was made.

4.1.5. LIQUIDATED DAMAGES

Left blank by agreement of the parties.

5. CITY'S RESPONSIBILITIES

The administration and management of this agreement is a team effort among SFPUC staff and the Consultant. The primary City responsibilities in administration and management of this agreement are:

1. Designate a Project Manager who shall coordinate his/her duties with the Consultant as provided herein.
2. Ensure that the Consultant has adequate quality control process, and review Consultant deliverables for conformance with the technical requirements of the contract and task orders.
3. Maintaining liaison and direct communications with the Consultant and promptly resolve any questions and issues that may arise.
4. Compensating the Consultant in a timely manner for satisfactorily completed work.
5. Providing required information and materials.
6. Closing out the contract in a timely manner.

6. DOCUMENTS

6.1. OWNERSHIP OF DOCUMENTS

- a. All Construction Documents, including Drawing Sets, CADD files and other computer files prepared by the Consultant shall be made and remain the property of the City; provided, however, that the Consultant shall be entitled to one reproducible copy thereof and CADD files, made at the Consultant's expense. As part of Basic Services, Consultant shall provide the City with one licensed copy of software that will allow the City to view the electronic CADD files if Consultant supplies files in a software format that is not used by the City. The Consultant shall also supply files in both read-only and read-write format. Additionally, specifications for any computer hardware required to use the software and files is to be provided by the Consultant.
- b. All presentation drawings and models shall be and remain the property of the City.
- c. Should the City or any other person, firm or legal entity, without the Consultant's participation, use, re-use, or modify the Consultant's drawings, specifications or other documents prepared under this Agreement, the City agrees to notify the Consultant of said intended use. The Consultant shall not be responsible for any loss, costs or expenses incurred by any party arising out of such use, re-use or modification of the Consultant's drawings, specifications, and other documents except as provided under Article 7.3.d.
- d. The City acknowledges that in using magnetic media data may be lost in translation from one format to another, or that electronic data may be altered, whether inadvertently or otherwise, and that there is a risk that errors or omissions may appear in any subsequent output as a result of software/hardware failure.

7. TERMINATION OF AGREEMENT

7.1. BY EITHER PARTY

Either party may terminate this Agreement, in whole or in part, in writing, if the other party substantially fails to fulfill its obligations under this Agreement through no fault of the terminating party. However, no such termination may be effected unless the

other party is given: (1) not less than ten (10) calendar days written notice (delivery by certified mail, return receipt requested) of its intent to terminate; and (2) an opportunity for consultation and to rectify failures of obligations within thirty (30) days of consultation with the terminating party before termination becomes effective.

7.2. BY CITY

The City may terminate this Agreement, in whole or in part, in writing, for its convenience if the termination is for good cause (such as for legal or financial reasons, major changes in the work or program requirements) and the Consultant is given: (1) thirty (30) calendar days written notice (delivered by certified mail, return receipt requested) of the City's intent to terminate; and (2) an opportunity for consultation with the City before termination becomes effective.

7.3. CONDITIONS OF TERMINATION

- a. If the City terminates this Agreement for default or for convenience, an equitable adjustment in the price provided for in this Agreement shall be made, but: (1) no amount shall be allowed for anticipated profit on unperformed services or other work (except as provided in Article 7.3.a. above); and (2) in the event of default by the Consultant, any payment due to the Consultant at the time of termination may be adjusted to the extent of any additional costs the City incurs because of the default. The equitable adjustment in price shall include a reasonable profit for services or other work performed. The equitable adjustment for any termination shall provide for payment to the Consultant for services rendered and expenses incurred before the termination in addition to termination settlement costs the Consultant reasonably incurs relating to commitments which had become firm before the termination.
- b. Upon receipt of a termination action under Articles 7.1. or 7.2., the Consultant shall (1) promptly discontinue all services affected (unless the notice directs otherwise); and (2) deliver or otherwise make available to the City all data, drawings, specifications, reports, estimates, summaries, and such other information and materials as the Consultant and its consultants may have accumulated in performing this Agreement, whether completed or in progress.

- c. Upon termination under Articles 7.1. or 7.2., the City may take over the work and prosecute the same to completion by agreement with another party, with City forces or otherwise. The City maybe free to engage another consultant or to utilize such plans, drawings, specifications and other work prepared by the Consultant for the Project. Such Consultant shall expressly assume the responsibility of "Consultant of Record". The Consultant of Record shall be responsible for negligent errors and omissions on such plans, drawings, specifications and other work.
- d. If, after termination for failure of the Consultant to fulfill contractual obligations, it is determined that the Consultant had not so failed, the termination shall be deemed to have been effected for the convenience of the City. In such an event, an adjustment of the fee shall be made pursuant to Article 7.3.b.
- e. If the City fails to make payment when due to the Consultant for services and expenses which both parties agree to have been properly rendered, the Consultant may, upon 60 days written notice to the City, suspend performance of services under this Agreement until payment is received. In the event of said suspension, the Consultant shall have no liability for delay or damage caused to the City as a result of the suspension.

8. SUCCESSORS AND ASSIGNS

- 1. This Agreement shall be binding upon the City and its respective successors and assigns.
- 2. Neither the performance of this Agreement nor any part thereof, nor any funds due or to become due thereunder may be assigned by the Consultant without the prior written consent and approval of the City.

9. NOTICES

Any notice may be served effectively upon the City by delivering it in writing or by telegram, or by depositing it in a United States mail deposit box with postage thereon fully prepaid and addressed to the City at the address set forth below; and in the case of the Consultant, may be served effectively upon the Consultant by delivering it in writing or by telegram, or by

depositing it in a United States mail deposit box with postage thereon fully prepaid and addressed to the Consultant at the address as set forth below. In addition, any notice may be served effectively by delivering or mailing it, as in this paragraph provided, addressed to any other place or places at the City or the Consultant, by written notice served upon the other, from time to time may designate.

<u>CITY'S</u>	<u>ADDRESS:</u>	<u>CONSULTANT'S</u>	<u>ADDRESS:</u>
Barbara Palacios		Noel Wong	
SFPUC		URS Corporation	
1155 Market Street, 6 th Floor		500 12 th Street, Suite 200	
San Francisco, CA 94103		Oakland, CA 94607-4014	

10. INSURANCE

1. Without in any way limiting Consultant's liability pursuant to the "Indemnification" section of this Agreement, Consultant must maintain in force, during the full term of the Agreement, insurance in the following amounts and coverages:
 - a. Workers' Compensation, in statutory amounts, with Employers' Liability Limits not less than \$1,000,000 each accident; and
 - b. Commercial General Liability Insurance with limits not less than \$5,000,000 each occurrence Combined Single Limit for Bodily Injury and Property Damage, including Contractual Liability, Personal Injury, Products and Completed Operations; and
 - c. Commercial Automobile Liability Insurance with limits not less than \$5,000,000 each occurrence Combined Single Limit for Bodily Injury and Property Damage, including Owned, Non-Owned and Hired auto coverage, as applicable.
 - d. The City has arranged with Aon Risk Services, Inc. of Northern California Insurance Services, (the "OCIP Administrator") for certain of its projects including this Project to be insured under a Project Professional Liability Insurance Policy ("Project Professional Policy"). The Project Professional Policy covers Consultant and its subconsultants as per the named insured provisions of the Project Professional Policy. Any type of professional insurance coverage or limits of liability in addition to the Project Professional Policy that Consultant or any subconsultant desires for its or their own protection, or that is required by applicable laws or regulations, shall be Consultant's or its subconsultant's sole responsibility and expense and shall

not be billed to the City. Consultant understands and agrees that in the event both the Project Professional Policy and Consultant's practice professional coverage is applicable to a claim, the Project Professional Policy shall be primary.

- (1) Consultant shall be responsible, at its own expense, for all deductibles or self-insured retentions set forth in the Project Professional Policy to the extent losses payable under the Project Professional Policy are attributable to Consultant's services, acts or omissions, or the acts or omissions of any of Consultant's subconsultants, or any other entity or party for whom Consultant may be responsible. The City, in its sole discretion, has the right to determine the Consultant or other Project consultant's share of the deductible or self-insured retention for purposes of allocating the deductible or self-insured retention to the responsible party under the Project Professional Policy. Consultant's maximum deductible or self-insured retention under the Project Professional Policy shall be based on the amount of fees approved by the City to be payable to Consultant under the Agreement, as determined at the time a claim is made, as follows:

- \$ 10,000 per claim for contracts with max. compensation from \$15,000 - \$499,999
- \$ 25,000 per claim for contracts with max. compensation from \$500,000 - \$999,999
- \$ 50,000 per claim for contracts with max. compensation from \$1,000,000 - \$4,999,999
- \$ 75,000 per claim for contracts with max. compensation from \$5,000,000 - \$9,999,999
- \$100,000 per claim for contracts with max. compensation from \$10,000,000 or greater

- (2) The City shall pay the costs of premiums for the Project Professional Policy. The City will receive or pay, as the case may be, all adjustments to such costs, whether by way of dividends, retroactive adjustments, return premiums, other moneys due, audits or otherwise. Each Consultant and each of its subconsultants hereby assign to the City the right to receive all such adjustments. The City assumes no obligation to provide insurance other than that specified in this Amendment and the Project Professional Policy. The City's furnishing of professional coverage shall in no way relieve or limit, or be construed to relieve or limit, Consultant or any of its subconsultants of any responsibility, liability, or obligation imposed by the Contract Documents, the Project Professional Policy, or by law, including without limitation any indemnification obligations which Consultant or any of its subconsultants has to the City thereunder. The City reserves the right at its option, without obligation to do so, to furnish other insurance coverage of various types and limits provided that such coverage is not less than that specified in the Contract Documents.

- (3) The Project Professional Policy shall apply only to those operations of Consultant performed in connection with the Project. The Project Professional Policy is summarily described as follows:

Project Professional Policy (Primary)	- Summary Description
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Professional liability insurance covering all Project Consultants, engineers, and design consultants, as defined in the language of the Professional Liability Policy, with respect to their professional work in connection with the Project. The insurance policy will be of a "claims-made form", and will have a combined limit of liability of \$25,000,000 per Claim and \$25,000,000 in the Aggregate, inclusive of defense costs and expenses, over the term of the policy and will include a ten (10) year Extended Reporting Period commencing February 1, 2005. Consultant, on behalf of itself and its subconsultants, hereby consents to the joint defense, panel defense, Program Manager, and settlement provisions of the Project Professional Policy, including that insureds thereunder must waive any cross-claims or third-party claims for negligence, contribution, indemnification or otherwise, arising out of any incident, circumstance, event or claim under the Project Professional Policy, and against any other insured, and that the insurer shall have final authority to settle any claim.

- (4) Consultant shall comply, and assure that its subconsultant's comply with all of the requirements outlined in the Project Professional Policy. Consultant shall cooperate fully with the Project Professional Policy insurer.
- (5) Consultant hereby acknowledges, and will require all of its subconsultants to acknowledge in writing, that the City and the OCIP Administrator are not agents, partners or guarantors of the insurance companies providing coverage under the Project Professional Policy and that the City is not responsible for any claims or disputes between or among Consultant, its subconsultants, and any insurer. Any type of insurance coverage or limits of liability in addition to the Project Professional Policy that Consultant or any subconsultant requires for its or their own protection, or that is required by applicable laws or regulations, shall be Consultant's or its subconsultant's sole responsibility and expense and shall not be billed to the City.
- (6) The City may, for any reason, modify or discontinue the Project Professional Policy or professional coverage, or request that Consultant or any of its subconsultants obtain and thereafter maintain at the City's expense during the performance of the Project, all (or a portion thereof as specified by the City) of the professional coverages. The form,

content, limits of liability, cost, and the insurer issuing such replacement insurance shall be subject to the City's approval.

- (7) The costs of professional liability insurance provided will not be an Other Direct Cost reimbursed by the City. Consultant and its subconsultants warrant to the CITY that, to the extent practicable, no costs for professional liability insurance for which such parties are provided coverage by the Professional Liability Policy are included in any payment for Consultant's services. Within five (5) days of execution of this Agreement, Consultant shall provide a true and accurate report to the City, on a form required by the City, of Consultant's and its subconsultant's reduction in professional liability insurance costs due to eligibility for coverage by the Professional Liability Policy.
 - (8) Consultant agrees that the City or its representatives may audit Consultant's or any of its subconsultant's books and records, insurance coverages, insurance cost information, or any information that Consultant provides to the City to confirm their accuracy and to assure that costs of professional liability insurance are not included in any payment for the services.
2. Commercial General Liability and Business Automobile Liability Insurance policies must provide the following:
 - a. Name as Additional Insured the City and County of San Francisco, its Officers, Agents, and Employees.
 - b. 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.
 3. All policies shall provide thirty days' advance written notice to City of cancellation mailed to the following address:

San Francisco Public Utilities Commission
Contract Administration
1155 Market Street, 7th Floor
San Francisco, CA 94103
 4. Should any of the required insurance be provided under a claims-made form, Consultant 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. Should any of the required insurance 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.
6. 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.
7. Before commencing any operations under this Agreement, Consultant must furnish to City certificates of insurance, and additional insured policy endorsements, in form and with insurers satisfactory to City, evidencing all coverages set forth above, and shall furnish complete copies of policies promptly upon City request.
8. Approval of the insurance by City shall not relieve or decrease the liability of Consultant hereunder.

11. INDEMNIFICATION

1. To the fullest extent permitted by law, Consultant shall assume the defense of, indemnify and save harmless the City and its officers and employees (collectively "Indemnitees") from any claim, loss, damage, injury (including, without limitation, injury to or death of an employee of the Consultant or its subconsultants) and liabilities of every kind, nature and description (including, without limitation, incidental and consequential damages, court costs, attorney's fees and costs of investigation) that arise directly nor indirectly, in whole or in part, from (1) the services under this Agreement, or any part thereof, (2) any act or omission of the Consultant and subconsultant to the Consultant, anyone directly or indirectly employed by them, or anyone that they control (collectively "Liabilities"), even if such Liabilities are caused in part by the negligence of any Indemnitee, subject to the provisions set forth herein.

To the extent, however, that the foregoing provision imposes an obligation on the Consultant which does not involve any negligence or other breach of obligation on the part of Consultant or its subconsultants, then, provided that Consultant is in compliance

with its insurance obligations under Article 10 above, such obligations shall be limited to the extent to which it is covered by Consultant's insurance and that of its subconsultants.

In no event, however, shall Consultant's liability or indemnification responsibilities be so limited in the event of negligence or other breach of obligation on the part of the Consultant or its subconsultants.

2. The Consultant assumes no liability whatsoever for the sole negligence or willful misconduct of any Indemnitee or the contractors of any Indemnitee.
3. The Consultant's indemnification obligations of claims involving "Professional Liability" (claims involving acts, errors or omissions in the rendering of professional services) and "Economic Loss Only" (claims involving economic loss which are not connected with bodily injury or physical damage to property) shall be limited to the extent of the Consultant's negligence or other breach of duty.
4. Consultant 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 officers, employees, or agents, of articles or services to be supplied in then performance of Consultant's services under this Agreement.

12. NONDISCRIMINATION: PENALTIES

12.1. CONTRACTOR SHALL NOT DISCRIMINATE

In the performance of this Agreement, Contractor agrees not to discriminate against any employee, City and County employee working with such contractor or subcontractor, applicant for employment with such contractor or subcontractor, or against any person seeking accommodations, advantages, facilities, privileges, services, or membership in all business, social, or other establishments or organizations, on the basis of the fact or perception of a person's race, color, creed, religion, national origin, ancestry, age, height, weight, sex, sexual orientation, gender identity, domestic partner status, marital status, disability or Acquired Immune Deficiency Syndrome or HIV status (AIDS/HIV status), or association with members of such protected classes, or in retaliation for opposition to discrimination against such classes.

12.2. SUBCONTRACTS

Contractor shall incorporate by reference in all subcontracts the provisions of §§12B.2(a), 12B.2(c)-(k), and 12C.3 of the S.F. Administrative Code (copies of which are available from Purchasing) and shall require all subcontractors to comply with such provisions. Contractor's failure to comply with the obligations in this subsection shall constitute a material breach of this Agreement.

12.3. NONDISCRIMINATION IN BENEFITS

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 bereavement leave, family medical leave, health benefits, membership or membership discounts, moving expenses, pension and retirement benefits or travel benefits, as well as any benefits other than the benefits specified above, between employees with domestic partners and employees with spouses, and/or between the domestic partners and spouses of such employees, where the domestic partnership has been registered with a governmental entity pursuant to state or local law authorizing such registration, subject to the conditions set forth in §12B.2(b) of the S.F. Administrative Code.

12.4. CONDITION TO CONTRACT

As a condition to this Agreement, Contractor shall execute the "Chapter 12B Declaration: Nondiscrimination in Contracts and Benefits" form (form HRC-12B-101) with supporting documentation and secure the approval of the form by the San Francisco Human Rights Commission.

12.5. INCORPORATION OF ADMINISTRATIVE CODE PROVISIONS BY REFERENCE

The provisions of Chapters 12B and 12C of the S.F. Administrative Code are incorporated in this Section by reference and made a part of this Agreement as though fully set forth herein. Contractor shall comply fully with and be bound by all of the provisions that apply to this Agreement under such Chapters, including but not limited to the remedies provided in such Chapters. Without limiting the foregoing,

Contractor understands that pursuant to §12B.2(h) of the S.F. Administrative Code, a penalty of \$50 for each person for each calendar day during which such person was discriminated against in violation of the provisions of this Agreement may be assessed against Contractor and/or deducted from any payments due Contractor.

13. MINORITY/WOMEN/LOCAL BUSINESS ORDINANCE

13.1. COMPLIANCE

Contractor understands and agrees to comply fully with all provisions of Chapter 12D.A ("Minority/Women/ Local Business Utilization Ordinance--IV") of the San Francisco Administrative Code and agrees to include this paragraph in all subcontracts made in fulfillment of the Contractor's obligations under this Agreement. Said provisions are incorporated herein by reference and made a part of this Agreement as though fully set forth. Contractor's willful failure to comply with Chapter 12D.A is a material breach of contract.

13.2. ENFORCEMENT

If Contractor willfully fails to comply with any of the provisions of Chapter 12D.A, the rules and regulations implementing Chapter 12D.A, or the provisions of this Agreement pertaining to MBE or WBE participation, Contractor shall be liable for liquidated damages in an amount equal to Contractor's net profit on this Agreement, or 10% of the total amount of this Agreement, or \$1,000, whichever is greatest. The Director of the City's Human Rights Commission (HRC) may also impose other sanctions against Contractor authorized in Chapter 12D.A, including declaring the Contractor to be irresponsible and ineligible to contract with the City for a period of up to five years or revocation of the Contractor's MBE or WBE certification. The Director of HRC will determine the sanctions to be imposed, including the amount of liquidated damages, after investigation pursuant to §12D.A.16C.

By entering into this Agreement, Contractor acknowledges and agrees that any liquidated damages assessed by the Director of the HRC shall be payable to City upon demand. Contractor further acknowledges and agrees that any liquidated damages assessed may be withheld from any monies due to Contractor on any contract with City.

Contractor agrees to maintain records necessary for monitoring its compliance with Chapter 12D.A for a period of three years following termination of this contract.

13.3. SUBCONTRACTING GOALS

The subcontracting participation goal for this contract is **13% MBE** and **8% WBE**. The Consultant shall fulfill the subcontracting commitment made in its bid or proposal. Each invoice submitted to the City for payment shall include the information required in HRC Form 6. Failure to provide HRC Form 7 with each invoice submitted by the Consultant shall entitle the City to withhold 20% of the amount of that invoice until HRC Form 7 is provided by the Consultant.

Contractor shall not participate in any back contracting to the Contractor or lower-tier subcontractors, as defined in Chapter 12D.A, for any purpose inconsistent with the provisions of Chapter 12D.A, its implementing rules and regulations, or this Section.

The Consultant shall resolve, to the satisfaction of the San Francisco Human Rights commission, any 12B or 12D issue outstanding at the execution of this Agreement, such as shared profits for a specially designated employee.

13.4. SUBCONTRACT LANGUAGE REQUIREMENTS

Contractor shall include in all subcontracts with MBEs or WBEs made in fulfillment of Contractor's obligations under this Agreement, a provision requiring Contractor to compensate any MBE or WBE subcontractor if Contractor does not fulfill its commitment to use the MBE or WBE subcontractor. Such provisions shall also state that it is enforceable in a court of competent jurisdiction.

Subcontracts shall require the subcontractor to maintain records necessary for monitoring its compliance with Chapter 12D.A for a period of three years following termination of this contract.

13.5. PAYMENT OF SUBCONTRACTORS

Contractor shall pay its subcontractors within three working days after receiving payment from the City unless Contractor notifies the Director of HRC in writing within ten working days prior to receiving payment from the City that there is a bona fide dispute between Contractor and its subcontractor and the Director waives the three-day payment requirement.

Contractor further agrees, within ten working days following receipt of payment from the City, to file an affidavit with the SFPUC Project Manager, using HRC Form 9 "Sub-Contractor Payment Affidavit", under penalty of perjury, that the Contractor has paid all subcontractors. The affidavit shall provide the names and addresses of all

subcontractors and the amount paid to each. Failure to provide such affidavit may subject Contractor to enforcement procedure under Administrative Code §12D.A.16.

14. ERRORS AND OMISSIONS

If during the course of the project, should any modifications be required due to errors or omissions on the part of the Consultant or its sub-consultants during the Conceptual Engineering work, the Consultant shall not be compensated for the cost of developing, preparing, or implementing the revised tasks to correct said errors or omissions nor shall the Consultant be compensated in its fee for the cost of extras made necessary by errors or omissions.

15. MODIFICATIONS

The Consultant shall do no work in addition to or beyond the scope of the Basic Services set forth and contemplated by this Agreement unless and until it is authorized to do so by the issuance to it of a "Modification of Contract," duly executed and bearing the Controller's certification pursuant to Sections 6.22H of the San Francisco Administrative Code that funds are available for additional work.

16. INDEPENDENT CONTRACTOR

The Consultant shall be deemed at all times an independent contractor and shall be wholly responsible for the manner in which it performs the service required of it by the terms of this Agreement. The Consultant shall be liable for any act or acts of its own, of its agents or employees, and nothing contained herein shall be construed as creating the relationship of employer and employee between the City and the Consultant or its agents and employees.

17. BUDGET AND FISCAL PROVISIONS

This Agreement is subject to the budget and fiscal provisions of the Charter of the City and County of San Francisco. Any amount of the City's obligation hereunder shall not at any time exceed the amount certified by the Controller for the purpose and period stated in such advance authorization.

This section controls against any and all other provisions of this Agreement.

18. CONFLICT OF INTEREST

The Consultant states that it is familiar with the provision of Section 15.103, Appendix C of the 1996 Charter of the City and County of San Francisco, and Sections 87100 et seq. of the California Government Code, and certifies that it is not aware of any facts which would constitute a violation of said provisions.

19. AUDIT AND INSPECTION OF RECORDS

The Consultant agrees to maintain and make available to the City accurate books and accounting records relative to its activities under this Agreement. The Consultant will permit the 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 reimbursables and additional services provided on an hourly basis, whether funded in whole or in part under this Agreement. The City shall audit all such records relating to Basic Services at its discretion, upon reasonable notice to the Consultant. The Consultant shall maintain such data and records in an accessible location and condition for a Period of not less than four years after final payment under this Agreement or until after final audit has been resolved, whichever is later. A clause similar to this shall be included in all sub-agreements between the Consultant and subconsultants giving the City the same rights against the subconsultants. Canceled checks of payments to subconsultants must be maintained by the Consultant and made available to the City upon request.

20. SUBCONTRACTING

1. The Consultant is permitted to subcontract portions of the services to be performed under this Agreement only after the prior written approval by the City. The Consultant shall be responsible for its sub-consultants or sub-contractors throughout the course of the work to be performed under this Agreement. Execution of this Agreement shall constitute approval of the firms and individuals listed on Attachment 1 as sub-consultants and/or subcontractors on this Project.
2. Substitutions may be made for any consultants listed on Attachment 1 for (1) failure to perform to a reasonable level of professional competence, (2) inability to provide sufficient staff to meet the Project requirements and schedules, or (3) unwillingness to negotiate reasonable contract terms or compensation.

3. The City will reserve the right to request specific consultants with specific expertise to be added to the team, if the City determines that specific expertise is lacking in the project team or if the City believes it is in the City's best interest to assign a particular sub-consultant to the Consultant.
4. Substitutions of MBE/WBE/LBE firms shall be made on equal basis (minority for minority, women for women) upon written request by the Consultant and written approval by the City and the Human Rights Commission. The Consultant shall hold harmless, indemnify and defend the City from any claim that may arise out of any approval of substitutions.

21. TAXES

- (1) Payment of any taxes, including possessory interest taxes and California sales and use taxes, levied upon or as a result of this Agreement, or the services delivered pursuant hereto, shall be the obligation of Contractor.
- (2) Contractor recognizes and understands 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:
 - A) 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;
 - B) 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.

- C) 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.
- D) 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.

22. PROPRIETARY or CONFIDENTIAL INFORMATION OF CITY

The Consultant understands and agrees that, in the performance of the work or services under this Agreement or in contemplation thereof, the Consultant may have access to private or confidential information which may be owned or controlled by the City and that such information may contain proprietary or confidential details, the disclosure of which to third parties would be damaging to the City. The Consultant agrees that all such information disclosed by the City to the Consultant shall be held in confidence and used only in the performance of the Agreement. The Consultant shall exercise the same standard of care to protect such information as is used to protect its own proprietary or confidential data.

23. ADMINISTRATIVE REMEDY FOR AGREEMENT INTERPRETATION

The parties shall attempt in good faith to resolve by negotiating any disagreements between them concerning the interpretation of this Agreement. If a dispute persists, the Consultant shall continue to perform services in accordance with the City's interpretation of the Agreement, provided that if the dispute is resolved in the Consultant's favor, the Consultant shall be compensated for extra costs incurred in complying with the City's interpretation but not legal fees and costs incurred in resolving the dispute.

24. SEVERABILITY

If any term or provision of this Agreement shall be found to be illegal or unenforceable, then, notwithstanding, this Agreement shall remain in full force and effect and such term or provision shall be deemed stricken.

25. ENTIRE AGREEMENT

All of the Agreement between the parties is included herein and no warranties expressed or implied, representations, promises, or statements have been made by either party unless endorsed hereon in writing, and no change or waiver of any provision hereof shall be valid unless made in writing and executed in the same manner as this Agreement.

26. MACBRIDE PRINCIPLES

The City and County of San Francisco encourages companies doing business with the City to abide by the MacBride Principles set forth in Chapter 12F of the San Francisco Administrative Code. In general, the MacBride Principles urge companies doing business in Northern Ireland to move towards resolving employment inequities in Northern Ireland. Acknowledgment of the MacBride Principles will be a part of the contract between the City and the Consultant.

27. TROPICAL HARDWOOD BAN

The City urges contractors not to import, purchase, obtain, or use for any purpose, any tropical hardwood or tropical hardwood product.

28. RESOURCE CONSERVATION

Chapter 21A of the S.F. Administrative Code ("Resource Conservation") is incorporated herein by reference. Failure by Consultant to comply with any of the applicable requirements of Chapter 21A will be deemed a material breach of contract.

29. DRUG-FREE WORKPLACE POLICY

The Consultant acknowledges and recognizes that, pursuant to the Federal Drug-Free Workplace Act of 1989, 41 U.S.C. §701, the unlawful manufacture, distribution, dispensation, possession, or use of a controlled substance is prohibited on City premises.

30. GUARANTEED MAXIMUM COSTS

1. The City's obligation hereunder shall not at any time exceed the amount certified by the Controller for the purpose and period stated in such certification.
2. Except as may be provided by City ordinances governing emergency conditions, the City and its employees and officers are not authorized to request the Consultant to perform services or to provide materials, equipment and supplies that would result in the Consultant performing services or providing materials, equipment and supplies that are beyond the scope of the services, materials, equipment and supplies agreed upon in the

contract unless the agreement is amended in writing and approved as required by law to authorize the additional services, materials, equipment or supplies. The City is not required to reimburse the Consultant for services, materials, equipment or supplies that are provided by the Consultant which are beyond the scope of the services, materials, equipment and supplies agreed upon in the contract and which were not approved by a written amendment to the Agreement having been lawfully executed by the City.

3. The City and its employees and officers are not authorized to offer or promise to the Consultant additional funding for the contract which would exceed the maximum amount of funding provided for in the contract for the Consultant's performance. Additional funding for the contract in excess of the maximum provided in the contract shall require lawful approval and certification by the Controller of the City. The City is not required to honor any offered or promised additional funding for a contract which exceeds the maximum provided in the contract unless such additional funding has received the lawful approval and certification of the Controller.
4. The Controller is not authorized to make payments on any contract for which funds have not been certified as available in the budget or by supplemental appropriation.

31. QUALIFIED PERSONNEL

Work under this Agreement shall be performed only by competent personnel under the supervision of and in the employment of the Consultant or its subconsultants. The Consultant will conform with the City's reasonable requests regarding assignment of personnel, but all personnel, including those assigned at the City's request and those City employees that are included in the project delivery team at the direction of the City shall be supervised by the Consultant.

32. RESPONSIBILITY FOR EQUIPMENT

The City shall not be responsible for any damage to persons or property as a result of the use, misuse or failure of any equipment used by the Consultant, or by any of its employees, even though such equipment be furnished, rented or loaned to the Consultant by the City. The acceptance or use of such equipment by the Consultant or any of its employees shall be construed to mean that the Consultant accepts full responsibility for and agrees to exonerate, indemnify, defend and save harmless the City from and against any and all claims for any damage or injury of any type arising from the use, misuse or failure of such

equipment, whether such damage be to the Consultant, its employees, the City employees or third parties, or to property belonging to any of the above.

33. ASSIGNMENT

The services to be performed by the Consultant are personal in character and neither this Agreement nor any duties or obligations hereunder shall be assigned or delegated by the Consultant unless approved by written instrument executed and approved in the same manner as this Agreement; Partners of the Joint Association may incorporate or change their names; provided such incorporation or change does not decrease their obligation or liability under this Agreement.

34. 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.

35. OTHER CONDITIONS OF SERVICES

The Consultant shall have the right to include representations of the design of the Project, including photographs of the exterior and interior, among the Consultant's promotional and professional materials. The Consultant's materials shall not include the City's confidential or proprietary information and shall first be submitted for the City's review.

36. 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 or as provided by Code of Civil Procedure Section 394; the venue for litigation in a county other than San Francisco pursuant to Section 394 will be Alameda County or San Mateo County.

37. SUBMITTING FALSE CLAIMS

Pursuant to San Francisco Administrative Code Chapter 6, Article V, any contractor, subcontractor or consultant who submits a false claim shall be liable to the City for three times the amount of damages that the City sustains because of the false claim. A contractor, subcontractor or consultant who submits a false claim shall also be liable to the City for the costs, including attorney's fees, of a civil action brought to recover any of those penalties or damages, and may be liable to the City for a civil penalty of up to \$10,000 for each false claim. A contractor, subcontractor or consultant will be deemed to have submitted a false claim to the City if the contractor, subcontractor or consultant: (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; (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.

38. INCIDENTAL AND CONSEQUENTIAL DAMAGES

The Consultant shall be responsible for incidental and consequential damages resulting from the Consultant's negligent acts or omissions. Nothing in this Agreement shall constitute a waiver or limitation of any rights that the City may have under applicable law.

39. LIABILITY OF THE CITY

THE CITY'S OBLIGATIONS UNDER THIS AGREEMENT SHALL BE LIMITED TO THE PAYMENT OF THE COMPENSATION PROVIDED FOR IN ARTICLE 4 OF THIS AGREEMENT. NOTWITHSTANDING ANY OTHER PROVISION OF THIS AGREEMENT, IN NO EVENT SHALL THE 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.

40. OTHER AGREEMENTS BETWEEN THE CITY AND THE CONSULTANT

Through its execution of this Agreement, the Consultant certifies that neither it nor any of its employees has any interest, however remote, in any other Agreement with the City, whether or not such Agreement is with Consultant's respective firms, affiliate firms or through separate employment, except as expressly itemized below. The Consultant understands and agrees that failure to disclose such information may result in termination of this Agreement pursuant to Article 7 above.

City Department	Contract Description	Reference No.
1. SFDPW	As-Needed Risk Assessment and Management Planning Services	Contract not yet certified. Prior contract was 173,048
2. SFDPW	As-Needed Geotechnical Engineering Services	173,090
3. SFPUC	Environmental Documentation Services	CS-672
4. SF Public Transportation Dept.	MUNI Engineering and Construction Div., Architectural and Engineering Services, Islais Creek Maintenance and Operations Facility	NA
5. CCSF Treasure Island Development Authority	EIR - Treasure Island	4342-00/01
6. SFPUC	As-needed Operational Support Services	CS-699.E

41. WORKS FOR HIRE

If, in connection with services performed under this Agreement, the Consultant or its subconsultants create artwork, copy, posters, billboards, photographs, videotapes, audio tapes, systems designs, software, reports, diagrams, surveys, source codes or any other original works of authorship, 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 are the property of the City. If it is ever determined that any works created by the Consultant or its subconsultants under this Agreement are not works for hire under U.S. law, the Consultant hereby assigns all copyrights to such works to the City. The City hereby grants to the Consultant a free license to use such works solely for the purpose of marketing, i.e., to document the Consultant's experience and capabilities, and to use or re-use details which are not unique to the design of the Project, which details would not otherwise be copyrightable under Title 17 of the United States Code. With respect to any other use or purpose, the Consultant must obtain the prior express written permission of the San Francisco Director of Public Works.

42. COMPLIANCE WITH AMERICANS WITH DISABILITIES ACT

The Consultant acknowledges that, pursuant to the Americans with Disabilities Act (ADA), programs, services and other activities provided by a public entity to the public, whether directly or through a contractor, must be accessible to the disabled public. The Consultant shall provide the services specified in this Agreement in a manner that complies with the ADA and any and all other applicable federal, state and local disability rights legislation. The Consultant agrees not to discriminate against disabled persons in the provision of services, benefits or activities provided under this Agreement and further agrees that any violation of this prohibition on the part of the Consultant, its employees, agents or assigns will constitute a material breach of this Agreement.

43. EQUAL BENEFITS ORDINANCE

The Consultant shall comply with the Equal Benefits Ordinance provisions of San Francisco Administrative Code Chapter 12B. The ordinance is incorporated herein by reference as though set forth in full.

44. SUNSHINE ORDINANCE

In accordance with San Francisco Administrative Code section 67, et seq., contracts, contractors' bids, responses to requests for proposals and all other records of communications between the City and persons or firms seeking contracts shall be open to

inspection immediately after a contract has been awarded. Nothing in this provision requires the disclosure of a private person's or organization's net worth or other proprietary financial data submitted for qualification for a contract or other benefit until and unless that person or organization is awarded the contract or benefit. Information provided that is covered by this paragraph will be made available to the public upon request.

45. CONSTRUCTION

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

46. COMPLIANCE WITH LAWS

The Consultant shall keep itself fully informed of the City's Charter, codes, ordinances and regulations and of all state and federal laws in any manner affecting the performance of this Agreement, and Consultant must at all times comply with all applicable laws.

47. SOLE BENEFIT

This Agreement is intended for the sole benefit of the City and the Consultant, and is not intended to create any third-party rights or benefits.

48. EARNED INCOME CREDIT (EIC) FORMS

1. Contractor shall provide EIC Forms to each Eligible Employee at each of the following times: (i) within thirty (30) days following the date on which this Agreement becomes effective (unless Contractor has already provided such EIC Forms at least once during the calendar year in which such effective date falls); (ii) promptly after any Eligible Employee is hired by Contractor; and (iii) annually between January 1 and January 31 of each calendar year during the term of this Agreement.

2. Failure to comply with any requirement contained in subparagraph (a) of this Section shall constitute a material breach by Contractor of the terms of this Agreement. If within thirty (30) days after Contractor receives written notice of such a breach, Contractor fails to cure such breach or, if such breach cannot reasonably be cured within such period of thirty (30) days, Contractor fails to commence efforts to cure within such period or thereafter fails to diligently pursue such cure to completion, the City may pursue any rights or remedies available under this Agreement or under applicable law.
3. Any Subcontract entered into by Contractor shall require the subcontractor to comply, as to the subcontractor's Eligible Employees, with each of the terms of this Section.
4. Capitalized terms used in this Section and not defined in this Agreement shall have the meanings assigned to such terms in Section 12O of the San Francisco Administrative Code.

49. REQUIRING MINIMUM COMPENSATION FOR EMPLOYEES

Contractor agrees to comply fully with and be bound by all of the provisions of the Minimum Compensation Ordinance (MCO), as set forth in San Francisco Administrative Code Chapter 12P (Chapter 12P), including the remedies provided, and implementing guidelines and rules. The provisions of Chapter 12P are incorporated herein by reference and made a part of this Agreement as though fully set forth. The text of the MCO is available on the web at www.ci.sf.ca.us/MCO. Capitalized terms used in this Section and not defined in this Agreement shall have the meanings assigned to such terms in Chapter 12P. Consistent with the requirements of the MCO, Contractor agrees to all of the following:

1. For each hour worked by a Covered Employee during a Pay Period on work funded under the City contract during the term of this Agreement, Contractor shall provide to the Covered Employee no less than the Minimum Compensation, which includes a minimum hourly wage and compensated and uncompensated time off consistent with the requirements of the MCO. For the hourly gross compensation portion of the MCO, the Contractor shall pay \$9.00 an hour through December 31, 2001. On January 1, 2002, Contractor shall increase the hourly gross compensation to \$10.00 an hour; provided, however, that if Contractor is a Nonprofit Corporation or a public entity, it shall be required to pay the increased amount only if the City makes the finding required by Section 12P.3(a)(ii) of the San Francisco Administrative Code. If Contractor is required to increase the gross hourly compensation to \$10.00 an hour, it shall provide the 2.5% annual increase required by the MCO for each of the next three years.
2. Contractor shall not discharge, reduce in compensation, or otherwise discriminate

against any employee for complaining to the City with regard to Contractor's compliance or anticipated compliance with the requirements of the MCO, for opposing any practice proscribed by the MCO, for participating in proceedings related to the MCO, or for seeking to assert or enforce any rights under the MCO by any lawful means.

3. Contractor understands and agrees that the failure to comply with the requirements of the MCO shall constitute a material breach by Contractor of the terms of this Agreement. The City, acting through the Contracting Department, shall determine whether such a breach has occurred.
4. If, within 30 days after receiving written notice of a breach of this Agreement for violating the MCO, Contractor fails to cure such breach or, if such breach cannot reasonably be cured within such period of 30 days, Contractor fails to commence efforts to cure within such period, or thereafter fails diligently to pursue such cure to completion, the City, acting through the Contracting Department, shall have the right to pursue the following rights or remedies and any rights or remedies available under applicable law:
 - A. The right to charge Contractor an amount equal to the difference between the Minimum Compensation and any compensation actually provided to a Covered Employee, together with interest on such amount from the date payment was due at the maximum rate then permitted by law;
 - B. The right to set off all or any portion of the amount described in Subsection (d)(1) of this Section against amounts due to Contractor under this Agreement;
 - C. The right to terminate this Agreement in whole or in part;
 - D. In the event of a breach by Contractor of the covenant referred to in Subsection (b) of this Section, the right to seek reinstatement of the employee or to obtain other appropriate equitable relief; and
 - E. The right to bar Contractor from entering into future contracts with the City for three (3) years.Each of the rights provided in this Subsection (d) shall be exercisable individually or in combination with any other rights or remedies available to the City. Any amounts realized by the City pursuant to this subsection shall be paid to the Covered Employee who failed to receive the required Minimum Compensation.
5. Contractor represents and warrants that it is not an entity that was set up, or is being used, for the purpose of evading the intent of the MCO.

6. Contractor shall keep itself informed of the current requirements of the MCO, including increases to the hourly gross compensation due Covered Employees under the MCO, and shall provide prompt written notice to all Covered Employees of any increases in compensation, as well as any written communications received by the Contractor from the CITY, which communications are marked to indicate that they are to be distributed to Covered Employees.
7. Contractor shall provide reports to the City in accordance with any reporting standards promulgated by the City under the MCO, including reports on subcontractors.
8. The Contractor shall provide the City with access to pertinent records after receiving a written request from the City to do so and being provided at least five (5) business days to respond.
9. The City may conduct random audits of Contractor. Random audits shall be (i) noticed in advance in writing; (ii) limited to ascertaining whether Covered Employees are paid at least the minimum compensation required by the MCO; (iii) accomplished through an examination of pertinent records at a mutually agreed upon time and location within ten (10) days of the written notice; and (iv) limited to one audit of Contractor every two years for the duration of this Agreement. Nothing in this Agreement is intended to preclude the City from investigating any report of an alleged violation of the MCO.
10. Any subcontract entered into by Contractor shall require the subcontractor to comply with the requirements of the MCO and shall contain contractual obligations substantially the same as those set forth in this Section. A subcontract means an agreement between the Contractor and a third party which requires the third party to perform all or a portion of the services covered by this Agreement. Contractor shall notify the Department of Administrative Services when it enters into such a subcontract and shall certify to the Department of Administrative Services that it has notified the subcontractor of the obligations under the MCO and has imposed the requirements of the MCO on the subcontractor through the provisions of the subcontract. It is Contractor's obligation to ensure that any subcontractors of any tier under this Agreement comply with the requirements of the MCO. If any subcontractor under this Agreement fails to comply, City may pursue any of the remedies set forth in this Section against Contractor.
11. Each Covered Employee is a third-party beneficiary with respect to the requirements of subsections (a) and (b) of this Section, and may pursue the following remedies in the event of a breach by Contractor of subsections (a) and (b), but only after the Covered Employee has provided the notice, participated in the administrative review hearing, and

waited the 21-day period required by the MCO. Contractor understands and agrees that if the Covered Employee prevails in such action, the Covered Employee may be awarded: (1) an amount equal to the difference between the Minimum Compensation and any compensation actually provided to the Covered Employee, together with interest on such amount from the date payment was due at the maximum rate then permitted by law; (2) in the event of a breach by Contractor of subsections (a) or (b), the right to seek reinstatement or to obtain other appropriate equitable relief; and (3) in the event that the Covered Employee is the prevailing party in any legal action or proceeding against Contractor arising from this Agreement, the right to obtain all costs and expenses, including reasonable attorney's fees and disbursements, incurred by the Covered Employee. Contractor also understands that the MCO provides that if Contractor prevails in any such action, Contractor may be awarded costs and expenses, including reasonable attorney's fees and disbursements, from the Covered Employee if the court determines that the Covered Employee's action was frivolous, vexatious or otherwise an act of bad faith.

12. If Contractor is exempt from the MCO when this Agreement is executed because the cumulative amount of agreements with this department for the fiscal year is less than \$25,000 (\$50,000 for nonprofits), but Contractor later enters into an agreement or agreements that cause contractor to exceed that amount in a fiscal year, Contractor shall thereafter be required to comply with the MCO under this Agreement. This obligation arises on the effective date of the agreement that causes the cumulative amount of agreements between the Contractor and this department to exceed \$25,000 (\$50,000 for nonprofits) in the fiscal year.

50. REQUIRING HEALTH BENEFITS FOR COVERED EMPLOYEES

Unless exempt, Contractor agrees to comply fully with and be bound by all of the provisions of the Health Care Accountability Ordinance (HCAO), as set forth in San Francisco Administrative Code Chapter 12Q, including the remedies provided, and implementing regulations, as the same may be amended from time to time. The provisions of Chapter 12Q are incorporated herein by reference and made a part of this agreement as though fully set forth. The text of the HCAO is available on the web at www.ci.sf.ca.us/HCAO. Capitalized terms used in this Section and not defined in this agreement shall have the meanings assigned to such terms in Chapter 12Q.

1. For each Covered Employee, Contractor shall provide the appropriate health benefit set

forth in Section 12Q.3 of the HCAO. If Contractor chooses to offer the health plan option, such health plan shall meet the minimum standards set forth by the San Francisco Health Commission.

2. Notwithstanding the above, if the Contractor is a small business as defined in Section 12Q.3(d) of the HCAO, it shall have no obligation to comply with part (a) above.
3. Contractor's failure to comply with the HCAO shall constitute a material breach of this agreement. City shall notify Contractor if such a breach has occurred. If, within 30 days after receiving City's written notice of a breach of this Agreement for violating the HCAO, Contractor fails to cure such breach or, if such breach cannot reasonably be cured within such period of 30 days, Contractor fails to commence efforts to cure within such period, or thereafter fails diligently to pursue such cure to completion, City shall have the right to pursue the remedies set forth in 12Q.5(f)(1-5). Each of these remedies shall be exercisable individually or in combination with any other rights or remedies available to City.
4. Any Subcontract entered into by Contractor shall require the Subcontractor to comply with the requirements of the HCAO and shall contain contractual obligations substantially the same as those set forth in this Section. Contractor shall notify City's Office of Contract Administration when it enters into such a Subcontract and shall certify to the Office of Contract Administration that it has notified the Subcontractor of the obligations under the HCAO and has imposed the requirements of the HCAO on Subcontractor through the Subcontract. Each Contractor shall be responsible for its Subcontractors' compliance with this Chapter. If a Subcontractor fails to comply, the City may pursue the remedies set forth in this Section against Contractor based on the Subcontractor's failure to comply, provided that City has first provided Contractor with notice and an opportunity to obtain a cure of the violation.
5. Contractor shall not discharge, reduce in compensation, or otherwise discriminate against any employee for notifying City with regard to Contractor's compliance or anticipated compliance with the requirements of the HCAO, for opposing any practice proscribed by the HCAO, for participating in proceedings related to the HCAO, or for seeking to assert or enforce any rights under the HCAO by any lawful means.
6. Contractor represents and warrants that it is not an entity that was set up, or is being used, for the purpose of evading the intent of the HCAO.
7. Contractor shall keep itself informed of the current requirements of the HCAO.

8. Contractor shall provide reports to the City in accordance with any reporting standards promulgated by the City under the HCAO, including reports on Subcontractors and Subtenants, as applicable.
9. Contractor shall provide City with access to records pertaining to compliance with HCAO after receiving a written request from City to do so and being provided at least five business days to respond.
10. City may conduct random audits of Contractor to ascertain its compliance with HCAO. Contractor agrees to cooperate with City when it conducts such audits.
11. If Contractor is exempt from the HCAO when this Agreement is executed because its amount is less than \$25,000 (\$50,000 for nonprofits), but Contractor later enters into an agreement or agreements that cause Contractor's aggregate amount of all agreements with City to reach \$75,000, all the agreements shall be thereafter subject to the HCAO. This obligation arises on the effective date of the agreement that causes the cumulative amount of agreements between Contractor and the City to be equal to or greater than \$75,000 in the fiscal year.

51. FIRST SOURCE HIRING PROGRAM

- 1) Incorporation of Administrative Code Provisions by Reference - The provisions of Chapter 83 of the San Francisco Administrative Code are incorporated in this Section by reference and made a part of this Agreement as though fully set forth herein. Contractor shall comply fully with, and be bound by, all of the provisions that apply to this Agreement under such Chapter, including but not limited to the remedies provided therein. Capitalized terms used in this Section and not defined in this Agreement shall have the meanings assigned to such terms in Chapter 83.
- 2) First Source Hiring Agreement.
 - A) Contractor will comply with First Source interviewing, recruitment and hiring requirements, which will provide the San Francisco Workforce Development System with the exclusive opportunity to initially provide Qualified Economically Disadvantaged Individuals for consideration for employment for Entry Level Positions. The duration of the First Source interviewing requirement shall be ten (10) days, unless business necessity requires a shorter period of time.;

- B) Contractor will comply with requirements for providing timely, appropriate notification of available Entry Level Positions to the San Francisco Workforce Development System so that the System may train and refer an adequate pool of Qualified Economically Disadvantaged Individuals to participating Employers;
 - C) Contractor agrees to use good faith efforts to comply with the First Source hiring requirements. A Contractor may establish its good faith efforts by filling: 1) its first available Entry Level Position with a job applicant referred through the First Source Program; and, 2) fifty percent (50%) of its subsequent available Entry Level Positions with job applicants referred through the San Francisco Workforce Development System. Failure to meet this target, while not imputing bad faith, may result in a review of the Contractor's employment records.
- 3) Hiring Decisions. - Contractor shall make the final determination of whether an Economically Disadvantaged Individual referred by the System is "qualified" for the position.
 - 4) Exceptions - Upon application by Employer, the First Source Hiring Administration may grant an exception to any or all of the requirements of Chapter 83 in any situation where it concludes that compliance with this Chapter would cause economic hardship.
 - 5) Liquidated Damages- Violation of the requirements of Chapter 83 is subject to an assessment of liquidated damages in the amount of \$2,070 for every new hire for an Entry Level Position improperly withheld from the first source hiring process. The assessment of liquidated damages and the evaluation of any defenses or mitigating factors shall be made by the FSHA.
 - 6) Subcontracts - Any subcontract entered into by Contractor shall require the subcontractor to comply with the requirements of Chapter 83 and shall contain contractual obligations substantially the same as those set forth in this Section.

52. PROHIBITION ON POLITICAL ACTIVITY WITH CITY FUNDS

In accordance with San Francisco Administrative Code Chapter 12.G, Contractor may not participate in, support, or attempt to influence any political campaign for a candidate or for a ballot measure (collectively, "Political Activity") in the performance of the services provided under this Agreement. Contractor agrees to comply with San Francisco Administrative Code Chapter 12.G and any implementing rules and regulations promulgated by the City's Controller. The terms and provisions of Chapter 12.G are incorporated herein by this

reference. In the event Contractor violates the provisions of this section, the City may, in addition to any other rights or remedies available hereunder, (i) terminate this Agreement, and (ii) prohibit Contractor from bidding on or receiving any new City contract for a period of two (2) years. Funds paid to Contractor for services performed hereunder and which were not for a Political Activity, are not subject to the restrictions of San Francisco Administrative Code Chapter 12.G.

53. PRESERVATIVE-TREATED WOOD CONTAINING ARSENIC

As of July 1, 2003, Contractor may not purchase preservative-treated wood products containing arsenic in the performance of this Agreement unless an exemption from the requirements of Chapter 21G is obtained from the Department of Environment under Section 21G.5 of the Administrative Code. The term "preservative-treated wood containing arsenic" shall mean wood treated with a preservative that contains arsenic, elemental arsenic, or an arsenic copper combination, including, but not limited to, chromated copper arsenate preservative, ammoniacal copper zinc arsenate preservative, or ammoniacal copper arsenate preservative. Contractor may purchase preservative-treated wood products on the list of environmentally preferable alternatives prepared and adopted by the Department of the Environment. This provision does not preclude Contractor from purchasing preservative-treated wood containing arsenic for saltwater immersion. The term "saltwater immersion" shall mean a pressure-treated wood that is used for construction purposes or facilities that are partially or totally immersed in saltwater.

54. 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.

55. PUBLIC ACCESS TO MEETINGS AND RECORDS

If the Consultant receives a cumulative total per year of at least \$250,000 in City funds or City-administered funds and is a non-profit organization as defined in Chapter 12L of the S.F. Administrative Code, Consultant shall comply with and be bound by all the applicable provisions of that Chapter. By executing this Agreement, the Consultant agrees to open its meetings and records to the public in the manner set forth in §§12L.4 and 12L.5 of the Administrative Code. Consultant further agrees to make-good faith efforts to promote community membership on its Board of Directors in the manner set forth in §12L.6 of the

Administrative Code. The Consultant acknowledges that its material failure to comply with any of the provisions of this paragraph shall constitute a material breach of this Agreement. The Consultant further acknowledges that such material breach of the Agreement shall be grounds for the City to terminate and/or not renew the Agreement, partially or in its entirety.

56. NOTIFICATION OF LIMITATIONS ON CONTRIBUTIONS

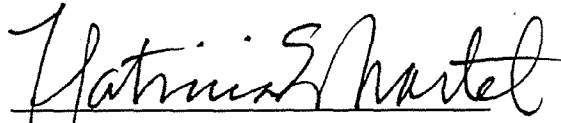
This paragraph applies if this contract is in excess of \$50,000 over a 12-month period or less and is for: (1) personal services; or (2) the selling or furnishing of any material, supplies or equipment; or (3) any combination of personal services and the selling or furnishing of any material, supplies or equipment. San Francisco Campaign and Governmental Conduct Code (the "Conduct Code") Section 3.700 *et. seq.*, and San Francisco Ethics Commission Regulations 3.710(a)-1 – 3.730-1, prohibit the public officials who approved this contract from receiving: (1) gifts, honoraria, emoluments or pecuniary benefits of a value in excess of \$50; (2) any employment for compensation; or (3) any campaign contributions for any elective office for a period of up to six years from individuals and entities who are "public benefit recipients" of the contract. Public benefit recipients of the contract are: (1) the individual, corporation, firm, partnership, association, or other person or entity that is a party to the contract; (2) an individual or entity that has a direct 10% equity, or direct 10% participation, or direct 10% revenue interest in that party at the time the public benefit is awarded; or (3) an individual who is a trustee, director, partner or officer of the contracting party at the time the public benefit is awarded.

Consultant understands that any public official who approved this contract may not accept campaign contributions, gifts, or future employment from Consultant except as provided under the Conduct Code. Consultant agrees to notify any other individuals or entities that may be deemed "public benefit recipients" under the Conduct Code because of this contract. Upon request, Consultant agrees to furnish, before this contract is entered into, such information as any public official approving this contract may require in order to ensure such official's compliance with the Conduct Code. Upon request, the City agrees to provide, before this contract is entered into, Consultant with a list of public officials who, under the Conduct Code, approved this contract. Failure of any public official who approved this contract to abide by the Conduct Code shall not constitute a breach by either the City or Consultant of this contract. Notwithstanding anything to the contrary in this contract, neither party shall have the right to terminate the contract due to any failure by the other party to provide the information described in this paragraph.

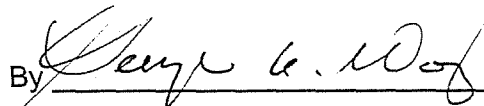
Dated at San Francisco, California, this _____ day of _____, 2003.

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


CITY
RECOMMENDED BY:


Patricia E. Martel
General Manager
San Francisco Public Utilities Commission

APPROVED AS TO FORM:
Dennis J. Herrera
City Attorney

By 
Deputy City Attorney


APPROVED:


Judith A. Blackwell
Director, Office of Contract Administration

CONTRACTOR

By signing this Agreement, I certify that I comply with the requirements of the Minimum Compensation Ordinance, which entitle Covered Employees to certain minimum hourly wages and compensated and uncompensated time off.

I have read and understood paragraph 26, the City's statement urging companies doing business in Northern Ireland to move towards resolving employment inequities, encouraging compliance with the MacBride Principles, and urging San Francisco companies to do business with corporations that abide by the MacBride Principles.


Authorized Signature

Guilaine Roussel
Printed Name

SENIOR VICE PRESIDENT
Title

URS CORPORATION
Company Name

221 MAIN STREET, SUITE 600
Address

SAN FRANCISCO, CA 94105-1917
City, State, ZIP

(510) 874-3163
Phone Number

94-1716908
Federal Employer ID Number

Attachment No. 1
Calculation of Charges

**Calaveras Dam Conceptual Engineering
Agreement No. CS-716**

**Attachment 1
Calculation of Charges**

The consultant shall submit, in detail, proposed costs and fees for requested task(s). The consultant will be required to define the detailed scope for the task under this agreement. All costs associated with the development of the scope of work shall be borne by the Consultant.

Eligibility of project costs, direct and overhead, will be determined per the Code of Federal Acquisition Regulations (FAR)—Title 48, Volume I, Parts 1-51 and other appropriate financial standards.

1. Fees:

- Direct Labor is limited to actual salaries of project personnel
- Direct fee shall be 10% or less
- Total compensation multiplier not-to-exceed 3.0

2. Maximum Billing Rates:

- Maximum hourly compensation shall not exceed \$160/hour, which may be adjusted annually in accordance with Section 7. Exceptions to this rate will be considered on a case-by-case basis and subject to written pre-authorization by the SFPUC Project Manager and Bureau/Division Manager.
- Hourly billing rates shall be calculated as follows by multiplying the actual hourly salary rate of an employee by the multiplier, which includes all the rates for direct rate, overhead (including other direct and miscellaneous costs), salary burden, fringe benefits and profit.
- Clerical and administrative costs shall be included as part of the overhead rate. The only exception to this provision shall be clerical and administrative time utilized in the production of a specific deliverable.

Prime Consultant Personnel	Classification	Actual Hourly Rate	Overhead Rate	Total Compensation Multiplier	Billing Rate
URS Corporation					
Noel Wong	Principal / Proj. Mngr.	69.96	1.56	2.82	197.29
Mike Forrest	Sr. Consultant	58.50	1.56	2.82	164.97
Mark Schmoll	Consultant	49.10	1.56	2.82	138.46
Greg Reichert	Sr. Consultant	56.62	1.56	2.82	159.67
Steve Ritchie	Principal	70.90	1.56	2.82	199.94
John Bischoff	Principal	103.50	1.56	2.82	291.87
Denise Heick	Sr. Consultant	64.50	1.56	2.82	181.89
Lelio Mejia	Sr. Consultant	70.86	1.56	2.82	199.83
Gil Lawton	Sr. Consultant	51.42	1.56	2.82	145.00
David Hughes	Sr. Project Engineer	44.94	1.56	2.82	126.73
Ted Feldsher	Sr. Project Engineer	41.00	1.56	2.82	115.62
John Roadifer	Sr. Project Engineer	37.36	1.56	2.82	105.36
M. Tabatabaie	Sr. Consultant	55.28	1.56	2.82	155.89
Phil Respass	Sr. Project Geologist	34.68	1.56	2.82	97.80
Tom Kolbe	Sr. Project Geologist	34.10	1.56	2.82	96.16
Ray Rice	Sr. Consultant	65.00	1.56	2.82	183.30
S. Salah-Mars	Sr. Consultant	57.90	1.56	2.82	163.28
Dario Rosidi	Sr. Project Engineer	44.12	1.56	2.82	124.42

Robert Green	Sr. Consultant	49.32	1.56	2.82	139.08
Ivan Wong	Sr. Consultant	53.26	1.56	2.82	150.19
Clark Fenton	Sr. Project Professional	35.14	1.56	2.82	99.09
T. MacDonald	Sr. Consultant	58.48	1.56	2.82	164.91
S. Ekanayake	Project Engineer	36.26	1.56	2.82	102.25
Anne Connell	Consultant	50.00	1.56	2.82	141.00
M. Czarnecki	Principal	84.22	1.56	2.82	237.50
Dave Harder	Sr. Consultant	57.70	1.56	2.82	162.71
Tracy Johnson	Consultant	51.44	1.56	2.82	145.06
Tom Sweet	Consultant	52.00	1.56	2.82	146.64
George Chiu	Sr. Project Engineer	40.86	1.56	2.82	115.23
Chris Mueller	Sr. Consultant	56.74	1.56	2.82	160.01
Galen Nagle	Consultant	44.24	1.56	2.82	124.76
Dan Drew	Sr. Project Engineer	44.24	1.56	2.82	124.76
Ken Eichstaedt	Consultant	50.50	1.56	2.82	142.41
S. Bertolucci	Sr. Project Engineer	42.50	1.56	2.82	119.85
Lee Gerbig	Sr. Consultant	55.00	1.56	2.82	155.10
Bob Heinen	Sr. Consultant	56.02	1.56	2.82	157.98
Seth Gentzler	Project Engineer	34.56	1.56	2.82	97.46
John Paxton	Sr. Project Engineer	39.65	1.56	2.82	111.81
Shel Coudray	Sr. Consultant	55.00	1.56	2.82	155.10
Roy Watts	Sr. Project Engineer	35.84	1.56	2.82	101.07
C. Horowitz	Project Engineer	31.90	1.56	2.82	89.96
Doug Wright	Project Scientist	34.04	1.56	2.82	95.99
Steve Leach	Consultant	45.82	1.56	2.82	129.21
Sean Dexter	Scientist	27.24	1.56	2.82	76.82
Sal Todaro	Consultant	48.40	1.56	2.82	136.49
Tim Volz	Sr. Consultant	61.54	1.56	2.82	173.54
Des Garner	Consultant	52.56	1.56	2.82	148.22
Lois Autie	Sr. Project Engineer	42.72	1.56	2.82	120.47
D. Hirsch	Project Scientist	32.56	1.56	2.82	91.82
	Consultant	49.60	1.56	2.82	139.87
	Sr. Project Professional	44.64	1.56	2.82	125.88
	Project Professional	42.51	1.56	2.82	119.88
	Staff Professional	36.80	1.56	2.82	103.78
	Engineer / Scientist	30.82	1.56	2.82	86.91
	CAD	24.80	1.56	2.82	69.94
	Tech. Typist / Proj. Ad.	22.67	1.56	2.82	63.93

Subconsultant Personnel	Classification	Actual Hourly Rate ¹	Overhead Rate ²	Total Compensation Multiplier	Billing Rate ³
Camp Dresser & Mckee Inc.					
C. Von Bargaen	Vice President	71.94	1.784	3.06	220
Jon Toyoda	Vice President	71.68	1.784	3.06	220
Polly Boissevain	Principal	50.47	1.784	3.06	155
W. J. Moncrief	Senior Engineer	55.54	1.784	3.06	170
Ernest Sturtz	Associate	50.87	1.784	3.06	156
Paul Giorsetto	Vice President	61.21	1.784	3.06	187
Phillippe Daniel	Vice President	67.55	1.784	3.06	207
Paul Meyerhoff	Senior Vice President	80.00	1.784	3.06	245
Paul Brown	Senior Vice President	80.00	1.784	3.06	245
	Senior Engr./Scientist	50.00	1.784	3.06	153
	Engr./Scientist	45.00	1.784	3.06	138
	Staff Engr./Scientist	35.00	1.784	3.06	107
	Draftsperson/Designer/Technician	45.00	1.784	3.06	138
	Contract Administrator	30.00	1.784	3.06	92
	Word Processor	30.00	1.784	3.06	92
	Administrative Assistant	35.00	1.784	3.06	107
	Clerk	20.00	1.784	3.06	61
Subconsultant Personnel	Classification	Actual Hourly Rate	Overhead Rate	Total Compensation Multiplier	Billing Rate
Dan B.Steiner Consulting Engineer					
Dan B.Steiner	Consulting Engineer	135.00			135.00
Subconsultant Personnel	Classification	Actual Hourly Rate	Overhead Rate	Total Compensation Multiplier	Billing Rate
Engineering/Remediation Resources Inc.					
Cynthia Liu	Principal	48.56	1.73	3.0	146.00
	Sr. Project Engineer	37.01	1.73	3.0	111.00
	Project Manager	42.19	1.73	3.0	127.00
	Word Processor	16.24	1.73	3.0	49.00
	CADD Operator	23.10	1.73	3.0	69.00

¹ For general categories, hourly rates shown are representative only, actual hourly rates will be used for calculation of Billing Rates.

² CDM's actual FAR Overhead Rate is 1.784. CDM is currently negotiating with SFPUC for rates on another contract, and will use those approved rates for this contract. With 10% fee, the Total Compensation Multiplier is 3.06

³ It is assumed that the rates for the identified key CDM staff are not capped at a maximum hourly compensation rate. The full billing rates are indicated.

Subconsultant Personnel	Classification	Actual Hourly Rate	Overhead Rate	Total Compensation Multiplier	Billing Rate
ENTRIX					
Tom Taylor	Sr. Consultant 2	50.00	1.7659	3.0	150.00
	Sr. Mgmt. Consultant	77.87	1.7659	capped	160.00
	Sr. Consultant 2	61.90	1.7659	capped	160.00
	Sr. Consultant 1	56.38	1.7659	capped	160.00
	Sr. Project Scientist	40.69	1.7659	3.0	122.07
	Project Scientist/Engr	32.22	1.7659	3.0	96.66
	Sr. Staff Scientist	23.89	1.7659	3.0	71.67
	Staff Scientist	20.38	1.7659	3.0	61.14
	Asst. Staff Scientist	17.00	1.7659	3.0	51.00
	Project Assistant	17.50	1.7659	3.0	52.50
	Technical Editor	35.58	1.7659	3.0	106.47
	Computer Specialist	19.79	1.7659	3.0	59.37
	Project Coordinator	21.98	1.7659	3.0	65.94
Subconsultant Personnel	Classification	Actual Hourly Rate	Overhead Rate	Total Compensation Multiplier	Billing Rate
Hydroconsult Engineers, Inc.					
Beth Goldstein	Principal II	55.00	--	--	126.00
M. Hannaford	Principal I	65.00	--	--	149.00
	Administrative	27.00	--	--	55.00
	Senior Engineer	65.00	--	--	115.00
Subconsultant Personnel	Classification	Actual Hourly Rate	Overhead Rate	Total Compensation Multiplier	Billing Rate
Merritt Smith Consulting					
Dave Smith	Principal	54.80	1.656	2.92	160.00
Michael Deas	Senior Scientist	49.67	1.656	2.92	145.00
A. Merritt-Smith	Principal	54.80	1.656	2.92	160.00
Subconsultant Personnel	Classification	Actual Hourly Rate	Overhead Rate	Total Compensation Multiplier	Billing Rate
Mike Gazit Consulting Engineer					
Mike Gazit	Consulting Engineer	110.00	--	--	110.00
Subconsultant Personnel	Classification	Actual Hourly Rate	Overhead Rate	Total Compensation Multiplier	Billing Rate
Robert Y. Chew Geotechnical, Inc.					
Robert Chew	Principal Engineer				130.00
	Sr. Engr/Geologist				110.00
	Proj. Engr/Geologist				85.00
	Staff Engr/Geologist				75.00
	Tech. Illustrator				60.00
	Word Processor				60.00

CS-716

Attachment 1

Page 4 of 4

Subconsultant Personnel	Classification	Actual Hourly Rate	Overhead Rate	Total Compensation Multiplier	Billing Rate
Telamon Engineering Consultants, Inc.					
Mennor Chan	Principal	45.00	1.80	3.00	135.00
	Project Manager	40.00	1.80	3.00	120.00
	Project Engineer	30.00	1.80	3.00	90.00
	Engineer	27.00	1.80	3.00	81.00
	Drafter/Mapping CAD	24.00	1.80	3.00	72.00
	Admin/Accounting	24.00	1.80	3.00	72.00
	Clerical	11.00	1.80	3.00	33.00
E. A. Oehlert	Survey Party Chief	30.00	1.80	3.00	90.00
	Surveyor (2-m crew)	58.50	1.80	3.00	175.00
Subconsultant Personnel	Classification	Actual Hourly Rate	Overhead Rate	Total Compensation Multiplier	Billing Rate
William Lettis & Associates, Inc.					
William Lettis	Principal	72.43	2.6614	2.9275	175.00
Keith Kelson	Principal	58.61	2.6614	2.9275	160.00
Jeff Unruh	Principal	53.08	2.6614	2.9275	155.39
	Principal	55.43	2.6614	2.9275	160.00
	Senior Geologist	45.89	2.6614	2.9275	134.34
	Project Geologist	33.17	2.6614	2.9275	97.11
	Sr. Staff Geologist	26.54	2.6614	2.9275	77.70
	Staff Geologist	24.33	2.6614	2.9275	71.22
	Technician	14.09	2.6614	2.9275	41.25
	Graphics/CAD	25.99	2.6614	2.9275	76.08
	Technical Typist	30.41	2.6614	2.9275	68.00
Subconsultant Personnel	Classification	Actual Hourly Rate	Overhead Rate	Total Compensation Multiplier	Billing Rate
YEI Engineers, Inc.					
Patrick Mallilin	Lead Mech Engr	45.00	1.59	2.85	128.25
Dennis Dias	Lead Elec Engr	48.89	1.59	2.85	139.34
	Principal	54.23	1.59	2.85	154.56
	Sr. Elec/Mech Engr	34.00	1.59	2.85	96.90
	Elec/Mech Engr	28.15	1.59	2.85	80.23
	Sr. CADD Designer	22.59	1.59	2.85	64.38
	CADD Operator	17.83	1.59	2.85	50.82
	Project Administrator	25.53	1.59	2.85	72.76
	Admin. Assistant	18.78	1.59	2.85	53.52

3. **Staff Changes:** The SFPUC Project Manager must approve the assignment of staff prior to beginning a task order as well as any staff changes proposed by Consultant. The SFPUC Project Manager can also request the replacement or removal of team members at his/her discretion.
4. **Additional Subcontractors:** Second-tier and pass-through subcontracting is prohibited. However, in the event that the prime contractor and its approved subcontractors lack the necessary skills or expertise to perform requested services that are within the scope of the contract, additional subcontractors may be added

to the contractor team. In such circumstances, the SFPUC or HRC Compliance Officer may suggest firms capable of performing the work and submit a proposal to the contractor.

5. **Other Direct Costs (ODC):**

All ODCs are subject to pre-approval in writing by the SFPUC Project Manager and Bureau/Division Manager.

- ODCs are limited to out-of-town travel (outside nine Bay Area counties), specialty printing, use of specialty computer hardware, software and project equipment not provided by the SFPUC.
- Vehicle mileage within the San Francisco Bay Area may be reimbursed at .365 cents per mile for travel from consultant's home office to SFPUC facilities only. Standard commute costs are not reimbursable.
- ODCs shall not include any labor charges or *pass-throughs*, with the exception of subcontracting for *non-professional services* required for field investigations, preparation of topographic surveys, and other non-professional services as approved by the SFPUC.
- ODCs shall not include labor or costs that should be included in the firm's overhead (e.g. telephone calls and faxes originating in the firm's home office, standard computer use charges, computer hardware or software, communication devices, electronic equipment, etc.)
- Meals including refreshments and working lunches with SFPUC staff will not be reimbursed.
- No equipment to be used by SFPUC staff will be purchased through this Agreement. Any equipment purchased to be used by Contractor or its subcontractors will not be directly charged to this Agreement. Such purchases will be included in the appropriate firm's overhead.
- All ODCs will be reimbursed at actual cost--no mark up shall be included.

6. **Subconsultant Fees:**

- Subject to above restrictions
- Shall be subject to written pre-approval by the SFPUC Project Manager
- Subconsultant administration markup is limited to actual cost not to exceed 5%

7. **Direct Labor Rates:** Direct labor payroll rates can be adjusted annually. The amount of the adjustment will be limited to a maximum of the CPI (San Francisco Bay Area for wages) for the previous year. Adjustments for individual Consultant employees may exceed the maximum provided that the total adjustment dollars for Consultant employees dedicated to this contract does not exceed the maximum dollars based on the total direct salary paid on the contract for the previous year plus the CPI. Any adjustment would be made once per year and the first adjustment shall not be made any earlier than six months after the execution of this Agreement.
8. **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 Consultant may request that the retention be released. In lieu of money retention, an irrevocable letter of credit acceptable to the City will be accepted.
9. **Relocation Costs:** The SFPUC will not pay relocation costs for Consultant staff assigned to the contract on a full-time or on-going basis. During the project, if staff with special skills is needed for specific tasks and those skills are not available from Consultant staff in the San Francisco Bay Area, travel and temporary housing costs may be charged to the contract if those charges are pre-approved by the SFPUC. Any travel and temporary housing costs will be reimbursed at cost or the Federal Government's CONUS standards, whichever is lower.
10. **Invoice Requirements:** The consultant shall submit one original invoice package with the appropriate HRC reporting forms and supporting documentation to substantiate the time, mileage and Other Direct Costs for the prime and subconsultants. A standard invoice format shall be developed by the consultant anticipating project complexity and used thereafter. Each invoice must be with an HRC form seven (7) to identify the participation and amount payable to the subconsultants. Timesheets, cards or logs must include a brief description of when and what work was performed memorializing the day's progress. Mileage logs must

include the beginning and ending mileage to substantiate the variable portal-to-portal distance and local driving required while performing the work. Any "Other Direct Costs" must be substantiated with receipts including a brief description for each receipt memorializing the purpose. Complete invoice packages should be sent directly to the SFPUC Project Manager.

HRC form nine (9) must be sent to the Project Manager within ten (10) days of receiving payment for each invoice to document the subcontractor's payment by the prime contractor.

HRC form eight (8) must be sent to the Project Manager with the final invoice for each task order to authenticate the total subcontractor participation and close out the Purchase Order Release.

11. **Audit:** All costs submitted for payment by Consultant are subject to audit.

Calaveras Dam CER, CS-716
Estimated Hours for Staff Proposed to be Excluded from the Billing Rate Cap

Personnel	Classification	Actual Hourly Rate	Overhead Rate	Total Compensation Multiplier	Billing Rate	Estimated Hours*	Roles	Area of Expertise
URS Corporation								
Noel Wong	Principal / Proj. Mngr.	69.96	1.56	2.82	197.29	1,600	Project Manager	Dam Engineering
Mike Forrest	Senior Consultant	58.50	1.56	2.82	164.97	1,100	Engineering Manager	Dam Engineering
Steve Ritchie	Principal	70.90	1.56	2.82	199.94	100	Principal-in-Charge	Water Resources
John Bischoff	Principal	103.50	1.56	2.82	291.87	40	QA Officer	Dam Engineering
Denise Heick	Senior Consultant	64.50	1.56	2.82	181.89	240	Environmental Liaison	CEQA Compliance
Lelio Mejia	Principal	70.86	1.56	2.82	199.83	80	Discipline Leader/QA	Geotechnical Engineering
Ray Rice	Senior Consultant	65.00	1.56	2.82	183.30	16	Peer Review	Engineering Geology
Said Salah-Mars	Senior Consultant	57.90	1.56	2.82	163.28	80	Discipline Leader/QA	Earthquake Engineering
Tom MacDonald	Senior Consultant	58.48	1.56	2.82	164.91	40	Discipline Leader/QA	Hydrology & Hydraulics
Marty Czarnecki	Principal	84.22	1.56	2.82	237.50	16	Peer Review	Structural Engineering
Dave Harder	Senior Consultant	57.70	1.56	2.82	162.71	24	Peer Review	Hydraulic Structures
Chris Mueller	Senior Consultant	56.74	1.56	2.82	160.01	24	Discipline Leader/QA	Tunnel Engineering
Tim Volz	Senior Consultant	61.54	1.56	2.82	173.54	16	Peer Review	Pipelines
Camp Dresser & Mckee Inc.								
C. Von Bargaen	Vice President	71.94	1.784	3.06	220.00	850	Task Leader	System Operations
Jon Toyoda	Vice President	71.68	1.784	3.06	220.00		Task Leader	Conveyance & PP
Phillippe Daniel	Vice President	67.55	1.784	3.06	207.00		Discipline Leader/QA	Water Quality/Treatment
W. J. Moncrief	Senior Engineer	55.54	1.784	3.06	170.00	120	Senior Engineer	Pipelines
Paul Giorsetto	Vice President	61.21	1.784	3.06	187.00	80	Discipline Leader/QA	Instrumentation & Control
Paul Meyerhofer	Senior Vice President	80.00	1.784	3.06	245.00	80	Peer Review	Water Resources
Paul Brown	Senior Vice President	80.00	1.784	3.06	245.00		Task Leader	Decision Support
William Lettis & Associates, Inc.								
William Lettis	Principal	72.43	2.6614	2.9275	175.00	160	Discipline Leader/QA	Seismic Hazards
* Estimated hours for basic tasks only, excluding optional and ancillary tasks, for an individual or a group of individuals combined .								

Attachment No. 2
Service to be Provided

Calaveras Dam Conceptual Engineering
Agreement No. CS-716

Attachment 2
Services to be Provided

Calaveras Dam Conceptual Engineering
Agreement No. CS-716

The work under this Agreement consists of providing professional engineering services for the Conceptual Design phase of the Calaveras Dam Project, which will evaluate the alternatives to repair the existing Calaveras Dam or replace the dam with one of equal or enlarged capacity.

During this phase the alternatives identified during Preliminary Engineering will be further developed, evaluated, and conceptual level designs, cost estimates, construction schedules will be prepared, and a preferred alternative will be recommended.

The conceptual engineering phase will evaluate the dam (including geotechnical conditions of the proposed dam sites), spillway, outlet works, water conveyance facilities, road and utility relocation, and decommissioning of existing dam and appurtenant works, if necessary.

SFPUC engineering staff will have a significant role in the conceptual engineering studies for the conveyance facilities, road, and utility relocation work (Tasks 10 and 12), and will assume the lead for the detailed design of these facilities during detailed design.

There will be several projects that will occur concurrent with the Calaveras Dam Project. These projects include: Alameda Creek Fisheries, Sunol Quarries, Alameda Creek Release Valve, Sunol WTP Expansion, and Sunol Treated Water Reservoir. Effective coordination with SFPUC staff by the Consultant is expected which will be critical to the success of all of the projects.

In addition, active involvement of SFPUC staff throughout the project will be critical to promoting cooperation, and ultimately getting buy-in on recommended alternatives. As part of the work activities for each task, it is expected that the Consultant will conduct topic-specific meetings/workshops with smaller subgroups of the SFPUC project team (Operations, Planning, Engineering, etc) to discuss and resolve operations, maintenance and technical issues. Such meetings/workshops will be carried out in addition to the planned review meetings with the SFPUC management team, Calaveras Advisory Panel and the Division of Safety of Dams (as shown in Attachment 4 - Preliminary Project Schedule and discussed under Tasks 15 and 16),

Furthermore, an integral component of the Conceptual Design phase is the requirement that the Consultant will provide training to the SFPUC's engineering staff (Task 21). The primary goal of the training program is to provide opportunities for increasing the knowledge of the SFPUC's engineering staff in areas of planning, design, construction management and operations of a dam project. It is expected that upon completion of this phase of the project, the SFPUC's engineering staff will gain an in-depth knowledge of the Consultant's work on Calaveras Dam, and be thoroughly prepared to manage the next phase of the project.

The contract duration for this Agreement will be four (4) years. As indicated in Attachment 4 - Preliminary Project Schedule, the majority of the tasks are to be completed in the first eighteen (18) months, so that the environmental documentation phase can begin. For the remaining thirty (30) months of the contract, the Consultant will provide engineering support during the environmental documentation phase (Task 17).

Attachment 2
Services to be Provided

SFPUC staff will assemble a Calaveras Advisory Panel comprised of technical experts in dam planning, design, construction, geotechnical engineering, and other fields related to dam design and operation, to provide an independent review of project approach, recommendations, and other project deliverables prepared by the Consultant for Conceptual Engineering, and advise the SFPUC General Manager, staff, and the Commission as to the validity and appropriateness of those recommendations for meeting project objectives. The participation of the Calaveras Advisory Panel would be at the direction of the SFPUC.

Attachment 2
Services to be Provided

TABLE OF CONTENTS

TASK 1	BACKGROUND INFORMATION.....	5
	Task 1.1 Review of Background Information.....	5
	Task 1.2 Review of Seismic Stability Report with Respect to Interim Operating Reservoir Level.....	5
	Task 1.3 Reanalysis of Interim Operating Reservoir Level (Optional).....	6
TASK 2	DEVELOPMENT OF PROJECT OBJECTIVES AND GENERAL EVALUATION CRITERIA.....	6
TASK 3	ENVIRONMENTAL CLEARANCE FOR FIELD INVESTIGATION WORK PLAN.....	8
TASK 4	DAM FOUNDATION AND RELATED GEOTECHNICAL INVESTIGATIONS.....	10
	Task 4.1 Work Plan.....	10
	Task 4.2 Topographical Maps.....	11
	Task 4.3 Geotechnical Investigations.....	12
	Task 4.4 Foundation Geotechnical Data Reports.....	13
Task 5	BORROW SOURCE EVALUATIONS.....	13
	Task 5.1 Geotechnical Investigations.....	13
	Task 5.2 Hazardous Waste Evaluation.....	14
	Task 5.3 Commercial Materials Source Assessment.....	15
	Task 5.4 Borrow Materials Geotechnical Data Report.....	15
TASK 6	FAULT INVESTIGATIONS.....	16
	Task 6.1 Fault Rupture And Hazard Identification.....	16
	Task 6.2 Fault Rupture And Hazard Characterization.....	16
	Task 6.3 Seismic Source Characterization And Ground Motion Assessment.....	17
	Task 6.4 Selected Dam Site Investigations (Optional).....	18
TASK 7	HYDROLOGY AND HYDRAULICS STUDIES.....	18
TASK 8	ENVIRONMENTAL CONSIDERATIONS.....	20
TASK 9	DEVELOPMENT OF CONCEPTUAL-LEVEL DAM ALTERNATIVES.....	22
	Task 9.1 Repair Existing Dam Concept.....	22
	Task 9.2 Replacement Dam Concept.....	23
	Task 9.3 Evaluation Of Dam Concepts.....	24
TASK 10	CONVEYANCE FACILITIES.....	25
	Task 10.1 Conditions and Needs Planning Assessment.....	25

Attachment 2
Services to be Provided

Task 10.2	Engineering Work Plan.....	28
Task 10.3	Coordination with SFPUC.....	29
Task 10.4	Conceptual Engineering Report (CER)—Conveyance.....	30
TASK 11	OPERATION OF RESERVOIR DURING CONSTRUCTION.....	32
Task 11.1	Operation of Reservoir During Construction.....	32
Task 11.2	Operation of Reservoir Prior to Construction – Reservoir Water Quality & Habitat Management.....	33
Task 11.3	Alternatives to Improve Water Supply Availability.....	34
Task 11.4	Emergency Action Plan Update (Optional).....	35
TASK 12	ROAD AND UTILITY RELOCATION.....	35
Task 12.1	Conditions and Needs Planning Assessment.....	35
Task 12.2	Engineering Work Plan.....	36
Task 12.3	Coordination with SFPUC.....	37
Task 12.4	Conceptual Engineering Report (CER)—Road and Utility Relocation.....	37
TASK 13	DEVELOPMENT OF COST ESTIMATES AND SCHEDULES.....	38
TASK 14	DEVELOPMENT OF CONCEPTUAL ENGINEERING REPORT.....	39
TASK 15	DESIGN REVIEW MEETINGS/WORKSHOPS WITH SFPUC AND DSOD.....	40
Task 15.1	Review Meetings with SFPUC.....	40
Task 15.2	Review Meetings with DSOD.....	40
TASK 16	CALAVERAS ADVISORY PANEL MEETINGS.....	41
TASK 17	ENGINEERING SUPPORT DURING PREPARATION OF ENVIRONMENTAL DOCUMENTS AND PERMIT APPLICATIONS.....	42
TASK 18	PUBLIC OUTREACH.....	42
TASK 19	PROJECT MANAGEMENT AND MEETINGS WITH SFPUC.....	43
TASK 20	ADDITIONAL TECHNICAL SERVICES (As-Needed).....	44
TASK 21	SFPUC GED STAFF TRAINING PROGRAM.....	44

Attachment 2
Services to be Provided

TASK 1 BACKGROUND INFORMATION

Task 1.1 Review of Background Information

Under this task, the Consultant will review historical project background information to confirm completeness of the scope of work, and identify available information so as not to duplicate efforts or data.

Approach

- Complete a compendium of available information and log the information to a master index that will be continually updated as new information becomes available. The index of information will be available on a website.
- Set up a “project library” that will be central point for all existing information and which will be updated with new information as the project progresses. This library would be accessible to SFPUC and other project consultants.

Assumptions

- SFPUC will provide Consultant with copies of all relevant documents, maps, photographs available within SFPUC and/or other consultants working for SFPUC.

Deliverables¹

- Report on critical historical background information to confirm the completeness of the scope of work for the RFP. This report will include a master index of information.

Task 1.2 Review of Seismic Stability Report with Respect to Interim Operating Reservoir Level

Under this task, the Consultant will review the Final Olivia Chen Consultant's (OCC) Seismic Stability Report to assess the reasonableness of the interim operating reservoir level, and if additional analyses are required to address any significant unresolved issues presented in the Peer Review Technical Memorandum in the Contingency Action Plan.

Approach

- Review the Final OCC Report to assess the reasonableness of the interim operating reservoir level, specifically with regard to the comments presented in the Peer Review Technical Memorandum in the Contingency Action Plan.

¹ General notes on Deliverables for all tasks:

- a) Unless specifically stated otherwise, Consultant will provide 20 hard copies and one electronic copy on a CD for each draft and final deliverable.
- b) Consultant will submit one draft and one final version of each deliverable unless specifically stated otherwise.
- c) SFPUC will consolidate and provide Consultant with all review comments of draft submittals in a summary table format.

Attachment 2 Services to be Provided

- Evaluate the need to perform additional analyses to confirm or revise the interim operating reservoir level.
- Identify the work and the associated costs and time that would be needed to perform the reanalysis to assess a new interim operating reservoir level, if needed.
- Communicate the results of our review with SFPUC, the Calaveras Advisory Panel, and DSOD.

Assumptions

- If the computer input or output files of the original analyses are required, SFPUC will collect such data from OCC.

Deliverables

The deliverables will include a short memorandum on Consultant's review of Final OCC Report on the analysis of the existing Calaveras Dam, specifically with regard to the interim operating reservoir level and comments presented in the Peer Review Technical Memorandum, and recommendations regarding the need for additional analyses.

Task 1.3 Reanalysis of Interim Operating Reservoir Level (Optional)

Under this task, the Consultant will conduct reanalysis of interim operating reservoir Level if the review of the Final OCC Report demonstrated that the interim operating level might be increased, and if SFPUC, Calaveras Advisory Panel and DSOD agree that the reanalysis is justified.

Approach

- Characterize material properties of the existing dam for use in reanalysis. If needed, adjust assumptions and/or parameters used in previous analyses.
- Perform dynamic response and deformation analyses based on an approach and methodology (and revised assumptions and parameters) that are acceptable to DSOD.

Assumptions

- The final scope of work, budget and schedule for this task will be reviewed and approved in writing by the SFPUC Project Manager prior to beginning work on this task.

Deliverables

- Technical memorandum on the assumptions, methodology, results and recommendations for an increased interim operating reservoir level.

TASK 2 DEVELOPMENT OF PROJECT OBJECTIVES AND GENERAL EVALUATION CRITERIA

The objectives for this task are threefold: (1) establish a set of overall project objectives; (2) confirm a list of project alternative concepts; and (3) develop a set of general evaluation/selection criteria by which the alternatives concepts will be screened (as part of Tasks 9 and 10). The alternatives to be evaluated will be within the following three categories:

Attachment 2 Services to be Provided

- repair or replace dam for the same reservoir storage – 96,850 acre-feet;
- repair or replace dam for increased reservoir storage – up to 420,000 acre-feet; and
- repair or replace dam for same storage with provisions for future enlargement – up to 420,000 acre-feet.

Approach

- Work on this task will commence at the same time that work plans are being developed for the field investigations (Tasks 4, 5 and 6).
- Develop basic criteria for selection of concepts to repair or replace Calaveras Dam. Considerations will include:
 - Confirmation of list of project alternatives developed during preliminary engineering
 - Rationale and confirmation of the proposed replacement dam site location(s).
 - Reservoir operation levels during construction (that include draining the reservoir and removing the dam prior to construction) and long-term operations.
 - Basis for dam and foundation material properties for analysis
 - Potential fault rupture
 - Landslide hazard potential
 - Stability factors of safety
 - Seismic design criteria (ground motion parameters)
 - Structural design requirements
 - Design storm and flood
- Freeboard requirements
- Outlet works hydraulic and operation criteria, including reservoir emptying criteria
- Operational, conveyance and water quality criteria (as provided by SFPUC)
- Ability to raise the repaired or replacement dam to increase storage
- Construction sequence, cost and duration
- Short-term and long-term environmental impacts
- Use standards from various agencies such as the US Bureau of Reclamation, Army Corps of Engineers, and applicable codes, and regulatory requirements that are generally acceptable to DSOD.
- Work with SFPUC Planning, EIR consultant(s) and representatives conducting the Alameda Watershed Management Plan (AWMP) and related stakeholder groups to understand potential environmental constraints.
- Conduct a workshop with the SFPUC to get input on constraints for reservoir operation and project objectives.

Attachment 2 Services to be Provided

- Organize and conduct workshop with SFPUC and Calaveras Advisory Panel to review and confirm the list of project alternatives developed during preliminary phase (as part of Task 15.1 and 16).
- Meet with SFPUC and DSOD to obtain concurrence of general evaluation/selection criteria (as part of Task 15.2) after presentation to and review by the Calaveras Advisory Panel.

Assumptions

- SFPUC will identify and facilitate the coordination with the various SFPUC representatives and/or consultants.

Deliverables

- Project Objective and Evaluation/Selection Criteria Memorandum, which will include a list of project alternative concepts and a summary of applicable codes, regulatory requirements, and local and state ordinances.

TASK 3 ENVIRONMENTAL CLEARANCE FOR FIELD INVESTIGATION WORK PLAN

The objectives of this task are to obtain the necessary environmental clearances and/or permits from resource agencies to carry out the proposed field investigation work (to be performed under Task 4, 5 and 6, and shown in Figure A-1) which has the potential to impact both biological and cultural resources.

Approach

Work closely with SFPUC environmental staff during preparation of the work plan for the proposed field investigation program (which is done concurrently under Task 4.1). Our approach will focus on early identification of sensitive resources potentially present on or near proposed access roads, borings, test pits, fault trenches, and geophysical survey sites and avoidance so that state and federal permits are not required. This will be confirmed by conducting informal consultation with these agencies with SFPUC representatives as the main point of contact.

The following issues will be addressed:

- Field investigation impacts on sensitive environmental resources
- Avoidance or minimization of impacts, or mitigation of unavoidable impacts
- Habitats utilized by Alameda whipsnake, red-legged frog, foothill yellow-legged frog, California tiger salamander, and serpentine-endemic plants located in the vicinity of the Dam
- Section 106 compliance for sensitive cultural resources
- The following activities are proposed for biological and cultural resources:
- Identify sensitive biological and cultural resources known to occur in the proposed field investigation area. These resources will be identified based on literature reviews, occurrence records in electronic databases, and archival records.
- Review the proposed field investigation work plan and conduct a field review to evaluate potential impacts to sensitive biological and cultural resources.

Attachment 2 Services to be Provided

- Develop avoidance and minimization measures and identify necessary environmental clearances.
- Together with SFPUC, consult with resource agencies.
- If necessary, Consultant will assist the SFPUC with acquiring the necessary environmental clearances.

Avoidance and minimization measures might include:

- Procedures for completing the investigation;
- Work hours;
- Spark control and fire hazards;
- Drill water handling and erosion control procedures;
- Boring abandonment;
- Site restoration; and
- Adjustments to exploration locations as required.

Assumptions

- SFPUC will be the key point of contact with regulatory and resource agencies with respect to this work, and will review and submit the final permit applications. Consultant will prepare the applications with input from SFPUC, and assist the SFPUC with acquiring the necessary environmental clearances as needed. It is assumed that SFPUC will be the permittee, and will pay for any permit fees.

Deliverables

- The results for this task will be incorporated into the work plan of the proposed field investigation submitted under Task 4.1.
- If no permit applications to resource agencies are required, no separate deliverables will be submitted under this task.
- If permit applications to resource agencies are required, Consultant will prepare the permit applications with input from SFPUC, and SFPUC will review and submit the applications. The additional deliverables, if needed, may include:
 - ACOE Nationwide Permit Notification will include information required for the applicable Nationwide Permit.
 - CDFG Stream and Lakebed Alteration Notification will include the information required on the current CDFG notification and checklist forms.
 - RWQCB Section 401 Water Quality Certification/Waiver application will be completed.
 - USFWS consultation documentation will include conversation records that document informal consultation with USFWS staff.
 - Cultural resources letter report to meet CEQA and NEPA/NHPA requirements for reporting. The confidential letter report will include a summary of the archival and background literature review conducted to provide input to the field investigation work plan. The report will also summarize the results of any field surveys conducted in

Attachment 2 Services to be Provided

advance of the field investigations, including recommendations for avoidance or other mitigation measures necessary to complete the field investigation program. Any cultural resources observed during the surveys will be recorded (or updated as appropriate) on California DPR 523 forms (at a minimum DPR 523 Primary Forms will be prepared) which will be included with the report. The report will also summarize the results of any agency coordination conducted as part of this effort.

TASK 4 DAM FOUNDATION AND RELATED GEOTECHNICAL INVESTIGATIONS

Task 4.1 Work Plan

This task will prepare the Work Plan for the proposed field investigations ready for SFPUC and DSOD review and acceptance, that clearly states objectives of all investigation work.

Approach

- Prepare draft work plan for review by SFPUC
- Revise as needed and finalize the work plan of the proposed field investigations (that will be performed under Task 4, 5 and 6, and shown in Figure A-1 and Table A-1). In general, the work will be performed in a two-phased approach. Phase I will be a broad coverage; and Phase II exploration will be performed immediately afterwards to fill in the data gaps identified from the first phase
- The proposed investigation will focus on collection of data for the evaluation of dam replacement alternatives established in Task 2. Information required for evaluation of repair alternatives will be developed and reported under Task 9.1 based on data collected on the existing dam and evaluated under Task 1.2 (and Task 1.3 if necessary). No new investigations are proposed at the existing dam.
- Minimize ground disturbance and restoration needs.
- Optimize field investigations with parallel efforts by multiple teams.
- Incorporate inputs from the environmental clearance work performed under Task 3 and comments from the resource agencies into the work plan.
- Obtain acceptance of Work Plan by SFPUC, DSOD, and Calaveras Advisory Panel as part of Tasks 15.1, 15.2 and 16).

Assumptions

- Consultant expects that permitting agencies will not require significant changes of the proposed field investigation program. If changes are required that will impact the approved budgets, Consultant will submit such changes for review and approval of additional scope and budget in writing by the SFPUC Project Manager prior to beginning the work.

Deliverables

- Field investigation Work Plan for foundation, borrow areas, water conveyance facilities (including pipelines and pump stations in the Sunol Valley), water treatment plant and faults. The Work Plan will include a description of the geologic mapping, drilling, test pit, fault trenching and geophysical methods that will be used for the site investigations. Standard procedures including ASTM guidelines for sampling, rock coring and packer

Attachment 2 Services to be Provided

testing will be included. The location of all access roads, temporary core storage and drill rig storage areas, borings, geophysical surveys, test pits and trench locations will be provided along with the purpose of each activity. Avoidance and minimization of impacts on biological and cultural resources, and any requirements from resource agencies will be incorporated in the work plan. A schedule for completion of the investigations will be included. Boring abandonment and site restoration procedure will be described along with a list of planned geotechnical laboratory testing. The roles and responsibilities of field personnel, including requirements for QA/QC procedures in the field, will be defined. A site specific Health and Safety Plan, including procedures for handling of potential hazardous materials encountered during field investigations, will also be included as an appendix to the Work Plan.

Task 4.2 Topographical Maps

This task will generate orthophotographs and topographic maps (base maps) of the project site for field investigation work and conceptual engineering studies.

Approach

- Research and acquire available aerial photos and topographical maps of the project site.
- Conduct aerial photography and generate orthophotographs and topographic maps between existing dam and downstream for one mile, and for the proposed road relocation.
- Set aerial ground control. USGS vertical datum will be used unless otherwise directed by SFPUC.
- Schedule aerial photography.
- Locate by field survey all borings, test pits, fault trenches, and geophysical test locations, and pipelines within this area.
- Perform bathymetric survey of reservoir bottom, upstream of dam. The bathymetric survey area will extend 1000 feet south (upstream) from the shoreline at the dam and 1500 feet in an east-west direction. Bathymetric survey will be performed using a depth sounder with telemetry link to a shore-based total station to provide location.

Assumptions

- For areas of the project that are not covered by the above new topographical and bathymetric mapping, existing USGS topographical maps or other maps previously prepared by the SFPUC will be utilized as base maps for conceptual engineering studies.

Deliverables

- Topographic maps (base maps) of dam site area at 1" = 50 feet.
- Orthophotographs at 1"= 50 feet, and stereo aerial photographs at 1"= 500 feet. Orthophotographs will cover the reservoir area to provide information on faulting. However, topographic maps or area inundated by the existing reservoir will not be prepared.
- Bathymetry at 1"=50 feet.
- Survey data and survey field notes.

Attachment 2 Services to be Provided

Task 4.3 Geotechnical Investigations

Under this task, the Consultant will conduct field explorations/investigations program developed in Task 4.1 and related laboratory and engineering analysis on collected samples and data to characterize geologic and geotechnical conditions in the dam spillway, reservoir rim, pipelines and pump station in the Sunol Valley. The following will be addressed:

- Dam foundation geology (rock type and strength)
- Groundwater levels
- Excavation depth and seepage potential
- Liquefaction potential and depth and aerial extent of landslides at dam, reservoir rim, and pipeline
- Effect of raising reservoir level on rim stability and access road relocation.

The work will be performed in a two-phased approach. Phase I will be a broad coverage; Phase II exploration will be performed immediately afterwards to fill in the data gaps identified from the first phase.

Approach

- Map geology and identify exploration locations for initial Phase I exploration.
- Perform initial Phase I exploration (drilling, geophysics, water pressure testing) and laboratory analyses on soil and rock samples to evaluate their engineering properties (see Table A-1 and Figure A-1) for proposed explorations and objectives). Alternative drilling methods other than bucket auger borings including rock coring or sonic drilling methods may be required to investigate landslide areas if large rocks in the Franciscan mélange result in refusal to drilling during bucket auger drilling.
- Perform preliminary assessment of landslide hazards and liquefaction susceptibility.
- Keep SFPUC and DSOD informed of results of the investigation results. Identify areas needing additional exploration, update work plan and obtained concurrence from SFPUC and DSOD.
- Perform Phase II exploration and laboratory analyses to evaluate engineering properties (see Table A-1 and Figure A-1) for proposed explorations and objectives).

Assumptions

Field investigation is planned to be carried out under normal average weather conditions from about mid-October 2003 to mid-February 2004. If worse than average weather conditions occur (as defined by the monthly rainfall data maintained by the National Weather Service Mt. Hamilton site in Livermore), additional mobilization and de-mobilization, or additional environmental mitigations to remain in compliance with any permit or schedule requirements may be necessary and approval by SFPUC for extra services will be required.

Deliverables

- No separate deliverables will be prepared for this subtask. The work products will be included in Task 4.4 Geotechnical Data Report and Technical Memorandum.
- Core samples collected from the investigations of Task 4 and 5 will be stored in on-site, temporary storage facilities provided by the Consultant during the investigation period.

Attachment 2 Services to be Provided

Upon the completion of the Phase II investigations, Consultant will deliver the core samples in durable containers/boxes to a location designated by SFPUC (such as the Sunol Yard) for more permanent storage (approximately 500 square feet) so that the core samples will be available for review during future detailed design and construction phases.

Task 4.4 Foundation Geotechnical Data Reports

This task will provide a comprehensive geotechnical data report on dam foundation for submittal to SFPUC and DSOD, and a separate technical memorandum for the pipeline and pumping plant facilities.

Approach

- Compile all field data for the dam foundation (for replacement dam alternatives downstream of the existing dam) and reservoir rim investigations into a report with supporting appendices including geologic maps, borings and test pit logs, geophysical results, groundwater levels, packer and lab test results for submittal to SFPUC and DSOD.
- The Foundation Geotechnical Data Report for the dam will be used to assess engineering properties of foundation rock, including strength of shear zones and joints, striping depths and hydraulic conductivity, and suitability for various dam type constructions (RCC, concrete face rockfill or earth/rockfill). The properties for use in analyses will be documented in Task 9.2 and Task 14. Also, landslides will be delineated. The Foundation Geotechnical Data Report will contain work products from Task 4.3 including geologic map of the damsite, drill core logs, water pressure test data tables, geophysical test plots, and laboratory test data.
- Compile all field data for the pipeline(s) and pump station plant into a separate technical memorandum.
- Include results of the Task 6 fault investigations as an appendix to each report.

Assumptions

- The information required for evaluation of repair alternatives will be developed based on data collected on the existing dam, and will be reported under Task 9.1.

Deliverables

- Foundation Geotechnical Data Report that will contain the items listed in Subtasks 4.1 to 4.3, a map of geologic hazards for the dam and reservoir rim and results of Task 6 fault investigations for the dam foundation.
- Technical Memorandum that will contain results of pipeline and pump station investigations, a map of geologic hazards and results of Task 6 fault investigations for these facilities.

TASK 5 BORROW SOURCE EVALUATIONS

Task 5.1 Geotechnical Investigations

The objectives of this task are to characterize geologic conditions and material properties of the on-site native materials proposed for dam construction to resolve the following:

- Engineering properties of soil and rock materials in borrow areas

Attachment 2 Services to be Provided

- Quantity and quality of available borrow materials
- Use of existing dam materials for embankment dam fill
- Excavation characteristics of rock borrow areas
- Potential break-down of rock materials under compaction equipment
- Stability of borrow area excavated slopes

Approach

- Map borrow area geology.
- Evaluate characteristics of existing dam materials for use as core and shell zones of dam. Data on the existing materials will be obtained from the Final OCC Report; new borings will not be drilled in the existing dam.
- Perform initial Phase I exploration (drilling, geophysics, test pits) laboratory analyses (see Table A-1 and Figure A-1 for proposed explorations and objectives).
- Keep SFPUC and DSOD informed of results of the investigation results. Identify areas needing additional exploration, update work plan and obtain concurrence from SFPUC and DSOD.
- Perform Phase II exploration and laboratory analyses.

Assumptions

- Field investigation is planned to be carried out under normal average weather conditions from about mid-October 2003 to mid-February 2004. If worse than average weather conditions occur (as defined by the monthly rainfall data maintained by the National Weather Service Mt. Hamilton site in Livermore), additional mobilization and demobilization, or additional environmental mitigations to remain in compliance with any permit or schedule requirements may be necessary and approval by SFPUC for extra services will be required.
- Based on the proposed exploration locations, it is expected that the borrow material samples that are removed during the field investigations will not be tested for hazardous materials.

Deliverables

No separate deliverables will be prepared for this subtask. The work products will be included in Task 5.4 Borrow Materials Geotechnical Data Report.

Task 5.2 Hazardous Waste Evaluation

For this task, the Consultant will characterize hazardous waste contamination at Calaveras Test Site to estimate the extent of TCE contamination of groundwater and soils. The contaminated area will be excluded from the borrow excavations.

Approach

- Research, document and summarize information on the hazardous waste contamination.
- Delineate avoidance area.

Attachment 2 Services to be Provided

Assumptions

- The work for this task will be based on research of available literature and documentation. Field investigation and laboratory testing are not considered. If required, such services will be reviewed and approved by the SFPUC Project Manager as extra services prior to beginning of work.

Deliverables

- Technical Memorandum on results of research on hazardous waste contamination.

Task 5.3 Commercial Materials Source Assessment

Under this task, the Consultant will research commercially available materials (sand, gravel, aggregate, riprap) to assess the quantity, quality, and cost of sand, gravel, RCC/concrete aggregate and rock products.

Approach

- Collect relevant information of commercially available materials based on earlier surveys taken by SFPUC customers in the Sunol Valley.
- Prepare questionnaire for commercial sand/gravel/rock suppliers (e.g., the source about 5 miles north of Calaveras Dam; e.g., quarries in the Sunol Valley) to get information on production, quality data, delivery options, and cost.
- Evaluate and assess the quantity, quality and cost of the commercially available materials.

Assumptions

- Data on commercial materials will be based on that provided by the suppliers. Field investigation and laboratory testing will not be conducted.

Deliverables

- Technical Memorandum on results of research and assessment on commercially available materials. The technical memorandum will include the completed questionnaires from the commercial material suppliers and map of their locations.

Task 5.4 Borrow Materials Geotechnical Data Report

This task will provide a comprehensive geotechnical data report on borrow materials to characterize the borrow areas and to provide reliable quantities and quality assessments for various dam type construction (RCC, concrete face rockfill or earth/rockfill).

Approach

- Compile all field data into a report with supporting appendices including geologic maps, borings and test pit logs, geophysical results, groundwater levels and lab test results. Submit report to SFPUC. The properties of the borrow materials for use in design analyses will be documented in Task 9.

Attachment 2 Services to be Provided

Deliverables

Borrow Materials Geotechnical Data Report that will contain the items listed in Subtasks 5.1 to 5.3. This report will also include the following:

- Geologic map, drill core logs, test pit logs, geophysical test plots, and laboratory test data.

TASK 6 FAULT INVESTIGATIONS

Task 6.1 Fault Rupture And Hazard Identification

This task will identify seismic hazards at alternative dam site footprints and along water conveyance facilities based on detailed mapping and data review to address the following issues:

- Identification of all fault traces in the project area
- Preliminary classification of active, conditionally active and inactive faults
- Evaluation of impact on dam site selection and dam type design alternative

Approach

- Perform preliminary assessment of fault activity based on detailed mapping and data review. This work will be carried out concurrently with Task 4.1 and will serve as input to Task 6.2.
- Identify hazards important to site selection and design, warranting further detailed investigation.

Deliverables

- Technical Memorandum on fault rupture hazards addressing location of active, conditionally active and inactive fault strands, estimates of amounts of coseismic displacement, and likely sense of fault slip. This technical memorandum will include text on approach, methods, results, conclusions, recommendations for field investigation (to be performed under Task 6.2) and figures illustrating results and conclusions.

Task 6.2 Fault Rupture And Hazard Characterization

This task will conduct detailed characterization of hazards important for site selection and design to address the following issues:

- Characterization of active and conditionally active faults in terms of degree of activity, sense and amount of slip, and structural association
- Preliminary evaluation of impact on dam site selection and dam type design alternative.

Approach

- This task will be performed concurrently with Tasks 4.3 and 5.1.
- Prepare input for work plan on fault trench locations for incorporation into the field investigation work plan (prepared under Task 4.1) for review and acceptance by the SFPUC, Calaveras Advisory Panel and DSOD.
- Characterization of fault rupture hazards will involve two activities:

Attachment 2 Services to be Provided

- Trench investigation of identified active and conditionally active faults where further work may provide evidence of activity or inactivity.
- Assessment of the amount and sense of slip on identified active and conditionally active faults based on trench data, geomorphic expression, and kinematic analysis.
- Keep SFPUC and DSOD informed of preliminary results of trenching and character of faults encountered and if necessary revise work plan and obtain concurrence from SFPUC and DSOD.

Assumptions

Field investigation is planned to be carried out under normal average weather conditions from about mid-October 2003 to mid-February 2004. If worse than average weather conditions occur (as defined by the monthly rainfall data maintained by the National Weather Service Mt. Hamilton site in Livermore), additional mobilization and de-mobilization, or additional environmental mitigations to remain in compliance with any permit or schedule requirements may be necessary and approval by SFPUC for extra services will be required.

Deliverables

Technical Memorandum on fault location, fault activity, amount of expected coseismic displacement, and expected sense of slip. The Technical Memorandum will include text on approach, methods, results, conclusions, recommendations and figures illustrating results and conclusions.

Task 6.3 Seismic Source Characterization And Ground Motion Assessment

This task will develop site-specific design parameters for the Maximum Credible Earthquake (MCE) and Operating Basis Earthquake (OBE) to address the following:

- Site and near-source effects on ground motions (directivity and fling)
- Reservoir-triggered seismicity (RTS)
- Coseismic fault rupture on secondary or subsidiary faults

Approach

- Evaluate orientation, geometry, rupture dimensions, rupture process, and recurrence of significant seismic sources.
- Calculate MCE and OBE magnitudes for significant seismic sources based on state-of-the-art empirical relationships between rupture dimensions and magnitude.
- Calculate controlling MCE and OBE design ground motion parameters including design response spectrum, using empirical attenuation relationships and numerical models.
- Evaluate potential for RTS at dam site based on analyses of contributing factors of reservoir volume and depth, tectonic setting, and pre-existing faults.

Deliverables

- Technical Memorandum on ground motion design parameters including seismic source characterization, development of MCE and OBE ground motions (with response spectra) and assessment of possible RTS.

Attachment 2 Services to be Provided

Task 6.4 Selected Dam Site Investigations (Optional)

This task will provide a detailed fault assessment of the selected preferred dam site to document the absence of any previously undetected faults at the selected dam site. This task would be conducted if results of Tasks 6.1 and 6.2 are inconclusive on fault activity and is needed for damsite location and/or dam type selection, and if requested by SFPUC, the Calaveras Advisory Panel or by DSOD.

Approach

- Revise work plan and update environmental clearance under Task 3 as needed.
- Excavate trench along or near dam site axis to document presence or absence of previously undetected faults.
- Characterize faults, if identified, in terms of activity and, if active or conditionally active, assess amount and sense of potential slip.
- Provide detailed hazard assessment for site selection and geologic and seismic design criteria.

Assumptions

- The final scope of work, budget and schedule for this task will be reviewed and approved in writing by the SFPUC Project Manager prior to beginning work on this task.

Deliverables

- Trench excavation plan (map)
- Technical Memorandum on investigation of fault locations near dam site axis. The Technical Memorandum will include text on approach, methods, results, conclusions and recommendations and figures illustrating results and conclusions.

TASK 7 HYDROLOGY AND HYDRAULICS STUDIES

The objectives of this task are to determine the size, configuration and location of spillway and inlet/outlet facilities. The following are considerations for the conceptual design of the spillway and inlet/outlet facility:

- Spillway -
 - Spillway arrangement and location for a replaced or enlarged dam considering geologic features and hazards including foundation conditions, and fault and landslide proximity and incorporation of potential borrow area excavation
 - Evaluation of spillway width compared to depth to determine optimum configuration for a spillway for a replaced or enlarged dam
- Inlet/Outlet Facility –
 - Determination of inlet/outlet capacity requirements based on both dam safety and overall SFPUC conveyance and treatment system requirements based on SFPUC objectives. This work will be coordinated with Task 10.1.

Attachment 2 Services to be Provided

- Evaluation of inlet/outlet type, arrangement and location for a replaced or enlarged dam considering water quality and capacity requirements, interim operation issues and geologic features and hazards
- Utilization of upstream portion of existing outlet tunnel in the new tunnel inlets and outlets.
- Relocation of pipeline during replacement dam foundation excavation

Approach

- Determine the overall requirements for the spillway and outlet, and match a structure meeting those requirements to the site limitations. For a repair alternative, the existing spillway and outlet will be utilized and modified as-needed. For an RCC dam alternative, the spillway and the outlet works would be incorporated in the dam. For an embankment dam, the spillway and outlet would be located on an abutment; large landslides would be avoided.
- Determine spillway discharge requirements from a design storm based on procedures outlined in HMR 58 and develop an inflow hydrograph. Route flood hydrograph through various sizes of reservoirs and spillway configurations under consideration.
- In addition to a spillway with a standard approach and open chute, other spillways including side channel or labyrinth weirs and a combined spillway/outlet works tunnel will be examined in an effort to reduce overall project costs.
- Consider a sloping intake connected to a tunnel driven through an abutment for the inlet/outlet facility for the embankment dam options similar to recent projects constructed in locations with high seismic demands.
- For the inlet/outlet design, consider the following:
 - DSOD emergency drawdown requirements
 - Ultimate SFPUC demands including Sunol Valley water treatment plant potential expansion
 - A range of streamflow release capabilities that may be required as advised by SFPUC
 - The ability to transfer water to fill an expanded Calaveras Reservoir
 - Operation of existing facilities during construction, if needed
 - Inlet elevations to maximize water quality flexibility
 - Use of multiple inlets and outlets
 - Provision of a low level outlet to drain the reservoir

Deliverables

Due to the difference in function of the spillway and inlet/outlet works, separate technical memoranda will be prepared for these structures as follows:

- Spillway Technical Memorandum documenting the basis of design, including design flood, flood routing, spillway weir crest selection, spillway chute and stilling basin considerations, and geotechnical issues will be evaluated for all potential project alternatives (repair, replacement and enlargement) and a general arrangement plan and profile drawings will

Attachment 2 Services to be Provided

be developed for the most promising alternatives. Include computer input and output for flood routing analysis.

- Inlet/outlet Works Technical Memorandum will outline the proposed normal, drought and emergency reservoir operation, and evaluate the basis of design for flow capacity, inlet locations, conduit sizing and energy dissipation for all potential project alternatives (repair, replacement and enlargement). General arrangement plan and profile drawings will be developed for the most promising alternatives.

TASK 8 ENVIRONMENTAL CONSIDERATIONS

The objectives include the following:

- Identification of environmental considerations for all dam repair, replacement and enlargement alternatives being considered in other tasks.
- Evaluation of relative environmental impacts among the various alternatives, and identify the appropriate range of alternatives for Least Environmentally Damaging Practicable Alternative (LEDPA) evaluation.
- Minimization or avoidance of potential long- and short- term environmental impacts to the extent practicable.
- Coordination of evaluation with the AWMP process.

Key issues include the following:

- Key biological and cultural resource issues:
 - Aquatic habitats potentially occupied by California red-legged frog
 - Terrestrial habitats suitable for Alameda whipsnake, the Bay checkerspot butterfly, and rare plants that occur on serpentine soils
 - Wetland and riparian habitats regulated under Sections 401 and 404 of the federal Clean Water Act and Section 1600 of the California Fish and Game Code
 - Coordination with AWMP process
 - Coordination with SFPUC and COE/EPA to identify practical alternatives
 - Evaluation of areas judged to be sensitive for historic or prehistoric cultural resources that would be affected by construction activities and the project footprint, including an increased inundation level

Approach

The preliminary environmental analysis will consider (1) impacts related to various project alternatives and (2) impacts related to construction (short-term and long-term). The analysis will identify impacts and methods for reducing the impacts (i.e., preliminary mitigation measures).

Identify environmental considerations associated with the project, including potential impacts of new pipelines, borrow areas, access roads or barges, dam footprints, haul roads, and road relocations. Potential considerations may include biological, cultural, visual, recreational, water quality, air, noise and traffic. Evaluate methods for reducing impacts resulting from borrow and quarry operations, and prepare estimates of truck traffic haul load intensity for the overall project. The relative environmental impacts of the various alternatives will be evaluated based upon existing data developed as part of the potential Watershed AWMP planning process. This

Attachment 2 Services to be Provided

data will be utilized in conjunction with other existing data sources, aerial photo mapping, and site reconnaissance surveys.

The specific activities proposed to evaluate biological resource considerations:

- Review existing data from the AWMP, CNDDDB, and previous SFPUC projects (e.g. previous pipeline projects); expand maps and tables developed in Task 3 (above) to include all project footprint areas.
- Work closely with the SFPUC, COE/EPA on coordination regarding Least Environmentally Damaging Practicable Alternative (LEDPA) relative to Section 404(b)(1).
- Evaluate dam alternatives based on preliminary dam design and construction scenarios. This will include the scenario that the existing dam and reservoir could be removed during construction.
- Summarize the potential impacts to special status species, wetlands, and other sensitive biological resources for each alternative; incorporate the alternatives analysis into the environmental considerations report.
- Maintain on-going coordination with the AWMP process including data exchange, agency coordination, and status updates.

The specific activities proposed to evaluate cultural resource considerations:

- Review all Class I and Class III data developed under Task 3.
- Conduct a review of historic maps at the Bancroft Library.
- Conduct a targeted on-the-ground-informal field visit of borrow and quarry operations and areas judged to be sensitive for historic or prehistoric cultural resources that would be affected by an increased inundation level.
- Prepare a screening level analysis based on the results of the archival and field reconnaissance.

Assumptions

- Availability of adequate existing data to evaluate alternatives
- SFPUC and its EIR consultant will have early coordination with resource agencies to evaluate the range of alternatives required for consideration; and early COE/EPA coordination regarding Least Environmentally Damaging Practicable Alternative (LEDPA) relative to Section 404(b)(1).

Deliverables

- Technical Memorandum on environmental considerations that will include maps and tables summarizing environmental resources potentially affected the alternative dam configurations. The biological resources portion of the Technical Memorandum will summarize the existing, available biological resource data for the proposed dam site alternatives, results of the site reconnaissance surveys, site selection criteria and appropriate avoidance and minimization measures. The cultural resources component of this deliverable will be a stand-alone confidential cultural resources technical report that will summarize available Class I and Class III (archival and field survey) data. This research will be augmented by a review of data available at the Bancroft Library at U.C. Berkeley to identify potential historic sites. The Technical Memorandum will also

Attachment 2 Services to be Provided

summarize the results of a targeted cultural resources field survey program that will focus on areas judged to have a high sensitivity for cultural resources. The Technical Memorandum will include completed California DPR 523 forms for any archaeological or built environment features that are encountered during the survey (for both previously unrecorded sites and sites that require re-recording). The Technical Memorandum will also provide recommendations for alternative selection based on the assessed sensitivity of cultural resources for each alternative.

- LEDPA analysis report that describes the project purpose and need, the range of practical alternatives and the rationale for selection of the LEDPA. The LEDPA report would include the information required by the EPA under Section 404(b)(1) of the federal Clean Water Act, which is required for all Section, 404 permits issued by the Army Corps of Engineers.
- DPR 523 Primary Forms, if required.

TASK 9 DEVELOPMENT OF CONCEPTUAL-LEVEL DAM ALTERNATIVES

Task 9.1 Repair Existing Dam Concept

The objectives of this task are to further develop and evaluate the repair alternatives called for in the preliminary engineering report, and confirmed in Task 2. Repair concepts to be considered in the alternatives evaluation include upstream and downstream buttresses, with and without stone column treatment. The following issues will be addressed:

- Technical viability of the repair alternatives
- Liquefaction potential of repaired dam and resulting deformations
- Damage potential of repaired dam
- Seismic stability of repaired dam
- Reactivation of right abutment landslide under dam during construction
- Time for reservoir outage
- DSOD concerns

Approach

- Develop alternative concept drawings for repair such as using stone columns and upstream and downstream buttresses.
- Evaluate existing embankment and alluvial foundation properties reported in the OCC Final Report (2003) and establish values to be used in this conceptual engineering study.
- Perform stability analyses of repair alternatives considering information reported in the OCC Final Report (2003); and work completed under Task 1.2 and data collected from the borrow area geotechnical investigation (for use in buttress design).
- Perform seismic deformation analyses and evaluate potential damage to the repaired dam.

Assumptions

- Data on existing dam will be developed based on evaluation of information reported in the OCC Report (2003).

Attachment 2 Services to be Provided

Deliverables

- Technical Memorandum on the repair concept that will provide the results of the technical viability of the repair concept

Task 9.2 Replacement Dam Concept

The objectives of this task are to develop replacement alternatives. The following issues will be addressed:

- Ability to build a new dam for same reservoir storage (96,850 acre-feet), increased reservoir storage (up to 420,000 acre-feet) or for same storage with provision for future enlargement
- Avoidance of large landslides, such as those on the right abutment
- Avoidance of active faults or conditionally active faults if present in the foundation
- Consideration of foundation shear zones that could pose stability problems, especially for an RCC dam
- Design of dam to make maximum use of on-site borrow materials
- Feasibility of reservoir utilization during construction
- Restoration of borrow areas and environmental issues
- Decommissioning of existing dam including possible demolition and/or removal of the dam prior to construction of replacement dam.
- Modifications of Alameda Creek Diversion Dam and Tunnel for enlarged reservoir alternatives

Approach

- Develop alternative concept drawings for replacement such as RCC, concrete face rockfill, and/or earth- and rockfill dams based on findings of Tasks 4, 5, and 6.
- Incorporate findings of Task 10 – Conveyance Facilities for replacement and/or enlargement alternatives.
- Develop strength parameters of the embankment materials and foundation rock based on Tasks 4 and 5.
- Evaluate use of on-site colluvial soils, broken-down sandstone, and alluvium at upstream end of reservoir for embankment dam core materials.
- Evaluate on-site rock sources for effective zoning of a concrete face rockfill dam.
- Perform stability analyses for each alternative dam type.
- Evaluate the need and options for the modification of Alameda Creek Diversion Dam and Tunnel for enlarged dam alternatives.

Attachment 2 Services to be Provided

Assumptions

- Dam types to be considered in the alternatives evaluation include concrete face rockfill, roller compacted concrete (RCC), and earth/rockfill.

Deliverables

- Technical Memorandum on concept replacement alternatives that will include results of stability analyses, design basis, and plans and sections in sufficient detail to show main components

Task 9.3 Evaluation Of Dam Concepts

Based on Project Objectives and Evaluation/Selection Criteria established in Task 2, this task will evaluate and rank repair and replacement alternatives to provide the work results/information necessary to recommend the preferred alternative.

Approach

- The general process for dam type evaluation is for screening to occur after the geologic hazard assessment to consider dam location/type issues and after the geotechnical investigation to consider significant economic issues and drivers.
- Technical feasibility and structural integrity would be based on stability analyses described in Tasks 9.1 and 9.2.
- Cost effectiveness will be based on the cost estimation completed in Task 13.
- Relative long-term operation and maintenance costs/life cycle costs will be considered for the system components. Owners of reservoirs will be contacted to provide these costs for input in the estimate.
- Develop construction plans and layouts showing the site development as a contractor would develop including staging areas, borrow areas, stockpile areas for imported and on-site materials, disposal areas and access.
- Construction sequencing to address the site as it would be occupied by a contractor through completion of the project and reservoir filling.
- Evaluate constructability, operability, and maintainability of the alternatives.
- Quantify areas of both permanent and temporary disturbance.
- Ranking of each alternative with respect to the key issue factors would be done in matrix format. The ranking weighting factors would be assessed together with SFPUC staff. Such a ranking would provide for a rational basis for alternative evaluation with the ultimate goal of identifying the preferred alternative.

Deliverables

- Technical Memorandum on concept alternative evaluation and ranking that will document the basis of the alternatives evaluation and ranking process. Technical memorandum will include technical discussions on the alternatives, matrix comparison tables, and cost estimates from Task 13.
- Figures will be prepared of the plans, sections, and main details of the alternative dam types.

Attachment 2
Services to be Provided

TASK 10 CONVEYANCE FACILITIES

The overall objectives of Task 10 are to:

- Identify the required new and/or expanded conveyance facilities (outlet towers, pipelines, pump stations, water treatment plant capacity, and specialty valves) consistent with overall project objectives identified in Task 2, and conceptual level dam alternatives identified in Task 9.
- Identify, evaluate, and compare conveyance facility alternatives for recommendation of preferred alternatives to SFPUC.
- Work with SFPUC to prepare a conceptual design (10% level) report for the conveyance facilities selected by the SFPUC. This report will be included as Volume II of the Conceptual Engineering Report prepared under Task 14.

Approach

- Task 10.1 is the planning level evaluation of the conveyance facilities, and it includes four subtasks, 10.1a through 10.1d. These subtasks will be performed in parallel with Task 9. The evaluation will include facilities both within Sunol Valley (10.1b) and outside of Sunol Valley (10.1c). The goal of this task is to review alternatives and select the preferred alternatives for the conceptual design.
- Tasks 10.2 through 10.4 provide the 10% level conceptual design for those facilities recommended to and accepted by the SFPUC in Task 10.1. The conceptual design will include the conveyance facilities directly related to the Calaveras Dam Project within Sunol Valley only. Task 10.2 will start after completion of Task 10.1.

Task 10.1 Conditions and Needs Planning Assessment

10.1a Planning Assumptions and Condition Assessment

This task will identify planning assumptions that will be used to size and evaluate the conveyance facilities. This task will then provide a qualitative assessment of the condition of the existing conveyance facilities in the Sunol Valley to assist in the determination of which facilities may be replaced as part of the Calaveras project.

Approach

- Incorporate project objectives and general evaluation criteria from Task 2, and conceptual level dam alternatives from Task 9.
- Meet with SFPUC to review capacities, demand, operational, and facility alternatives.
- Through review of information and drawings, meetings with SFPUC engineering and operational staff, and site visits, the qualitative assessment of the existing facilities will be developed. This effort will be focused on facilities that could be impacted by the construction of new pipelines and/or pumping facilities.
- Provide preliminary review of capacity and maintenance condition of existing pumping and transmission facilities within the Sunol Valley.

Deliverables

- Meeting minutes.

Attachment 2 Services to be Provided

- Results of this subtask will be reported in a Technical Memorandum prepared under subtask 10.1d.

10.1b Sunol Valley Facilities

The objectives of this task are to:

- Develop preliminary conveyance and treatment plant capacity needs in the Sunol Valley.
- Identify the location and size of the potential new and impact to existing facilities in the Sunol Valley. These will include new pipelines, major modifications to the existing San Antonio Pump Station (SAPS), and need for an expanded Sunol Valley Water Treatment Plant (SVWTP).
- Prepare preliminary level evaluation of the pipelines, and pump stations.

Approach

- Based on the conceptual level dam alternatives developed in Task 9 identify up to six alternative capacities for the conveyance facilities. These may include the following scenarios:
 - Maintain existing reservoir capacity and conveyance capacity
 - Maintain existing reservoir capacity with transfers to Calaveras Reservoir
 - Expanded reservoir with no transfers into Calaveras
 - Expanded reservoir with Hetch Hetchy transfers at low transfer rate
 - Expanded reservoir with Hetch Hetchy transfers at high transfer rates
 - Expanded reservoir with phasing of facilities
- Utilize existing SFPUC hydraulic models developed to evaluate capacity of existing pipeline and pumping facilities. Consultant will either use the existing SynerGEE model (previously Stoner), or H2ONet models. The preference is to use the H2ONet model with the updated demand distribution developed recently for the Stoner model. For either model the potential new facilities will be added, both within and outside of the Sunol Valley.
- Utilize existing CDM hydraulic and operational models to identify alternatives to meet capacity requirements for each alternative including Sunol Valley pipelines, pump stations and treatment capacities. It is assumed that alternatives will be developed for replacement size, and enlarged size for Calaveras Dam as defined in Task 2. The facilities within the Sunol Valley that will be included with the planning evaluation are: Calaveras Dam inlet/outlet capacity; Calaveras Pipeline(s)(existing and parallel); connections to the Sunol Siphons; San Antonio Pump Station; connections to San Antonio Reservoir; Sunol Siphons; Sunol Valley Water Treatment Plant capacity; Sunol Valley treated water storage capacity.
- Based on the criteria and objectives developed in Task 2, evaluate the inflow, outflow and treatment capacity requirements. It is assumed that the Sunol Valley Water Treatment Plant will be expanded to 240 mgd as identified in earlier plans. The Sunol Valley Water Treatment Plant expansion treatment plant evaluations as part of this task will be limited to identifying whether capacity in excess of 240 mgd will be required.

Attachment 2 Services to be Provided

- Identify pipeline corridors/alignments for new pipelines based on topographic mapping developed in other tasks.
- Identify potential geotechnical conditions or major cost elements for alternatives.
- Evaluate liquefaction susceptibility, fault rupture and landslide hazards along pipeline corridor.
- Incorporate work completed under Task 8 which will identify potential environmental fatal flaws, and/or significant mitigation measures that affect the feasibility and cost of potential new facilities, and provide input into engineering alternatives for siting and alignment that reduce or minimize environmental impacts.
- Develop preliminary cost and phasing information for conveyance facilities in the Sunol Valley.

Deliverables

- Results of this subtask will be reported in a Technical Memorandum prepared under subtask 10.1d.

10.1c Facilities Outside of Sunol Valley

This task will identify the potential need for major transmission facilities outside of the Sunol Valley that may be required to operate the Calaveras Reservoir.

Approach

- Based on the capacity sizes developed earlier in this task, identify the potential need and linkage for major conveyance facilities outside of the Sunol Valley. These may include San Joaquin Pipeline No. 4, Irvington Tunnel, and Bay Division Pipeline No. 5.
- The purpose of this planning level assessment is to determine if any of these facilities will be critical to the operation of the different reservoir and conveyance facility sizes, and the timing associated with these facilities.

Deliverables

- Results of this subtask will be reported in a Technical Memorandum prepared under subtask 10.1d.

10.1d Analysis and Comparison of Conveyance Alternatives

This task will analyze and compare alternatives developed above in this task, and work with SFPUC to identify and recommend conveyance alternatives to be carried forward into conceptual design in Tasks 10.2 through 10.4.

Approach

- Develop preliminary figures indicating facility requirements, possible operation and sizing, and locations of facilities. Meet with SFPUC (and other stakeholders) to obtain buy-in on recommended alternatives.
- Analyze alternatives for the following three dam capacity scenarios:
 - Replacement capacity
 - Expansion to 420,000 acre-feet

Attachment 2 Services to be Provided

- Phased expansion to 420,000 acre-feet
- Prepare a draft technical memorandum presenting the feasibility level assessment of the alternatives, both within the Sunol Valley, and potential conveyance facility requirements outside of the valley.
- The comparison will include the following elements for each of the scenarios:
 - Capital cost of conveyance facilities
 - Operational cost of conveyance facilities
 - Operational and reliability impacts and benefits
 - Discussion of environmental and/or geotechnical fatal flaws and mitigation costs
 - Potential phasing of conveyance facilities. It is assumed that any phasing will be a single step from 96,850 acre-feet of storage to 420,000 acre-feet.
 - Identification of potential for hydroelectric power generation at the SVWTP.
- Conduct a workshop specifically for this task to screen alternatives to be included in the conceptual design.
- The technical memorandum will be finalized after the workshop.

Deliverables

- Technical Memorandum on Conveyance Facilities that will include Technical Memorandum on geologic hazards and subsurface investigations from Task 4, and planning level assessment of project replacement and enlargement for pipeline and pumping facilities both within the Sunol Valley, and potential conveyance facility requirements outside of the valley.
- Workshop materials including results of preliminary alternatives analysis and meeting minutes.

Task 10.2 Engineering Work Plan

Work on Tasks 10.2 through 10.4 will be conducted in partnership of the Consultant and staff from SFPUC. However, until the Task 10.1 Condition and Needs Planning Assessment workshop is completed, the scope, scale, and conveyance improvements associated with the preferred project are unknown.

The purpose of Task 10.2 is to prepare an engineering work plan to identify the major elements included in the conceptual design. The SFPUC will review this document and decide the respective roles and responsibilities of SFPUC and Consultant staffs in the preparation of the 10% level design necessary for the Conceptual Engineering Report (CER) for Conveyance Facilities. The tasks and respective responsibilities of Consultant and SFPUC staffs that are preparing the CER for Conveyance Facilities will be clearly defined.

Approach

- Consultant will prepare a draft engineering work plan defining tasks, task objectives, deliverables, and schedule for the conduct of Task 10.4, Conceptual Engineering Report. Key disciplines and staff level requirements will be identified. The work plan will also define QA/QC and production responsibilities.

Attachment 2

Services to be Provided

- Consultant will prepare a draft outline of the Conceptual Engineering report, and preliminary lists of tables and figures.
- The SFPUC will review the draft work plan and outline and develop recommendations for which elements of the design that the SFPUC may prepare.
- Responsibilities for each section of the Conceptual Engineering report will be designated in one of three ways: 1) SFPUC, 2) Consultant, or 3) joint effort. In the case of sections requiring joint effort, the lead entity (SFPUC or Consultant) will be specified, with a brief description of how the work will be shared.
- Detailed estimates of the level of effort for design will be developed by the Consultant and SFPUC.
- Appropriate opportunities for technology transfer/knowledge transfer will be identified.
- Upon approval of the work plan for this task, Consultant will conduct a “kick-off” meeting with the SFPUC design staff.

Assumptions

- The current scope and level of effort only includes the conceptual design for pipelines and a pump station in the Sunol Valley.
- Consultant will identify its budget by subtask or work group.
- SFPUC staff will develop budgets for its staff and furnish these estimates to Consultant for incorporation into the work plan.

Deliverables

- Work Plan estimated to be an 8 to 12 page document, most of the responsibilities will be defined in tables.
- Kickoff workshop agenda and meeting summary.

Task 10.3 Coordination with SFPUC

This task provides for coordination between Consultant and SFPUC staff during preparation of the CER for Conveyance Facilities (Task 10.4).

Approach

- Consultant will conduct bi-weekly coordination meetings with key members of the project team including its staff and SFPUC staff.
- Consultant and SFPUC staff will review interim and informal progress submittals prepared by SFPUC for those CER sections that are being led by, or prepared in conjunction with, SFPUC staff.
- Consultant will monitor the progress of the CER and report to the SFPUC project manager the status of each section including those sections being prepared by, or in conjunction with SFPUC staff. Consultant will maintain a project file in eRoom that provides the latest version of sections of the CER, meeting agenda, meeting summaries, a project schedule and other information needed by all team members.

Attachment 2 Services to be Provided

Assumptions

- Coordination meetings to be held at SFPUC offices and will last approximately 90 minutes.
- SFPUC will furnish Consultant PM with bi-weekly status updates of SFPUC progress by earned value and estimated cost at completion.

Deliverables

- Meeting handouts and notes.

Task 10.4 Conceptual Engineering Report (CER)--Conveyance

This task will prepare the Conceptual Engineering Report for Conveyance Facilities.

Approach

- Based on facilities recommended by Consultant in Task 10.1, the project team will prepare the CER for the Conveyance Facilities.
- The Task 10 CER will include conveyance facilities for three different size dam projects—replacement only, phased expansion (initial 96,850 acre-feet expanded to 420,000 acre-feet), or construction (to 420,000 acre-feet).
- Required new and/or expanded conveyance facilities (outlet towers, pipelines, pump station, and specialty valves) will be identified.
 - If additional hydraulic capacity is required to and from the reservoir, considerations include using the existing pipelines (if possible), a parallel pipeline installed while maintaining the existing pipeline, and replacing the existing pipeline (or replace only certain sections)
 - Incorporation of work completed under Task 8 which will identify potential environmental fatal flaws, and/or significant mitigation measures that affect the feasibility and cost of potential new facilities, and provide input into engineering alternatives for siting and alignment that reduce or minimize environmental impacts.
- Develop preliminary figures indicating facility requirements, possible operation and sizing, and locations of facilities. Meet with SFPUC (and other stakeholders) to discuss alternatives.
- Identify potential geotechnical conditions or major cost elements for alternatives.
- The conceptual level design for pipelines will include:
 - Preliminary alignments for pipelines including plan on 11-inch x 17-inch drawings at 1" = 100 ft horizontal. A separate profile will be prepared and 1" = 10 ft vertical scale, and 1"=200 ft horizontal scale.
 - Pipe material evaluation and recommendations.
 - Planning level surge analysis including development of a simplified surge model, evaluation of proposed surge protection alternatives for pipelines and pump station, and identification of potential surge protection devices.
 - Preliminary identification of thrust restraint system.
 - Pipe joint recommendations (type, weld requirements)

Attachment 2 Services to be Provided

- Preliminary recommendation of cathodic protection system (impressed current, sacrificial anode, or none).
- Valve type and actuator type recommendation.
- Valve pit conceptual layout 11-inch x 17-inch sketch showing general arrangement and approximate inside dimensions of structure.
- Conceptual SCADA requirements (type of system, approximate number of data points, simplified block diagram)
- Electrical power requirements (for motorized valves and/or SCADA).
- Conceptual connection(s) to other supplies.
- The 10% level conceptual design for pump stations will include:
 - Pump station layout showing number and type of pumps (plan view 11-inch x 17-inch sketch).
 - Description and sketch of building (if desired by staff) to house new pumps and/or electrical gear.
 - Civil plan view showing conceptual grading, paving and drainage improvements.
 - Conceptual pump system head curve showing range of operating head conditions and typical pump selection.
 - Preliminary evaluation of engine vs. motor driven pumps.
 - Electrical power requirements—source, voltage.
 - Yard piping showing interconnections with existing yard piping (plan view 11-inch x 17-inch sketch).
 - Compilation of major design criteria.
- Cost, schedule and constructability of facilities will be developed under Task 13.
- The current scope and level of effort only includes the conceptual design for pipelines and a pump station in the Sunol Valley.
- Consultant will conduct two one-day “training” workshops with SFPUC design staff specifically for this task. The first one will focus on evaluations of options. The second one will focus on the design requirements for the proposed preferred option.

Assumptions

- Alternatives evaluated in Task 10 and summarized in Task 10.1 Technical Memorandum, but not carried forward into conceptual design will not be repeated in the CER—Conveyance Facilities.
- Conceptual design of potential modifications to the existing or future expanded 240 mgd Sunol Valley WTP treatment process is not included.
- Pipeline plan and profile drawings will be prepared on 11-inch x 17-inch media and will not be half-size reductions.
- Conceptual pipeline design will not include any of the following: detailed surge evaluation, site specific geotechnical evaluation, identification of right-of-way or property acquisition

Attachment 2 Services to be Provided

needs, identification of construction easement needs, tunneling, identification and location of minor existing utilities other than other SFPUC pipelines, laydown or staging areas for construction contractor, details of appurtenances (e.g. air relief stations, vacuum relief stations, access manways, marker posts, water quality sample stations), and potholing to locate existing underground utilities.

- Conceptual pump station design will not include any of the following: architectural drawings, landscape architecture drawings, structural conceptual design of new building (if any), noise control assessment, hazardous material assessment of existing facility, pump control description, pump system process & instrumentation diagram (P&ID), assessment of existing pump station facility capacity or condition, assessment of existing pump station building seismic suitability, , conceptual design of a new Hetch Hetchy electrical substation or dedicated high voltage feed line if existing Hetch Hetchy substation does not have sufficient power for proposed pumps, potholing to locate existing underground utilities, and ADA or other code upgrades to existing SAPS facilities.

Deliverables

- Conceptual Engineering Report for Conveyance Facilities that will include conceptual level design for project replacement and enlargement for pipeline and pumping facilities within the Sunol Valley.

TASK 11 OPERATION OF RESERVOIR DURING CONSTRUCTION

Task 11.1 Operation of Reservoir During Construction

This task will develop a plan to maintain and maximize the use of Calaveras Reservoir and runoff during the construction period. Two scenarios will be considered: existing dam remains in place during construction or removed prior to construction of new dam. This will include impacts on available water and water quality for normal delivery and/or construction use. A winterization plan will be developed.

Approach

- Based on the construction sequencing and proposed timing of the startup of the new/expanded reservoir, identify when the reservoir storage capacity may be reduced, or the existing conveyance facilities may not be available, and the potential impact of high flow runoff on construction conveyance of water from reservoir during construction.
- Identify sequencing for new conveyance facility requirements, and switch-over requirements to the new facilities.
- Evaluate the pros/cons, including cost/benefit analysis, for the two scenarios being considered.
- Develop a preliminary plan, including winterizing.
- Estimate time that reservoir will be out of service, and resulting cost.

Assumptions

- SFPUC Operations will be available to work closely with Consultant to identify potential issues and solutions.

Attachment 2 Services to be Provided

Deliverables

- Technical Memorandum documenting: criteria (SFPUC and regulatory requirements/desires) for operation during construction; plan for achieving these criteria showing how reservoir would be operated, timing for any dam decommissioning, drawdown, impacts on construction sequencing, etc.; the existing, temporary and new facilities (gates, valves, conduits, etc) that would need to be operational during specific phases of construction; sequencing and switch-over requirements for new facilities; and impacts on water availability and quality and general operations.

Task 11.2 Operation of Reservoir Prior to Construction – Reservoir Water Quality & Habitat Management

The objectives of this task are to assist the SFPUC in the development of an interim operating plan prior to commencement of construction regarding:

- Water quality problems and operational constraints when the reservoir is drawn down to lower elevations
- Identification of operational and/or treatment options to improve the available storage capacity
- Sensitive habitat encroachment during reservoir restriction

Approach

- Confirm DSOD operational constraints in the near-term based on results from Tasks 1.2 and 1.3 (if needed).
- Work with SFPUC Operations to identify potential water quality problems associated with lower water levels.
- Work with SFPUC Operations to identify potential in-reservoir and out-of-reservoir treatment options.
- Workshop or meetings with SFPUC project team to review options. If options include changes to reservoir storage levels, meetings with DSOD will be held.
- Evaluate wetland and special status species habitats that may be affected by the reservoir restriction and develop operational and/or treatment options to reduce future inundation impacts to these habitats

Assumptions

- The final scope of work, budget and schedule for this task will be reviewed and approved in writing by the SFPUC Project Manager prior to beginning work on the task.

Deliverables

- Technical Memorandum documenting: criteria (SFPUC and regulatory requirements/desires) for operation prior to construction; plan showing how reservoir could be operated to meet these criteria (rule curve); impacts on water availability and quality; the need for any temporary facilities to reduce such impacts; and any implications to future construction sequencing.

Attachment 2
Services to be Provided

Task 11.3 Alternatives to Improve Water Supply Availability

This task will develop both short-term and long-term alternatives that will either maximize continued use of the Calaveras Reservoir through construction or identify other methods of improving the supply availability from other local water sources, including San Antonio Reservoir, during the period of restricted operation of Calaveras Reservoir.

This task should take into account long-term system projects currently being planned in the region, to identify opportunities satisfy the objectives of multiple projects through the implementation of one project. This task will also build on the recommendations for operational changes identified in Task 11.2.

Approach

- Obtain information on related SFPUC projects currently planned in the region.
- Identify operational (as part of Task 11.2) and capital modifications that will allow increased use of local water sources (both San Antonio and Calaveras Reservoirs) to be treated at the SVWTP. Prepare a short technical memorandum, listing the concepts and a brief description for distribution prior to meeting with SFPUC staff.
- Identify potential treatment options within the Calaveras Reservoir, both near-term prior to dam replacement and/or expansion, and long-term after construction.
- Conduct workshop with SFPUC staff (Operations and engineering design) to screen the concepts identified, and possibly identify new/different options; facilitate discussion of potential advantages/disadvantages or other issues associated with the concepts. Develop shortlist of concepts to conduct feasibility evaluations.
- Identify potential facility requirements for the short-listed concepts, including cost estimates, and general environmental considerations (potential for meeting CEQA requirements with Categorical Exemption, Negative Declaration, or Environmental Impact Report), and estimated time to implement.
- Conduct follow-up workshop with SFPUC staff to discuss and rank concepts developed, and select a preferred alternative for subsequent design phases.

Assumptions

- This task will incorporate and build upon the recommendations of Task 11.2.
- The SFPUC will provide information on on-going related projects in the area, which are either in the planning or conceptual engineering phase.
- Two workshops

Deliverables

- Preliminary technical memo incorporating the operational/treatment options identified in Task 11.2 and identifying operational and facility modifications to improve availability of local water sources.
- Workshop handouts, minutes.
- Technical memo presenting the preliminary design concepts (both written criteria, and initial sketches) and cost estimates for the short-listed concepts, incorporating ranking and

Attachment 2 Services to be Provided

other comments provided by SFPUC staff at workshop. Recommendations for subsequent design phases should be included.

Task 11.4 Emergency Action Plan Update (Optional)

This task will provide an Updated Emergency Action Plan. The emergency action plan should correspond to conditions of reservoir operated at restricted level.

Approach

- Modify existing Emergency Action Plan
- Address structural integrity of the upstream inlet structure and the downstream release value if dam deformation did occur as requested by DSOD.
- Update downstream inundation map

Assumptions

- The final scope of work, budget and schedule for this task will be reviewed and approved in writing by the SFPUC Project Manager prior to beginning work on the task.

Deliverables

- Updated Emergency Action Plan based on FERC and FEMA Guidelines including notification flowcharts, delineation of authority and responsibilities, dam failure flood descriptions and inundation maps, and training requirements for personnel with responsibilities under the plan.

TASK 12 ROAD AND UTILITY RELOCATION

Task 12 will identify the required road and utility relocations consistent with overall project objectives identified in Task 2, and conceptual level dam alternatives identified in Task 9, due to construction of an enlarged reservoir (420,000 acre-feet).

The Consultant will work with SFPUC to prepare a conceptual design (10% level) report for the road and utility relocations. This report will be included as Volume III of the Conceptual Engineering Report prepared under Task 14.

Approach

- Task 12.1 is the planning level evaluation of the road and utility relocation. This task will be performed in parallel with Task 9.
- Tasks 12.2 through 12.4 provide the 10% level conceptual level design for the road and utility relocation. Task 12.2 will start after completion of Task 12.1.

Task 12.1 Conditions and Needs Planning Assessment

This task will identify the portion of the roadway and utilities (including power transmission lines and towers) that require relocation due to construction of an enlarged reservoir (420,000 acre-feet).

Approach

- Incorporate project objectives and general evaluation criteria from Task 2.

Attachment 2 Services to be Provided

- Meet with SFPUC to discuss environmental, geotechnical risks (landslide potential), and road drainage requirements. Concur on the road and utility relocations to be included in the conceptual design.
- The technical memorandum will be finalized after the workshop.

Deliverables

- Technical Memorandum on road and utilities that require relocation.
- Meeting materials and minutes.

Task 12.2 Engineering Work Plan

Work on Tasks 12.2 through 12.4 will be conducted in partnership of the Consultant and staff from SFPUC.

The purpose of Task 12.2 is to prepare an engineering work plan to identify the major elements included in the conceptual design. The SFPUC will review this document and decide the respective roles and responsibilities of SFPUC and Consultant staffs in the preparation of the 10% level design necessary for the Conceptual Engineering Report (CER) for Road and Utility Relocations. The tasks and respective responsibilities of Consultant and SFPUC staffs that are preparing the CER for Road and Utility Relocation will be clearly defined.

Approach

- Consultant will prepare a draft engineering work plan defining tasks, task objectives, deliverables, and schedule for the conduct of Task 10.4, Conceptual Engineering Report. Key disciplines and staff level requirements will be identified. The work plan will also define QA/QC and production responsibilities.
- Consultant will prepare a draft outline of the Conceptual Engineering report, and preliminary lists of tables and figures.
- The SFPUC will review the draft work plan and outline and develop recommendations for which elements of the design that the SFPUC may prepare.
- Responsibilities for each section of the Conceptual Engineering report will be designated in one of three ways: 1) SFPUC, 2) Consultant, or 3) joint effort. In the case of sections requiring joint effort, the lead entity (SFPUC or Consultant) will be specified, with a brief description of how the work will be shared.
- Detailed estimates of the level of effort for design will be developed by the Consultant and SFPUC.
- Appropriate opportunities for technology transfer/knowledge transfer will be identified.
- Upon approval of the work plan for this task, Consultant will conduct a "kick-off" meeting with the SFPUC design staff.

Assumptions

- Consultant will identify its budget by subtask or work group.
- SFPUC staff will develop budgets for its staff and furnish these estimates to Consultant for incorporation into the work plan.

Attachment 2 Services to be Provided

Deliverables

- Work Plan estimated to be a 4 to 6 page document, most of the responsibilities will be defined in tables.
- Kickoff workshop agenda and meeting summary.

Task 12.3 Coordination with SFPUC

This task provides for coordination between Consultant and SFPUC staff during preparation of the CER for Road and Utility Relocation (Task 12.4).

Approach

- Consultant will conduct bi-weekly coordination meetings with key members of the project team including its staff and SFPUC staff.
- Consultant and SFPUC staff will review interim and informal progress submittals prepared by SFPUC for those CER sections that are being led by, or prepared in conjunction with, SFPUC staff.
- Consultant will monitor the progress of the CER and report to the SFPUC project manager the status of each section including those sections being prepared by, or in conjunction with SFPUC staff. Consultant will maintain a project file in eRoom that provides the latest version of sections of the CER, meeting agenda, meeting summaries, a project schedule and other information needed by all team members.

Assumptions

- Coordination meetings to be held at SFPUC offices and will last approximately 90 minutes.
- SFPUC will furnish Consultant PM with bi-weekly status updates of SFPUC progress by earned value and estimated cost at completion.

Deliverables

- Meeting handouts and notes.

Task 12.4 Conceptual Engineering Report (CER)—Road and Utility Relocation

This task will prepare the Conceptual Engineering Report for Road and Utility Relocation.

Approach

- The 10% level conceptual design for the road and utility relocation will include:
 - Delineation of portion of roadway that needs to be re-routed.
 - Delineation of utilities, including power transmission lines and towers, that need to be relocated.
 - Definition of design parameters and identification of potential alternative routes.
 - Identification of right-of-way issues for the alternatives.
 - Confirmation of the potential environmental issues related to each route (also see below).
 - Estimation of cost of each alternative.

Attachment 2 Services to be Provided

- Incorporation of work completed under Task 8 which will identify potential environmental fatal flaws, and/or significant mitigation measures that affect the feasibility and cost of the road and utility relocation, and provide input into engineering alternatives for siting and alignment that reduce or minimize environmental impacts.
- The conceptual level design for road relocation will include preliminary alignments for the road relocation including plan on 11-inch x 17-inch drawings at 1" = 100 ft horizontal. A separate profile will be prepared and 1" = 10 ft vertical scale, and 1"=100 ft horizontal scale. (Topographical maps will be produced in Task 4.2.)
- Consultant will conduct two one-day "training" workshops with SFPUC design staff specifically for this task. The first one will focus on evaluations of options. The second one will focus on the design requirements for the proposed relocation options.

Assumptions

- Alternative routes evaluated in Task 12 and summarized in Task 12.1 Technical Memorandum, but not carried forward into conceptual design will not be repeated in the CER - Road and Utility Relocation.
- Conceptual road and utility relocation design will not include any of the following: site specific geotechnical evaluation, identification of construction easement needs, laydown or staging areas for construction contractor, and potholing to locate existing underground utilities.

Deliverables

- Conceptual Engineering Report for Road and Utility Relocation that will include alignments and vertical profiles of new roadway, grading and drainage.

TASK 13 DEVELOPMENT OF COST ESTIMATES AND SCHEDULES

Under this task the Consultant will conduct constructability review and develop reliable construction cost estimates and schedules for use in evaluating and ranking of alternatives.

Approach

- Conduct constructability review for the development of costs for equipment, materials, and labor components of direct construction costs associated with the dam construction. Productivity will be based on schedule constraints and assessments of potential equipment spreads.
 - Constructability of the alternatives
 - Physical, environmental and schedule constraints
 - Equipment rates will be obtained from published data on local leasing, rental or ownership rates.
 - Labor rates will be based on published local prevailing wages.
 - Material rates will be based on vendor quotes.
 - Percentages will be added for overhead and profit.

Attachment 2 Services to be Provided

- Contingency will be added based on the level of the cost estimate for conceptual design purposes.
- The accuracy of the estimate will be identified.
- The construction schedule, including CPM, will be developed using the program Primavera or MS Project.
- Develop planning level construction cost estimates for the pipelines and pump station.
- Schedules and cost estimates will be prepared in a format consistent with guidelines being developed by SFPUC Project Controls.

Assumptions

- The construction cost estimates will be prepared in accordance with the Class 4 definition established by the Association for the Advancement of Cost Engineering International (AACE, 1997).
- The level of effort to prepare the schedules and cost estimates in a format consistent with guidelines being developed by SFPUC Project Controls are comparable to the budgeted level of effort of preparing schedules and cost estimates shown in the example CER provided by SFPUC.

Deliverables

Technical Memorandum documenting the basis of the cost and schedule estimates. All cost and schedule estimate documentation, including electronic files, will be provided. Estimates of cost components for materials, labor, and equipment, indirect costs, profit, and bond; and estimates of productivity, schedules, critical paths (CPMs) and the interdependency of the various activities will be included.

TASK 14 DEVELOPMENT OF CONCEPTUAL ENGINEERING REPORT

Provide a Conceptual Engineering Report that summarizes the results of the above studies, and documents the SFPUC review and rationale for the selection of the preferred alternative for the three categories of project alternatives identified in Task 2.

Approach

- The results of the above task studies will be summarized in the Conceptual Engineering Report. An executive summary will be included. Description of SFPUC review and rationale for selection of the preferred alternative will also be included.
- Documentation of the conceptual design (10% level) of the preferred alternative for each category will include base plans, sections, main details of the dam and appurtenant works, design criteria and parameters and a list of specifications.
- The Conceptual Engineering Report will be issued twice: Final and Revised Final. The Final CER will be issued upon the completion of the above technical tasks, about 18 months from NTP. The Revised Final CER will be issued upon the completion of the environmental review process, about 42 months after NTP, and will incorporate the changes as a result of the review process.

Attachment 2 Services to be Provided

Assumptions

- The Conceptual Engineering Report will follow the proposed outline shown in Exhibit A-1 and the example CERs provided by the SFPUC Project Manager.
- The CER for conveyance facilities will be Volume II of the Conceptual Engineering Report.

Deliverables

- Final and Revised Final Conceptual Engineering Report. The Revised Final CER will reflect changes as a result of the environmental review process.

TASK 15 DESIGN REVIEW MEETINGS/WORKSHOPS WITH SFPUC AND DSOD

Task 15.1 Review Meetings with SFPUC

Task 15.2 Review Meetings with DSOD

The Consultant will meet with SFPUC Project Team and Management Team periodically to review and develop solutions for significant design and related project issues towards the formulation of the preferred project alternative(s).

The Consultant will also meet and coordinate with DSOD to obtain their input on dam-related design issues and concurrence towards the development of preferred project alternative(s).

Approach

- Organize and schedule 9 review meetings with the SFPUC Project Team and Management Team, and 7 review meetings at approximately the time intervals shown in Figure A-1. The meetings will be set to review significant design and related project issues in order to advance conceptual engineering towards the formulation of the preferred project alternative(s).
- Work with SFPUC's Project Manager to prepare agendas well before the meetings to assure all critical issues are covered.
- Prepare and conduct the review meetings to present the results of the major deliverables, receive comments and to propose resolutions to issues. Key subject areas to be reviewed in meetings with SFPUC and DSOD are:
 - Design criteria
 - Geotechnical investigation work plans for foundation, borrow areas, and faulting
 - Seismic ground motions
 - Hydrology and hydraulics
 - Environmental considerations (SFPUC only)
 - Conceptual alternatives
 - Conveyance facilities (SFPUC only)
 - Operation of reservoir during construction
 - Construction cost and schedule (SFPUC only)

Attachment 2 Services to be Provided

- Conceptual Engineering Report
- As shown in Attachment 4 - Preliminary Project Schedule, the DSOD review meetings will be conducted after the review meetings with the SFPUC and Calaveras Advisory Panel. (The Calaveras Advisory Panel meetings are covered under Task 16). In general, the DSOD review meetings will only cover subject areas under their jurisdiction (as compared to those noted as SFPUC only); and all design issues and decisions would have been reviewed by the SFPUC Management Team and Calaveras Advisory Panel. This approach should streamline and strengthen the review and approval process with DSOD.

Assumptions

- Allowed for 9 workshops with SFPUC and 7 meetings with DSOD at approximately the time intervals shown in Attachment 4 - Preliminary Project Schedule.
- Review meetings with SFPUC will be held at SFPUC's offices in San Francisco, and meetings with DSOD in DSOD's office in Sacramento. At least one of the meetings with SFPUC and/or DSOD will include a site visit and the meeting would be held at SFPUC's facilities in Sunol.

Deliverables

- Meeting presentation materials, hand-outs, and minutes indicating decisions reached on significant design issues.

TASK 16 CALAVERAS ADVISORY PANEL MEETINGS

Under this task, the Consultant will meet with the Calaveras Advisory Panel periodically to present recommendations on significant design and related project issues towards the formulation of the preferred project alternative(s).

Approach

- Work with SFPUC's Project Manager to organize and schedule 5 review meetings with the Calaveras Advisory Panel at approximately the proposed time intervals shown in Attachment 4 - Preliminary Project Schedule. As approved by the SFPUC, the meetings will be set to review significant design and related project issues in order to advance conceptual engineering towards the formulation of the preferred project alternative(s).
- Work with SFPUC's Project Manager to prepare agendas well before the meetings to assure all critical issues are covered.
- Prepare and conduct the review meetings to present the results of the major deliverables, receive comments and to propose resolutions to issues. The issues would be similar to those identified in Task 15. If requested, assist SFPUC to prepare questions for each Calaveras Advisory Panel meeting to obtain their input to resolve issues. The issues will be kept in an up-to-date matrix, with potential resolutions.
- It is recommended that the first Calaveras Advisory Panel meeting would be to review the conceptual engineering approach and design criteria (prepared under Task 2) and filed investigation program (prepared under Task 4.1).

Attachment 2
Services to be Provided

Assumptions

- Allowed for 5 meetings with the Calaveras Advisory Panel at facilities provided by the SFPUC.

Deliverables

- Presentation materials for the Calaveras Advisory Panel meetings
- Meeting minutes documenting questions asked by the CAP, and subsequent discussion on issues raised by the CAP and responded by the Consultant.

TASK 17 ENGINEERING SUPPORT DURING PREPARATION OF ENVIRONMENTAL DOCUMENTS AND PERMIT APPLICATIONS

This task will provide technical data and support for preparation of the environmental documents and permit applications.

Approach

- Provide supplemental information required to support the environmental review. Issues related to soils, geology, seismicity, water resources and construction will be addressed with input from the team members responsible for these areas.
- As requested by SFPUC's Project Manager, provide or develop additional information on construction related impacts or additional mapping and related drawings for project alternatives.

Assumptions

- Consultant will provide engineering and other technical support services as requested and authorized by the SFPUC Project Manager or his/her designee.

Deliverables

- Technical Memoranda of project alternatives on an as-needed basis

TASK 18 PUBLIC OUTREACH

For this task, the Consultant will work under the supervision of the SFPUC Communications Outreach Manager and will provide public outreach assistance, as needed to build support for the project through the conceptual design phase.

Approach

Consultant will work under the supervision of the SFPUC Public Outreach Manager and will perform the following tasks as necessary, including but not limited to: updating stakeholder databases, creation of summary documents from meetings, meeting logistics, and other public outreach assistance, as needed, to build support for the project through the conceptual design phase. Develop messages on:

- Need for project
- Need for rapid delivery
- Relation to rest of CIP

Attachment 2 Services to be Provided

Assumptions

Consultant will provide public outreach support services as requested and directed by the Communications Public Outreach Manager and the SFPUC Project Manager or his/her designee.

Deliverables

Update project databases of community groups, individuals, and elected officials, as needed. Deliverables may include, but are not limited to: PowerPoint presentations, fact sheets, mailing lists, printing, postage, rental of facilities for public meetings, renting audio/visual equipment, procurement of refreshments and materials for public meetings.

TASK 19 PROJECT MANAGEMENT AND MEETINGS WITH SFPUC

The Consultant will manage and control all related project tasks through close coordination with SFPUC, discuss project status, progress and forthcoming work, discuss issues to be resolved and proposed solutions through completion within estimated schedule and cost.

Approach

- Prepare a project specific Project Management Plan that defines roles and responsibilities of all team members including subconsultants and subcontractors; task scope, budgets, and schedules; and staff contact information.
- Prepare a project specific Quality Assurance Plan that defines independent technical reviews and detail checking of all draft and final work products.
- Develop Health and Safety Plan for consultant team staff working on the project.
- Attend monthly meetings with SFPUC. Current key issues and future issues will be discussed at each meeting. Proposed resolution of issues will also be discussed.
- Prepare monthly progress reports to discuss work completed for the month, work to be completed for the next month, schedule status, budget status, and issues for resolution. Budget status will be evaluated by earned value to estimate percent complete for each task for comparison with the amount spent.
- Prepare and maintain a computer-based tabulation of review comments for technical memoranda, reports, and other documents that will include a field for the Consultant's responses.

Assumptions

- Consultant will prepare the Project Management Plan, Quality Assurance Plan and Health and Safety Plan with one cycle of draft review by the SFPUC.

Deliverables

- Project Management Plan
- Quality Assurance Plan
- Health and Safety Plan

Attachment 2
Services to be Provided

- Meeting summaries on project status and work to be done for preparation for the next meeting. Decision and action items will be summarized at the end of each meeting summary.
- Monthly progress reports, invoices and HRC Forms

TASK 20 ADDITIONAL TECHNICAL SERVICES (As-Needed)

This task provides for other related, yet currently undefined work which may be required by DSOD or other regulatory agencies, or other work that is identified by the SFPUC as necessary for completing the project.

Approach

- Prepare scope, schedule and budget for tasks that may be required by DSOD or other regulatory agencies for SFPUC's Project Manager review and approval.
- Complete tasks in accordance with scope, schedule and budget as approved by SFPUC's Project Manager.

Assumptions

- The final scope of work, budget and schedule for this task will be reviewed and approved in writing by the SFPUC Project Manager prior to beginning work on the task.

Deliverables

- To be determined

TASK 21 SFPUC GED STAFF TRAINING PROGRAM

Conduct a training and technology-transfer program which is an integral component of all SFPUC Professional Services Contracts. The primary goal of the program is to provide opportunities for increasing the knowledge level and expertise of the SFPUC engineering staff in areas in which the Consultant is recognized. Through such training opportunities, SFPUC expects its staff to gain an in-depth knowledge of the Consultant's work on this project and be thoroughly prepared to manage the next phase of the project.

Approach

- Prepare a training plan in conjunction with SFPUC Training Coordinator and Engineering Managers for SFPUC's Project Manager review and approval. The plan will identify the subjects and contents of the training program and methods for delivery, and define the expected learning objectives and outcomes. The corresponding Consultant's scope, schedule and budget will also be submitted for review and approval.
- In identifying and proposing subjects and contents for the training program, Consultant will, to the extent possible, utilize or build on existing materials that have been developed and used previously.
- Upon approval of the SFPUC's Project Manager, plan and carry out the training program in accordance with the agreed-upon scope, schedule and budget.

Attachment 2
Services to be Provided

- Work with SFPUC Training Coordinator, collect and review feedback from participants after each training session. As appropriate, incorporate participants' comments and suggestions in future training sessions.

Assumptions

- The final scope of work, budget and schedule for this task will be reviewed and approved in writing by the SFPUC Project Manager prior to beginning work on the task.
- Training will be conducted at facilities provided by the SFPUC except for site visits.

Deliverables

- Work Plan for Training and Technology-transfer Program.
- For each training session: agenda, handouts, feedback forms and other materials as appropriate. The exact content of the deliverables will be determined based on the training content and subjects requested and approved.

Attachment 2
Services to be Provided

Table A-1
PROPOSED SITE INVESTIGATIONS
CALAVERAS DAM PROJECT

EXPLORATION TYPE / NO.1	LOCATION	TYPE	DEPTH / LENGTH (ft)	Formation ²	PIEZOMETER	ACCESS	GOAL OF INVESTIGATION	IN-SITU TESTING	COMMENTS
PHASE I DAM FOUNDATION									
CB-1	left abutment, us	core, inclined 60	150	Tts	No	On existing road	dam foundation	packer	
CB-2	left abutment, ds	core, vert.	180	Tts	No	On existing road	dam foundation	packer	
CB-3	valley bottom, ds	core, inclined 60	300	Fill/Tts/sp	Yes	On existing road	dam foundation, contact	packer, televiewer	Angle boring across Tts/sp contact
CB-4	valley bottom, ds	core, inclined 60	300	fm/sp	Yes	On existing road	dam foundation, fault	packer, televiewer	Angle boring across Quarry fault
CB-5	right abutment, ds	core, vert.	150	fm/Tts	yes	On existing road	dam foundation	packer	
CB-6	right abutment, ds	core, inclined 60	120	fm	yes	New 300' dozer road	dam foundation, fault	packer, televiewer	Angle boring across Quarry fault
CB-7	right abutment axis	core, vert.	225	Qls/fm	no	On existing road	dam foundation	packer	
BA-8	right abutment, us	bucket	75	Qls/fm	no	On existing road	landslide depth	none	May need to improve/regrade road
BA-9	right abutment, us	bucket	75	Qls/fm	no	On existing road	landslide depth	none	May need to improve/regrade road
BA-10	right abutment, ds	bucket	75	Qls/sp	no	On existing road	landslide depth	none	May need to improve/regrade road
BA-11	right abutment, ds	bucket	75	Qls/sp	no	By existing road	landslide depth	none	May need to improve/regrade road

Attachment 2
Services to be Provided

Table A-1
PROPOSED SITE INVESTIGATIONS
CALAVERAS DAM PROJECT

EXPLORATION TYPE / NO. 1	LOCATION	TYPE	DEPTH / LENGTH (ft)	Formation 2	PIEZOMETER	ACCESS	GOAL OF INVESTIGATION	IN-SITU TESTING	COMMENTS
BA-12	right abutment, landslide downstream of dam	bucket	100	Qls/fm	no	On existing road	landslide depth	none	Need to improve/regrade road
BA-13	left abutment, ds	bucket	75	Qls/Tts	no	On existing road	landslide depth	none	May need to improve/regrade road
BA-14	left abutment, landslide downstream of dam	bucket	75	Qls/Tts	no	On existing road	landslide depth	none	May need to improve/regrade road
TP-1 to TP-6	landslides near dam	test pit	20	Qls	no	To be determined	landslide limits / geologic contacts	none	Location to be determined during geologic mapping
RS-1	Upper left abutment	seismic refraction	1,200	Qls/Tts	NA	On existing roads	Weathering and landslide depth	NA	
RS-2	Lower right abutment/valley bottom	seismic refraction	1,400	Qls/fm/sp	NA	On existing roads	Weathering and landslide depth, fault	NA	
RS-3	Upper right abutment	seismic refraction	1,200	Qls/Tts/sp	NA	On existing roads	Weathering and landslide depth, fault	NA	

Attachment 2
Services to be Provided

Table A-1
PROPOSED SITE INVESTIGATIONS
CALAVERAS DAM PROJECT

EXPLORATION TYPE / NO. ¹	LOCATION	TYPE	DEPTH / LENGTH (ft)	Formation ²	PIEZOMETER	ACCESS	GOAL OF INVESTIGATION	IN-SITU TESTING	COMMENTS
PHASE I ROCK BORROW									
CB-15	sandstone borrow area, above left abutment	core, vert.	150	Tts	no	On existing road	borrow materials	down-hole seismic velocity	Need to improve/regrade road
CB-16	sandstone borrow area, above left abutment	core, vert.	150	Tts	no	On existing road	borrow materials	down-hole seismic velocity	Need to improve/regrade road
CB-17	sandstone borrow area, above left abutment	core, vert.	100	Tts/sp?	no	New 500' dozer road	borrow materials	down-hole seismic velocity	
CB-18	sandstone borrow, downstream of left abutment	core, vert.	100	Tts/sp?	no	New 300' dozer road	borrow materials	down-hole seismic velocity	
RS-4	sandstone borrow area, above left abutment	seismic refraction	1,100	Tts	NA	On existing roads	Weathering depth	NA	
RS-5	sandstone borrow area, above left abutment	seismic refraction	550	Tts/sp	NA	On existing roads	Weathering depth	NA	
RS-6	sandstone borrow, downstream of left abutment	seismic refraction	550	Tts	NA	Through low brush	Weathering depth	NA	
TP-7 to TP-10	upstream borrow area	test pit	20	Qal	no	On existing roads	borrow materials	none	
TP-11 to TP-15	colluvial borrow area	test pit	20	Ksh, Tts	no	On existing roads	borrow materials	none	

Attachment 2
Services to be Provided

Table A-1
PROPOSED SITE INVESTIGATIONS
CALAVERAS DAM PROJECT

EXPLORATION TYPE / NO. ¹	LOCATION	TYPE	DEPTH / LENGTH (ft)	Formation ²	PIEZOMETER	ACCESS	GOAL OF INVESTIGATION	IN-SITU TESTING	COMMENTS
PHASE I PIPELINE / PUMP STATION									
AB-19 to AB-21	Pipeline and Pump Station	auger boring	50	Fill/Qal/Tts	no	On existing roads	structure foundation	none	
PHASE II INVESTIGATIONS									
CB-22 to CB-26	To be determined	core	100-200			To be determined	Obtain additional information in specific areas following Phase I investigations		Location/purpose of Phase II investigations to be determined after completion of Phase I
BA27 to BA-30	To be determined	bucket	75			To be determined			
TP-16 to TP-21	To be determined	test pit	20			To be determined			
RS-7 to RS-9	To be determined	seismic refraction	1,100			To be determined			

Notes:1:CB = HQ-3 wireline core boring, BA = 30-inch bucket auger boring, AB= hollow stem auger boring, TP = Test pit, RS = Seismic refraction Line.

2: Qal = alluvium, Qls = Landslide, Tts = Temblor Sandstone, fm = melange, sp = serpentinite /glaucophane blueschist.

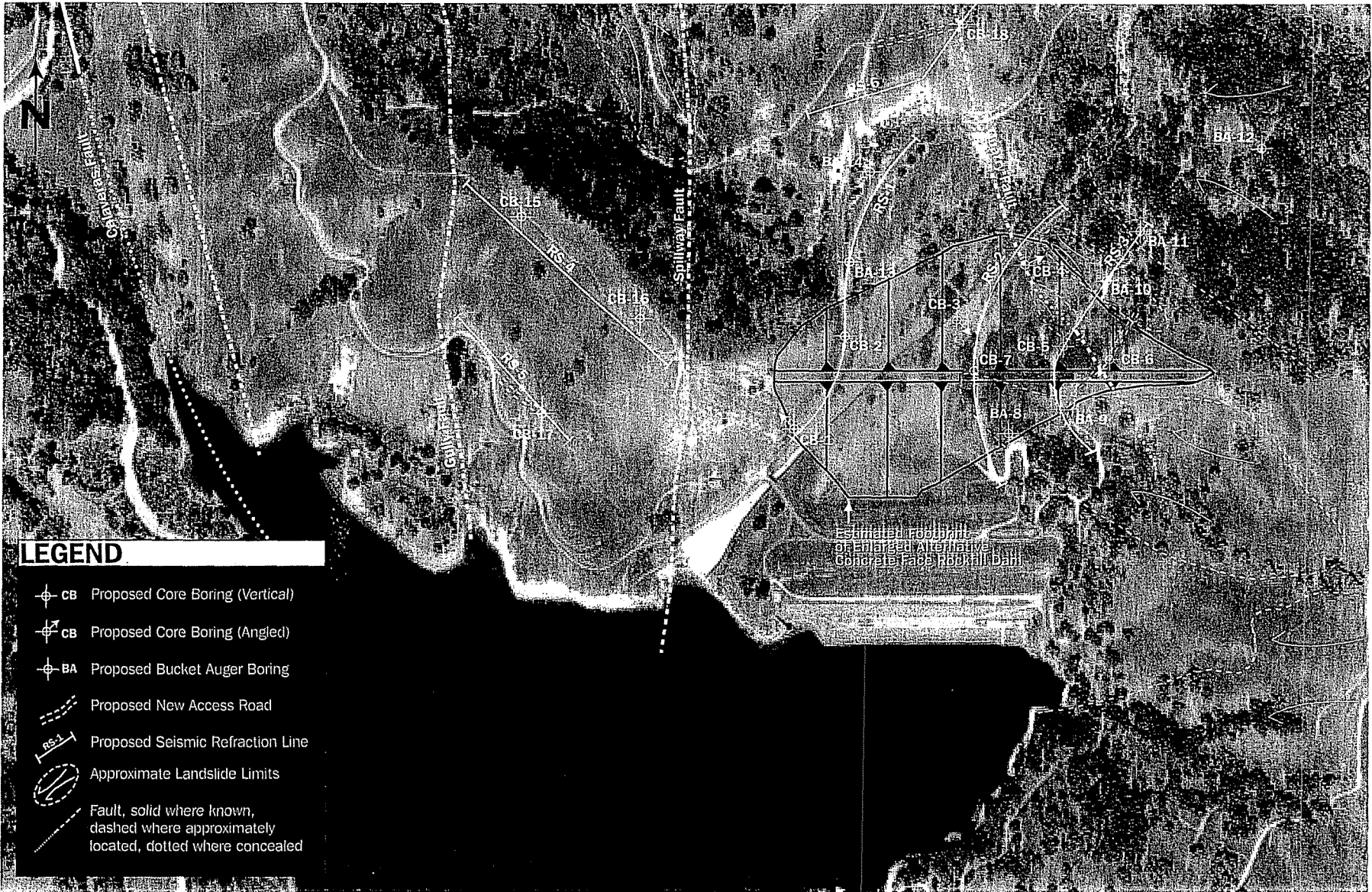


Figure A-1
 Proposed Exploration Map
 CS-716

Attachment 2 Services to be Provided

Exhibit A-1 Calaveras Dam Conceptual Engineering Report Outline	
1.0 Executive Summary	7.0 Borrow Source Investigations
2.0 Introduction	7.1 Rockfill Sources
2.1 Background	7.2 Earthfill Sources
2.2 Purpose and Scope	7.3 Imported Materials (gravel, aggregate)
2.3 Organization of Report	8.0 Hydrology and Hydraulics Studies
3.0 Existing Project Features	8.1 Design Storm
3.1 Dam, Spillway and Outlet	8.2 Watershed Characterization
3.2 Pipeline	8.3 Flood Routing
3.3 Pumping Plant	9.0 Environmental and Mitigation Considerations
3.4 Water Treatment Plant	10.0 Development of Conceptual-Level Alternatives
4.0 Design Criteria	10.1 Repair Existing Dam
4.1 Reservoir Operation Levels	10.2 Replacement Dam Concepts
4.2 Embankment and Foundation Material Properties	11.0 Conveyance Facilities
4.3 Stability	12.0 Operation of Reservoir During Construction
4.4 Seismic Design	13.0 Road Utility Relocation
4.5 Fault Rupture Considerations	14.0 Cost Estimation
4.6 Structural Design	14.1 Basis
4.7 Design Storm and Flood	14.2 Results
4.8 Freeboard Requirements	15.0 Construction Schedules
4.9 Outlet Works Hydraulic, Operation, and Emptying	16.0 Evaluation of Alternatives
4.10 Conveyance and Water Quality	16.1 Evaluation Criteria and Ranking Methodology
4.11 Environmental Impacts	16.2 Discussion
4.12 Construction Cost and Duration	17.0 Conclusions and Recommendations
5.0 Foundation and Related Geotechnical Investigations	18.0 References
5.1 Abutments	List of Tables
5.2 River Channel	List of Figures
5.3 Landslides	List of Appendices
6.0 Fault Investigations	
6.1 Regional Seismic Setting	
6.2 Fault Activity Assessment	
6.3 Ground Motions	
6.4 Reservoir Triggered Seismicity	

Attachment No. 3
Projected Task Budget

**Calaveras Dam Conceptual Engineering
Agreement No. CS-716**

Attachment 3
Projected Task Budget

Calaveras Dam Conceptual Engineering
(Agreement No. CS-716)

Part A - Summary

Summary of Estimated Costs		
Basic Tasks		
Task 1	Background Information	\$ 42,000
Task 2	Development of Project Objectives & General Criteria	59,000
Task 3	Environmental Clearance for Field Investigation Work Plan	33,000
Task 4	Dam Foundation and Related Geotechnical Investigations	760,000
Task 5	Borrow Source Evaluations	348,000
Task 6	Fault Investigations	271,000
Task 7	Hydrology and Hydraulics Studies	127,000
Task 8	Environmental Considerations	122,000
Task 9	Development of Conceptual Level Dam Alternatives	387,000
Task 10	Conveyance Facilities	483,000
Task 11	Operation of Reservoir During Construction	103,000
Task 12	Road and Utility Relocation	105,000
Task 13	Development of Cost Est. and Schedules	71,000
Task 14	Development of Conceptual Engineering Report	91,000
Task 15	Design Review Meetings/Workshops	117,000
Task 16	Calaveras Advisory Panel Meetings	70,000
Task 17	Eng. Support During Prep. of Env. Docs. And Permit Applications	103,000
Task 18	Public Outreach	76,000
Task 19	Project Management and Meetings with SFPUC	321,000
Task 20	Additional Technical Services (As-Needed)	-
Task 21	SFPUC GED Staff Training Program	60,000
	Subtotal	\$ 3,749,000
		-
	Total for Basic Tasks	\$ 3,749,000
	Total for As-Needed Tasks (Task 20)	\$ 80,000
	Total for Optional Tasks (Tasks 1.3, 6.4 and 11.4)	\$ 171,000

Attachment No. 4
Preliminary Project Schedule

**Calaveras Dam Conceptual Engineering
Agreement No. CS-716**

