

SAN FRANCISCO PUBLIC UTILITIES COMMISSION

Contract Administration Bureau
Ivy V. Fine, Manager

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October 13, 2009

Michael Forrest
URS Corporation
1333 Broadway, Suite 800
Oakland, CA 94612

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MAYOR

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COMMISSIONER

ED HARRINGTON
GENERAL MANAGER

- RE:
- 1) Notice of Contract Amendment Certification – Conceptual Engineering Report for Calaveras Dam (CS-716)
 - 2) Transmittal – Executed Agreement #3B between the City and County of San Francisco Public Utilities Commission and URS Corporation

Dear Michael Forrest,

This letter provides a *notification of amendment certification* for an INCREASE in contract value and duration extension for the following contracted work:

BLANKET PURCHASE ORDER NO: BPUC04000193 – *Work may not be charged against this blanket purchase order number*

SCOPE: *No change in scope of work - To provide additional project management, design package services, environmental and permitting support services, naturally occurring asbestos (NOA) compliance plan, and additional as-needed support services.*

EFFECTIVE DATE: September 11, 2003 to September 10, 2016

CONTRACT TO DATE: Total value of contract has been increased to **\$24,000,000.00**

Should you have any questions, please do not hesitate to contact Suyin Lim at (415) 554-2418.

Enclosure: Executed Amendment #3B
cc: Dan Wade
File/NCAC 716 amend 3B

**City and County of San Francisco
San Francisco Public Utilities Commission
Contract Administration Bureau**

CS-716

Amendment Three B (3B)

THIS AMENDMENT (this "Amendment") is made as of July 28, 2009, in San Francisco, California, by and between URS Corporation ("Contractor"), and the City and County of San Francisco, a municipal corporation ("City"), acting by and through its San Francisco Public Utilities Commission.

RECITALS

WHEREAS, City and Contractor have entered into the Agreement (as defined below); and

WHEREAS, City and Contractor desire to modify the Agreement on the terms and conditions set forth herein;

WHEREAS, On June 10, 2003, per Resolution No. 03-0117, the Public Utilities Commission awarded Agreement No. CS-716, Engineering Services, Calaveras Dam Replacement Project, to Contractor to provide engineering and environmental support services in the amount of \$4,000,000, and with a term of four years, concluding on September 10, 2007;

WHEREAS, on July 26, 2005, per Resolution No. 08-0041, the Public Utilities Commission approved Amendment No. 1 to Agreement No. CS-716 to continue professional engineering and environmental services for detailed and final design, increasing the original agreement amount by \$8,000,000 to \$12,000,000 and extending the agreement term by two years to September 10, 2009;

WHEREAS, On September 6, 2005, approval for Amendment No. 1 was obtained from the Civil Service Commission per PSC# 4098-02/03;

WHEREAS, on September 20, 2005, approval for Amendment No. 1 was obtained from the Board of Supervisors, per Resolution 674-05

WHEREAS, on March 11, 2008, per Resolution No. 08-0041, the San Francisco Public Utilities Commission approved Amendment No. 2 to Agreement No. CS-716, to provide additional professional services for the final design as well as environmental support services to facilitate the completion of CEQA and NEPA documents and obtain required environmental permits, increasing the agreement amount by \$1,900,000 to \$13,900,000;

WHEREAS, On April 15, 2008, approval for Amendment No. 2 was obtained from the Board of Supervisors, per Resolution 182-08;

WHEREAS, On April 23, 2008, approval for Amendment No. 2 was obtained from the Civil Service Commission per Notice of Action per PSC# 4098-02/03;

WHEREAS, on May 12, 2009, per Resolution No. 09-0079, the San Francisco Public Utilities Commission approved Amendment No. 3 to Agreement No. CS-716, Engineering Services, Calaveras Dam Replacement Project to increase the agreement amount by \$10,100,000 to \$24,000,000 and extend the agreement term by seven years to September 10, 2016, in order to: provide additional design, environmental and permitting services needed prior to construction to address the naturally occurring asbestos (NOA) and fisheries issues; provide designs to mitigate impacts associated with the Calaveras Dam Replacement Project to be implemented under the Habitat Reserve Program; provide supplemental dam safety engineering analyses requested by the California Division of Safety of Dams (DSOD); provide ongoing permitting support; and provide engineering support during construction, start-up, and commissioning of the project;

WHEREAS on May 12, 2009, the San Francisco Public Utilities Commission authorized the General Manager to split Amendment Three into two parts, Amendment 3A and Amendment 3B. Amendment 3A, dated June 17, 2009, increased the existing Agreement by \$410,337 to allow the Contractor to continue essential critical services while Amendment 3B was pending approval from the Board of Supervisors.

WHEREAS, On June 15, 2009, approval for Amendment No. 3 (including Amendments 3A and 3B) was obtained from the Civil Service Commission per PSC# 4098-02/03;

WHEREAS, On July 28, 2009, approval for Amendment 3 was obtained from the Board of Supervisors, per Resolution 316-09;

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

1. Definitions. The following definitions shall apply to this Amendment:

1a. Agreement. The term "Agreement" shall mean the Agreement dated September 11, 2003, between Contractor and City, as amended by the:

First amendment, dated July 26, 2005;
Second amendment, dated April 15, 2005; and
Amendment Three A (3A), dated June 17, 2009.

1b. Other Terms. Terms used and not defined in this Amendment shall have the meanings assigned to such terms in the Agreement.

2. Modifications to the Agreement. The Agreement is hereby modified as follows:

2a. Section 1.2 of the Agreement ("Agreement Date and Term of Agreement"), currently reads as follows:

The effective date of this Agreement is the original date of its certification by the Controller. The term of this agreement shall be seventy-two (72) 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 Contractor shall complete and provide Detailed Design and Final Design, as well as engineering and technical support for the completion of the environmental review process (CEQA/NEPA).

Such section is hereby amended in its entirety to read as follows:

The effective date of this Agreement is the original date of its certification by the Controller. The term of this agreement shall be from September 11, 2003 to September 10, 2016. The Conceptual Engineering shall be completed within the first eighteen (18) months from the effective date. During the remaining term of the agreement, the Contractor shall complete and provide Detailed Design and Final Design, as well as engineering and technical support for the completion of the environmental review process (CEQA/NEPA).

2b. Section 4. of the Agreement (“Compensation”), currently reads as follows:

Compensation shall be made in monthly payments on or before the first day of each month for work, as set forth in Section 4 of this Agreement, that the General Manager, in his or her sole discretion, concludes has been performed as of the last day of the immediately preceding month. In no event shall the amount of this Agreement exceed Fourteen Million, Three Hundred Ten Thousand, Three Hundred Thirty Seven Dollars (\$14,310,337), which sum includes four hundred ten thousand three hundred thirty seven dollars (\$410,337) under Amendment No. 3A to provide additional design, environmental and permitting services for the Calaveras Dam Replacement Project. The breakdown of costs associated with this Amendment appears in Appendix B-3, “Amendment 3A Budget,” attached hereto and incorporated by reference as though fully set forth herein.

No charges shall be incurred under this Agreement nor shall any payments become due to the Contractor until reports, services, or both, required under this Agreement are received from the Contractor and approved by SFPUC as being in accordance with this Agreement. The City may withhold payment to the Contractor in any instance in which the Contractor has failed or refused to satisfy any material obligation provided for under this Agreement.

In no event shall the City be liable for interest or late charges for any late payments.

The Controller is not authorized to pay invoices submitted by the Contractor prior to the Contractor's submission of HRC Form 7, “Prime Contractor/Joint Venture Partner(s) and Sub-contractor Participation Report.” If HRC Form 7 is not submitted with the Contractor's invoice, the Controller will notify the department, the Director of HRC and the Contractor of the omission. If the Contractor's failure to provide HRC Form 7 is not explained to the Controller's satisfaction, the Controller will withhold 20% of the payment due pursuant to that invoice until HRC Form 7 is provided.

Following City's payment of an invoice, the Contractor has ten days to file an affidavit using HRC Form 9, “Sub-Contractor Payment Affidavit,” verifying that all subcontractors have been paid and specifying the amount.

Such section is hereby amended in its entirety to read as follows:

Compensation shall be made in monthly payments on or before the thirtieth day of each month for work, as set forth in Section 4 of this Agreement, that the General Manager, in his or her sole discretion, concludes has been performed as of the last day of the immediately preceding month. In no event shall the amount of this Agreement exceed Twenty Four Million Dollars (\$24,000,000), which sum includes nine million six-hundred eighty-nine thousand six-hundred sixty-three dollars (\$9,689,663) under Amendment No. 3B to provide additional design, environmental and permitting services for the Calaveras Dam Replacement Project. The calculation of charges associated with this Amendment appears in Appendix B-4, “Amendment 3B Calculation of Charges,” attached hereto and incorporated by reference as though fully set forth herein. Appendix B-3 and Appendix B-4 combined will be the total budget for Amendment 3.

No charges shall be incurred under this Agreement nor shall any payments become due to the Contractor until reports, services, or both, required under this Agreement are received from the Contractor and approved by SFPUC as being in accordance with this Agreement. The City may withhold payment to the Contractor in any instance in which the Contractor has failed or refused to satisfy any material obligation provided for under this Agreement.

In no event shall the City be liable for interest, or late charges for any late payments.

The Controller is not authorized to pay invoices submitted by the Contractor prior to the Contractor's submission of HRC Form 7, "Prime Contractor/Joint Venture Partner(s) and Sub-contractor Participation Report." If HRC Form 7 is not submitted with the Contractor's invoice, the Controller will notify the department, the Director of HRC and the Contractor of the omission. If the Contractor's failure to provide HRC Form 7 is not explained to the Controller's satisfaction, the Controller will withhold 20% of the payment due pursuant to that invoice until HRC Form 7 is provided.

Following City's payment of an invoice, the Contractor has ten days to file an affidavit using HRC Form 9, "Sub-Contractor Payment Affidavit," verifying that all subcontractors have been paid and specifying the amount.

2c. Amendment 3B amends the existing Agreement by adding Appendix A-4 in its entirety which provides additional scope of work.

2d. Amendment 3B amends the existing Agreement by replacing Attachment 1 in its entirety with Appendix B-4.

3. Effective Date. Each of the modifications set forth in Section 2 shall be effective on and after the date of this Amendment.

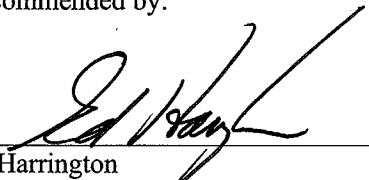
4. Legal Effect. Except as expressly modified by this Amendment, all of the terms and conditions of the Agreement shall remain unchanged and in full force and effect.

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IN WITNESS WHEREOF, Contractor and City have executed this Amendment as of the date first referenced above.

CITY


Recommended by:



Ed Harrington
General Manager
San Francisco Public Utilities Commission

CONTRACTOR

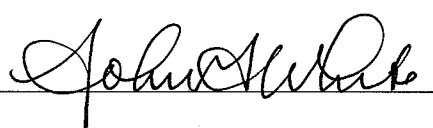
URS Corporation



name of authorized representative
title: *Louis Armstrong, SUP*
City vendor number: 19103


Approved as to Form:

Dennis J. Herrera
City Attorney

By: 

Deputy City Attorney

Approved:



Naomi Kelly
Director of the Office of Contract Administration,
and Purchaser

Appendix A-4
SCOPE OF WORK

Agreement No. CS-716, Amendment No. 3B

July 7, 2009

TASK GROUP A – Project Management

I. TASK A12 – PROJECT MANAGEMENT

A. Budget = \$223,687

B. Objectives

Provide project management through the extended design, bid and award period, to construction notice to proceed in February 2011.

C. Approach

- Project management will extend over the forecasted design, bid and award period, ending with the construction notice to proceed in February 2011. Because the original notice to proceed was scheduled for February 2009, the project management will be extended by 24 months. Project management will include project coordination and attendance at monthly project status meetings with SFPUC.

D. Assumptions

- This task is budgeted for September 2009 through February 2011.

E. Deliverables

- Monthly progress reports and monthly meeting agendas and progress meeting summaries.

TASK GROUP C – Engineering Studies

I. TASK C2 – EMBANKMENT

A. Budget = \$136,800

B. Objectives

Provide additional final design services related to the embankment dam details, for submittal to environmental regulatory agencies and DSOD.

C. Approach

- Re-design Disposal Sites 3 and 7 to accommodate NOA materials. Because the disposal sites will contain NOA materials, the disposal sites will need to be designed to protect waters of the U.S. and be approved by the RWQCB and other permitting agencies. In addition, the DEIR stated that these sites will need to be evaluated for geotechnical conditions such as seismic stability and fault rupture protection. Accordingly, prepare a technical memorandum that documents the results of static and seismic stability, including liquefaction potential, and surface and subsurface drainage. Provide design details that address potential fault rupture in the two disposal sites, such as maintaining continuity of subsurface drainage zones and the sandstone cap on the disposal sites to prevent exposure of the NOA materials.

- In a September 17, 2007, letter, DSOD requested that the effects of the seismic deformation of the existing dam on the intake adits be evaluated. Accordingly, design an intake adit protection berm to mitigate the impact of liquefaction failure of the existing dam on the intake adits. Prepare a technical memorandum that documents the rationale for the design of the intake adit protection berm.
- In review comments to the draft GIR dated May 29, 2007, DSOD requested that the mélange foundation shear strength parameters that were re-evaluated based on additional field and laboratory test data and used to confirm the stability of the dam be documented in the final GIR. Prepare a technical memorandum for incorporation into the final GIR that documents the results of the shear strength evaluation.
- Due to the soft mélange foundation discovered in the upper right abutment of the dam foundation, perform stability analyses of the replacement dam at that location. Furthermore, documentation of the stability of the dam on the left abutment was requested in a comment in CTAP #7. Likewise, the stability of the dam considering the effects of Disposal Site 2 on seismic deformation of the dam was requested in a comment in CTAP #8. Prepare a technical memorandum documenting the results of the analyses in these three areas of the dam.
- Prepare a technical memorandum on embankment filter and drain design to support gradations of these critical embankment elements, for submittal to DSOD for review.

D. Deliverables¹

Submit the following technical memoranda:

- Redesign of Disposal Sites 3 and 7 and Evaluation
- Intake Adit Protection Berm and Evaluation
- Evaluation of Mélange Shear Strength Parameters Based on Additional Field and Laboratory Data
- Analysis of Replacement Dam at Station 11+00, 18+00 and Disposal Site 2
- Embankment Filter and Drain Design

¹ General notes on Deliverables for all tasks:

- Contractor will submit one revision round and one final of each deliverable.
- For deliverables that require review and comment from regulatory agencies, contractor will submit an interim electronic draft version of each deliverable for SFPUC internal review and comment prior to submittal of a revised hard copy draft version (with SFPUC comments incorporated) to the regulatory agencies.
- Contractor will provide 20 hard copies and one electronic copy on a CD for each draft and final deliverable unless specifically stated otherwise. (Contractor will confirm with SFPUC the number of hard copies to be provided with each deliverable.)
- SFPUC will consolidate and provide Contractor with all review comments of draft submittals in a summary table format.
- Contractor will provide responses to review comments in the summary table from SFPUC.

II. TASK C4 – RIGHT ABUTMENT LANDSLIDE STABILIZATION

A. **Budget = \$14,600**

B. **Objectives**

Design the construction phase right abutment landslide stabilization.

C. **Approach**

- Temporary construction, such as tie back walls, is normally designed by the contractor. However, due to the potential impact on construction schedule of this early work, an engineer-designed temporary structure will be required. CTAP Report 7 recommended that the design for stabilization be carried out by URS and not left for subsequent decision by the construction contractor.
- Perform stability analyses of the landslide stabilization and structural analyses of the soldier pile/tie-back system, and document the design results in a technical memorandum. Prepare design basis of the soldier pile, lagging and tie-back system for the construction phase stabilization.

D. **Deliverables**

- Right abutment landslide stabilization technical memorandum

III. TASK C5 – SPILLWAY

A. **Budget = \$149,624**

B. **Objectives**

Provide additional final design services related to the spillway details.

C. **Approach**

- Based on constructability issues with the left abutment core trench excavation, confirm that open channel chute spillway is the most cost-effective alternative. Prepare technical memoranda on spillway alternatives evaluation.
- Based on the results of SFPUC's value engineering study, evaluate the use of sloping left spillway walls, and recommend whether sloping or vertical walls should be used in the design.
- Because the spillway location was shifted to the east toward the dam, the excavation in Observation Hill was reduced. As such, a gravity wall will be required that will serve as the left abutment of the dam and as part of the spillway chute. Perform a dynamic analysis of the left abutment spillway gravity wall to evaluate the amount of potential lift of the wall from the foundation during the design earthquake (MCE). Design anchor system to reduce transient uplift of the wall. Prepare a technical memorandum on the analysis methodology, parameters, results and recommendations for anchor system. Discuss analysis findings and results with DSOD and SFPUC.
- Because the spillway excavation slope in Observation Hill (near the dam crest) and the stilling basin cut are both about 450 feet high, and due to the high seismic shaking potential at the dam site, acceptable seismic deformations need to be demonstrated. Prepare technical memorandum on the spillway excavation seismic deformation analyses for submittal to DSOD for review.

- Prepare a spillway structural technical memorandum for submittal to DSOD for review. Provide analysis criteria including design loading and assumptions used to evaluate structural walls and floor slabs. Present design methodology, results of stability and structural analyses in the technical memorandum.

D. Deliverables

Submit the following technical memoranda:

- Spillway alternatives evaluation
- Vertical or sloping left spillway walls – evaluation and memo for VE
- Gravity wall analysis and design, iterations
- Spillway Excavation Slope Seismic Deformation
- Preparation of Spillway Structural Analysis

IV. TASK C7 – OUTLET WORKS

A. Budget = \$26,000

B. Objectives

Provide additional final design services related to the spillway details.

C. Approach

- Analyze and evaluate loading induced by seismic motions on standpipe and design means of support for the standpipe. Prepare a technical memorandum to present loading and assumptions to evaluate standpipe and support conditions. Present analysis methodology, results and conclusions.
- Additional review and revision of SFPUC work/Outlet works.

D. Deliverables

- Technical sections for installation in the outlet works technical memorandum

TASK GROUP D – design Package

I. TASK D5 – 95% DESIGN

A. Budget = \$61,610

B. Objectives

Provide additional final design drawing details and rationale as requested by SFPUC.

C. Approach

- Design a permanent unpaved access road, called the Marsh Connector Road, which will provide access to Borrow Area B during construction and to environmental mitigation areas for the project.
- Incorporate into the 95 percent design, requirements for repaving of Calaveras Road between the dam access road and I-680.
- The current location of the Intake Tower Access Road is on existing fill materials that will potentially become unstable after the approach channel is excavated through the existing dam. Reconfigure the alignment of the Intake Tower Access Road to avoid being founded on the existing embankment fill materials.

- Exploration adits dating back to the early 1900's were discovered in the north part of the dam foundation. The locations of these adits will need to be shown and designated for treatment such as backfilling, partial excavation, and drainage where they underlie the footprint of the dam.
- Prepare cost estimate back-up for NOA health and safety, air monitoring, productivity losses, and other associated costs in the 95% construction cost estimate.
- Attend site meetings with SFPUC on instrumentation planning for remote survey system and the State's strong ground motion array.
- Attend one 4-hour review meeting with SFPUC and its construction cost estimation contractor to respond to comments on URS' 95% construction cost estimate.

D. Assumptions

- Attend three site meetings with SFPUC for planning for remote survey system and the State's strong ground motion array.

E. Deliverables

- Drawings showing plans, sections and details Marsh connector road and Calaveras Road repaving, exploration adit treatment, and instrumentation details to accommodate State's strong ground motion array.
- Back-up estimates for NOA health and safety and air monitoring for inclusion in the 95% construction cost estimate technical memorandum.

II. TASK D7 – 100% DESIGN

Budget = \$51,469 (of this amount, \$33,419 is as-needed)

A. Objectives

Prepare grouting manual for field personnel, revise Division 0 and 1 specifications, and perform optional as-needed 100% design tasks as authorized by SFPUC.

B. Approach

Subtask D7.1 – Grouting Manual: A grouting manual is considered necessary by DSOD. URS will prepare a grouting manual to be used by CM and engineering personnel. The manual will define team roles and responsibilities, grouting objectives, construction requirements and procedures, equipment, grouting work, cored verification holes, and survey control points.

Subtask D7.2 – Revise Divisions 0 and 1 Specifications: Identify potential specification deviation from SFPUC standard Divisions 0 and I. We have allowed for six meetings with Contract Administration or City Attorney to reconcile deviations from the standard specifications. This task also includes preparing memoranda on resolutions.

Subtask D7.3 – As-Needed Tasks (As-Needed):

- Prepare response to future DSOD concerns.
- Further study and design on remote monitoring instrumentation and support as requested from SFPUC.
- Outlet works shutdown impact analysis if construction schedule changes due to other factors.

- Design to address Alameda/Santa Clara County concerns on road closure, traffic impact, and restoration.

C. Assumptions

- Subtask D7.2 – Assumed six meetings with Contract Administration or City Attorney

D. Deliverables

- Subtask D7.1 - Draft and Final Grouting Manual.
- Subtask D7.2 – Memoranda from meetings, presenting resolutions for inclusion in the specifications, and updated specifications.
- Subtask D7.3 – Tabular response to DSOD comments; revised drawings and specifications on remote monitoring instrumentation; memorandum on outlet works shutdown impact analysis; and memorandum on road closure, traffic impact, and restoration.

III. TASK D13 – CONSTRUCTION COST ESTIMATE/VE (NOA) (AS-NEEDED)

A. Budget = \$40,334

B. Objectives

As requested by SFPUC, evaluate ways to reduce construction costs considering the naturally occurring asbestos (NOA) issue.

C. Approach

- NOA occurs in the Franciscan Formation that exists in the dam site. The project components that involve NOA consist of (a) rock Borrow Area B, (b) stilling basin excavation, (c) dam foundation and (d) intake adits and shaft. Upon request from SFPUC, URS will assess the costs of project components that involve NOA. SFPUC and URS will conduct workshops to determine whether certain components can be eliminated from the project or re-designed to reduce construction costs. The workshops may involve CTAP and Program Manager participation.

D. Assumptions

- Allow for two 4-hour workshops with SFPUC.

E. Deliverables

- Meeting agendas, handouts, and summaries of main points, decisions and actions.

IV. TASK D14 – BID COST STRATEGY FOR NOA

A. Budget = \$40,840

B. Objectives

Establish a fair basis for competitive bidding strategy to accommodate the site NOA issues.

C. Approach

The bid documents will need to be practical and implementable and still meet health and safety requirements regarding NOA. The bid documents will need to provide for variations in the duration that certain health and safety restrictions will be in effect. This task will include the following activities:

- Review the bidding approach used for other projects involving NOA.

- Workshops with SFPUC to develop a list of bidding strategies along with the advantages and disadvantages for each strategy during the first workshop. The bidding strategies will be evaluated and a recommended strategy will be chosen during the final workshop

D. Assumptions

- Allow for two 4-hour workshops with SFPUC.

E. Deliverables

- Memorandum on rationale for bidding strategy to accommodate the site NOA issues and incorporation of these strategies in the 100% bid documents.
- Meeting agendas, handouts, and summaries.

TASK GROUP EA – Permitting Support

I. TASK EA.9 – SPECIALTY RESTORATION DESIGN

A. Budget = \$207,300

B. Objectives

Prepare restoration plans, specifications and cost estimates (PS&E) for the specified habitats and locations that will be disturbed during construction, as listed below:

- Riparian scrub at new Calaveras Creek low flow release channel downstream of the new dam
- Seasonal wetlands at lower margin of Disposal Site 3
- Seasonal wetlands at Borrow Area E
- Shrub and grasslands at Borrow Area B
- Grasslands at Disposal Site 7 and upper portion of Disposal Site 3.

C. Approach

- Ecologists, hydrologists, and design engineers will:
 - Conduct field visits;
 - Make hydrology and hydraulics study/predictions;
 - Review proposed dam operation and historic water surface elevation fluctuations to assess effects on plant establishment;
 - Evaluate watering requirements and options; and
 - Coordinate to maximize use of existing plans and specs and to define restoration integration limits, define number of plan sheets per site, and explore and make recommendations on how to successfully integrate the specialty work with the prime contract (e.g., schedule, warranty period, maintenance periods, retainage).
- Conduct kick-off meeting to finalize habitat restoration design objectives based on the "Opportunities for Restoration of Construction Areas" memo (dated 2/6/08), as modified during the May 8, 2008 meeting with SFPUC staff, and above activities.
- Prepare design documents, 35% plans, identify the existing specifications that can be used and list new specifications that will be prepared, and prepare a construction cost estimate for the 5 sites, followed by 95% and 100% PS&E.

D. Assumptions

- Draft concepts and final design will involve one round of meetings for each submittal.
- URS will receive consolidated comments.

E. Deliverables

- Draft and final design plans, specifications outline and cost estimate at 35%
- Plans, specs and cost estimate at 95% and 100%.and incorporation into bid documents.

II. TASK EA.10 – OBSERVATION HILL AND BORROW AREA B OAK RESTORATION DESIGN (AS-NEEDED)

A. Budget = \$66,074

B. Objectives

As requested by SFPUC BEM, prepare draft and final planting plans and specifications for oak plantings in temporary disturbance areas near Observation Hill and Borrow Area B to minimize potential visual impacts and restore affected oak woodland habitats.

C. Approach

The following approach will be utilized to complete this task:

- Review potential planting sites based on aerial photography and a site visit.
- Identify appropriate planting densities and species composition for each of the potential planting sites.
- Prepare draft oak tree planting plans and specifications for SFPUC review.
- Present the proposed plans and specifications to the SFPUC project team and identify potential comments and questions.
- Revise the draft planting plans and specifications to address SFPUC comments and questions; submit the revised plans and specifications to SFPUC for review.
- Meet with SFPUC project team to finalize the plans and specifications.

D. Assumptions

- Plan will address temporary disturbance areas associated with Borrow Area B and Observation Hill
- One iteration of SFPUC review and comments
- Two meetings at SFPUC offices

E. Deliverables

- Draft Planting Plan 14 weeks after NTP
- Final Planting Plan 5 weeks after receipt of SFPUC comments

III. TASK EA.11 – SECOND DEIR SCREEN CHECK REVIEW

A. **Budget = \$69,168**

B. **Objectives**

C. *Review the second DEIR screen check and provide comments and technical support to BEM as requested. Support the “war room” review of the final version of the DEIR. This task would focus on integrating the current status of the permitting efforts into the DEIR, including NOA evaluations, endangered species, water quality, hydrology, wetlands, and biological resource compensation.*

D. **Approach**

This task would include the following efforts of URS environmental and engineering staff as requested by BEM to support the review and preparation of the DEIR:

- Conduct up to two rounds of focused technical reviews of the second screen check version of the DEIR.
- Provide data, technical descriptions and other resources for incorporation into the DEIR.
- Develop additional information required by the environmental review team to integrate updates from the permitting efforts related to the USACE, USFWS, RWQCB, NMFS, and CDFG. This effort would include information related to fisheries resources, endangered species, habitat compensation, and wetlands.
- Coordinate and transmit comments to SFPUC.
- Provide additional as-needed technical review during the war room reviews with SFPUC, MEA and ETJV. Multiple technical specialists, including biologists, cultural resource specialists, hydrologists, air quality scientists, water quality scientists, and others would be available to attend the war room review at the request of BEM.
- Meet with SFPUC and MEA to resolve technical questions.

E. **Assumptions**

- *The second screen check review will consist of focused technical reviews of DEIR sections as requested by SFPUC.*
- *The final DEIR “war room” review by URS technical staff includes up to 15 working days with multiple staff as requested by SFPUC.*
- *Up to twelve additional meetings with BEM, PMB and MEA would be included as requested by SFPUC.*

F. **Deliverables**

Consolidated focused comments on the second screen check, electronically submitted approximately 15 days after receipt of the second screencheck version of the DEIR. Other potential deliverables may include memorandums that describe additional design or technical details related to the environmental review as requested by BEM.

IV. TASK EA.12 – AS-NEEDED TECHNICAL SUPPORT

A. Budget = \$51,299

B. Objectives

Provide as-needed support for SFPUC responses to Agency and MEA information requests.

C. Approach

This task would include URS environmental and engineering support for technical data and coordination needs that may arise during preparation of the DEIR and subsequent reviews and responses to agency data requests. As requested and directed by SFPUC, URS will:

- Provide environmental information and/or data to respond to requests from MEA. Examples would include in-depth evaluations of specific project details, additional site visits to resolve agency questions, and additional environmental data as requested by BEM.
- Evaluate environmental effects of proposed project design and develop potential design options to avoid or minimize potential effects.
- Prepare technical memoranda that address specific questions or information as requested by BEM.

D. Assumptions

- The scope of the environmental support provided under this task will be determined on a case by case basis in coordination with SFPUC.

E. Deliverables

- As-requested by SFPUC, potential deliverables may include electronic correspondence, technical memoranda, or other documentation to support environmental efforts.

V. TASK EA.13 – AS-NEEDED GIS SUPPORT

A. Budget = \$34,711

B. Objectives

Provide GIS support services to BEM as requested to illustrate and organize design details for the environmental review and permitting teams.

C. Approach

The environmental review team utilizes geographic information system software to evaluate potential impacts and prepare graphics for the environmental review documents. The need for additional GIS data and illustrations of specific design features is anticipated to increase during the permitting phase of the project. URS will continue to provide updated GIS data and graphics to the environmental team (BEM, ETJV and MEA) as requested. This task will include but is not limited to the following GIS support:

- Prepare GIS data, maps, and other graphics as requested by SFPUC to support the environmental permitting efforts and respond to data requests from agency personnel.
- Convert project design drawings to GIS files for transmittal to the environmental review team (ETJV and MEA).

- Prepare GIS graphics for meetings and presentations as requested by SFPUC.
- Maintain and organize the GIS data library for the design team for future use by SFPUC or the environmental review team.

D. Assumptions

- The scope of the GIS support provided under this task will be determined on a case by case basis in coordination with SFPUC.
- Transfer of GIS data will only occur as directed by SFPUC.

E. Deliverables

- Requested information on an as-needed basis. Typically maps will be delivered in color pdf format for ease of viewing and hard copy as requested. Data will be transferred to members of the environmental team as requested by SFPUC.

VI. TASK EA.14 – HABITAT RESERVE PROGRAM MITIGATION DESIGN & ENGINEERING (PHASE 2)

- A. Total Budget = \$899,905 (Subtasks Ea.14-1 to Ea.14-6)**

VII. SUBTASK EA.14.1 TASK COORDINATION

- A. Budget = \$82,243**

B. Objectives

Coordinate and communicate within the URS staff team, and between the URS team and the SFPUC, subconsultants, agency staff and stakeholders.

C. Approach

- Project coordination tasks include coordination and communication within the URS staff team, and between the URS team and the SFPUC, subconsultants, agency staff and stakeholders. The task manager is responsible for budget tracking and management, invoicing, quality assurance and quality control, project files, scheduling and meeting facilitation. The task management task will include preparation of a project management plan and quality assurance/quality control. The task manager will schedule monthly client project progress and/or coordination meetings. Various URS staff will attend as required to address agenda topics.

D. Assumptions

- The SFPUC will approve the URS staff and subcontractors required for this project.

E. Deliverables

- Scope and schedule updates, invoices with summary cover letters, meeting notes.

VIII. SUBTASK EA.14.2 REVIEW BACKGROUND MATERIAL, DEFINE SITE BOUNDARIES, CONFIRM DESIGN OBJECTIVES

- A. Budget = \$42,152**

B. Objectives

- Review and revise as necessary HRP sites' goals and objectives.
- Become familiar with the conclusions and recommendations of the various background reports.
- Locate and obtain relevant files from the SFPUC Define Site Boundaries, Confirm or Revise Design Components, and Identify Data Gaps

- To define site boundaries, confirm or revise design components, and to identify data gaps.

C. Approach

The following documents will be reviewed as part of this task:

- EDAW and Turnstone, Joint Venture (2008). *Draft Mitigation and Monitoring Plan for the Waters of the United States, Calaveras Dam Replacement Project, Alameda and Santa Clara Counties, California*. Administrative Draft issued May 2008.
- EDAW and Turnstone Consulting Joint Venture (2008). *Draft Wildlife and Vegetation Mitigation and Monitoring Plan, Calaveras Dam Replacement Project, Alameda and Santa Clara Counties, California*. Working Draft issued July 2008.
- ICF Jones & Stokes 2008. *Conceptual Engineering Checklist Reports for Environmental Review – Attachment 6b, PP1 Project Site, Sunol Valley Region, Santa Clara County, California*. Draft issued May 2008.
- RR4, YE1, and PP1 Maps.
- Existing grazing management plan for the Calaveras Watershed (1997).
- Existing Pond Management Plan for the Watershed.
- Existing fire management plan for the Calaveras Watershed.
- Weed mapping data for the Watershed (done by Nomad Ecology).
- Alameda Watershed Management Plan.

This task includes locating and obtaining digital files from SFPUC, their subcontractors, and other URS Calaveras work for boring logs, hazardous materials reports, digital mapping data including: topography, land use, soils, vegetation, roads, structures, utilities, property boundaries, and water features, digital tabulations of rainfall, evapotranspiration, infiltration, and hydrologic data, digital copies of existing hydrology and hydraulics studies, reports, and model files previously prepared for the mitigation areas, base maps of existing features and proposed reservoir related features in AutoCAD, geo-rectified aerial photographs. Digital topographic base maps with the appropriate contour interval exist for all the areas listed in the introduction.

Phase 2 team site visit for the purpose of ground-truthing project site boundaries using GPS equipment or by annotating an aerial photo, to ground truth our assessment of data and data gaps and determine how to address these information needs, and make observations confirming or revising the mitigation design objectives for each site.

A technical memorandum will be prepared summarizing the results of the review, a map of each site's boundaries, and analyzing site goals and objectives from the design, construction and performance perspective.

D. Assumptions

- Topographic data available from the USGS National Elevation Dataset (10 meter) will be sufficient in most cases to inform field studies and overview design. Some tasks, such as hydrology studies or grading design, will require more precise

elevation data. SFPUC will provide this data, either in available LiDAR or through a field survey.

- There will be no substantial change to the site's perimeter or an increase in the number of sites.

E. Deliverables

- Task 1 draft technical memorandum summarizing the results of the review, a map of each site's boundaries, and analyzing site goals and objectives from the design, construction and performance perspective.

IX. SUBTASK EA.14.3 HYDRAULIC STUDIES

A. Budget = \$48,897

B. Objectives

Perform the hydraulic analysis for the mitigation sites to support permitting and design.

C. Approach

- For restoration reaches, the hydrology models developed under the Phase 1 scope will be used with existing conditions surveys and proposed designs to develop hydraulic models of the reaches for the design events using the HEC-RAS software. The hydraulics models will estimate channel velocities and stage during storm events to assist in evaluating proposed channel stability and determine the extent and frequency of flooding. Sediment transport during selected design events (i.e. low flow and bank-full) will also be modeled in the HEC-RAS to provide a greater understanding of channel stability.

- Hydraulic modeling is expected to be performed on the following reaches:

San Antonio Creek in the San Antonio Mitigation Area	11,10 l.f.
Calaveras Creek in the South Calaveras Mitigation Area	3,400 l.f.
San Antonio & Calaveras Creeks Reference Site	2,000 lf
Ephemeral Stream in the South Calaveras Mitigation Area	1,850 l.f.
Ephemeral Drainage below the Stock Pond in the South Calaveras	1,200 l.f.
Total length:	19,550 l.f.

- For pond outlet designs, the hydrology models developed under the Phase 1 scope will be used with existing conditions surveys and proposed designs to develop pond routing models using industry standard software (e.g., Hydraflow Hydrographs, PondPack, or other). For the design event(s), the pond routing models will estimate peak storm elevation and discharge from the ponds to inform the design of proposed dams or retrofit of existing dams.
- Pond routing is expected to be performed for 3-5 design events, e.g., 2-yr, 5-yr., 10-yr; at the Goldfish Pond and the Stock Pond.
- Bridge scour at the proposed San Antonio Creek Bridge will be analyzed for the bridge design event as necessary.

D. Assumptions

- SFPUC will provide, on CD or DVD, all data, mapping, and drawings necessary for the work.
- No pond routing analyses at Ponds 18, 19, nor Goat Rock.

E. Deliverables

- The information gathered in this task will be presented in the Study Summary Technical Memo.

X. SUBTASK EA.14.4 RESTORATION DESIGN PLANS & SPECIFICATIONS

A. Budget = \$634,338

B. Objectives

Take the conceptual design product from Phase 1 and prepare a full 30% design plan. After SFPUC review and comments on the 30% plan, develop the 60% (concrete structures only), 90%, 100% design plans, technical specifications, and cost estimates for the mitigation activities at each of the sites.

C. Approach

- Take the conceptual design product from Phase 1 and prepare a full 30% design plan. After SFPUC review and comments on the 30% plan, develop the 60% (concrete structures only), 90%, 100% design plans, specifications, and cost estimate for the following components, at applicable sites:
 - Pond grading and draining
 - Pond outlet structure stabilization or reconstruction with gravity drains
 - Wetland, pond, and riparian habitat enhancement or creation
 - Channel restoration or enhancement design
 - Floodplain reconnection
 - Irrigation performance specifications
 - Water transfer systems (solar pumps, pipelines, tanks, troughs)
 - Temporary and permanent fencing
 - Railcar bridge
 - Special status species habitat enhancement, e.g. rock outcrops, partial pond fencing
 - Special status species pre-construction salvage and relocation of native aquatic species and removal and disposal of non-native predatory species that may impact native aquatic species found within the ponds
 - Vegetation installation: planting depth, plant installation spacing, herbivore protection. Vegetation warranty period performance criteria and post warranty period maintenance until plants are established.
 - Hazardous materials disposal of asbestos containing building materials and lead from South Calaveras.
- Designs will also address traditional construction issues such as: construction timing, equipment specifications, temporary construction access routes (permissions to be obtained by SFPUC), staging areas, soil disposal locations, site preparation and finish grading for plants, temporary erosion and sediment control, maintenance during construction, demolition of existing structures, hazardous material handling practices, and worker safety protocols.
- Designs will integrate engineering and biological components. For example, the design will include the most recent scientific input on breeding pond design for California red-legged frog (RLF), foothill yellow-legged frog (FYLF), and California

tiger salamander (CTS). In particular, this input will involve the type and location of fencing within the Goldfish Pond and Stock Pond to provide an appropriate balance of vegetative cover and open water habitat. Additional information regarding pond bathymetry and habitat preferences for these species will be integrated and predator control specifications will be prepared for Goldfish Pond, Stock Pond, Pond 18, and Pond 19. Construction scheduling restrictions related to these species will be defined, i.e. earthwork will need to occur between July 31 and October 31st when egg masses and larval CTS and RLF are not expected to be present in the ponds and plant installation between October 1 and December 31.

- Design plans, specifications, and cost estimates will be developed and submitted to SFPUC for review at 30%, 60% (concrete structures only), 90%, and 100% design stages. A Detailed Design Report will accompany each design submittal. 100% design plans and specifications are intended as construction documents for use during bidding and construction by pre-qualified restoration contractors. An additional review at the 60% design level will be prepared and submitted for concrete structures.

D. Assumptions

- Detailed field surveys for all creek enhancement sites will be provided by SFPUC to URS in autocad format with two foot contours and survey point data.
- Plans and specifications will be prepared with the same title block and drawing standards as the Calaveras Dam Replacement Design (URS).
- 60% design plans, specifications, and costs for design features other than those listed above (concrete structures only) are not included in this scope of work. Should 60% submittal be required for additional features, an amended scope and budget will be prepared for SFPUC approval.
- Project staff will meet to discuss deliverable requirements, technical methods, and schedule prior to drafting each deliverable.
- URS will prepare technical specifications only and Division 1 specifications will be added by SFPUC.
- National elevation data set data will be sufficient for designing spoil area at Goat Rock. If this is not the case, SFPUC will provide survey data.
- Irrigation plans and specifications will not be prepared as part of this scope of work. Irrigation planning will be the responsibility of the construction contractor. Irrigation performance specifications will be prepared and included with the bid package as guidance for the construction contractor.
- No surveys for RLF or CTS will be conducted as part of this scope.
- SFPUC submittal review duration is three weeks.
- South Calaveras is the only site with hazardous materials assessment and disposal design, for ACM and lead.

E. Deliverables

- 5 hard copies of half size (11"x17") construction plans and standard technical specifications documents will be submitted for each deliverable. Electronic versions as pdf documents can be supplied upon request.

- 30% design plan and technical specifications submittal with draft cost estimate based on 30% design and detailed design report.
- 60% design plans, technical specifications, draft cost estimate, and detailed design report for features that include concrete: bridge abutments, outlet structures, solar pump foundation pads.
- 90% design plan and technical specifications submittal with draft cost estimate based on 90% design and detailed design report. Including responses to comments on the 30% design submittal in tracking table that includes the comment, source page and resolution with page or sheet number as appropriate.
- 100% design plan and technical specifications submittal and final cost estimate based on 100% design. Including responses to comments on the 90% design submittal in the format described above.

XI. SUBTASK EA.14.5 VEGETATION, GRAZING AND POND MANAGEMENT PLAN

A. Budget = \$66,027

B. Objectives

Prepare a vegetation, grazing and pond management plan ("the Plan") for Goldfish Pond, Stock Pond, Pond 18, Pond 19 and Goat Rock.

C. Approach

A vegetation, grazing and pond management plan ("the Plan") will outline goals and objectives for vegetation, grazing and pond (Goldfish Pond, Stock Pond, Pond 18, and Pond 19) management at each mitigation site. Management goals and objectives will be designed to meet mitigation requirements, as well as goals that can fit into a larger grazing and vegetation management plan for the 30,000 acre Alameda watershed.

URS will endeavor to locate and review the following documents to inform the plan:

- 2009-2009 Invasive Weed Study (Nomad Ecology, in progress);
- Alameda Watershed Fuels Management Plan (SFPUC unknown date).
- Alameda Watershed Pond Management Plan (SFPUC unknown date)

The Plan will address predator control, sediment management and other measures for enhancement of sensitive species habitats (including habitat for foothill yellow-legged frog, red-legged frog and California tiger salamander) based on an understanding of site ecology. The Plan will address sensitive plant communities and sensitive plants and wildlife that occur or have potential to occur (suitable habitat) within the mitigation sites.

Grazing and vegetation management strategies for achieving management goals will be outlined in the Plan. Potential monitoring objectives and adaptive management strategies will be suggested in the plan, however, a detailed monitoring design, implementation or analysis of data and thresholds is not included. Management strategies will be based upon and consider:

- Information from knowledgeable individuals on the most up to date, successful management strategies (for control of invasive plants and wildlife with and without grazing, management techniques for enhancing serpentine grasslands, etc.);
- Current grazing regime and existing grazing management plan. Establishment of grazing carrying capacity will draw upon existing data collected by SFPUC on Residual Dry Matter (RDM), as well as existing data on soils, topography slope and aspect. No new measurements of RDM will be collected;
- Existing vegetation, sensitive species, slope, topography, infrastructure, soils and

- hydrology at each mitigation site;
- The surrounding environs (vegetation, land use, topography, sensitive habitats, etc. adjacent to the mitigation sites);
- Type and density of non-native wildlife and fish predators at mitigation ponds (Goldfish Pond, Stock Pond, Pond 18, and Pond 19);
- Wildlife movement; and
- Feasibility.

D. Assumptions

- Two site visits will be conducted to evaluate current site conditions (invasive plants, cattle impacts, native vegetation, erosion, etc.).
- Existing mapping of invasive plants, as well as the two (winter) site visits, will be sufficient to establish what invasive plants should be addressed in the Plan.
- The grazing management component of the Plan will be reviewed and approved by SFPUC Certified Rangeland Manager, Tim Koopman.
- No new mapping of vegetation communities, sensitive habitats, exotic plants or sensitive plant species will be performed under this task.

E. Deliverables

A draft report will be submitted to SFPUC for review and changes will be incorporated into a final report. The report will include:

- Infrastructure specifications such as fencing, placement of water sources, cattle supplements and other cattle-related infrastructure;
- Discussion of historical grazing regime;
- An evaluation of potential effects of varying grazing regimes on sensitive biological resources (amphibians, wildlife, plants, plant communities, avian species);
- Grazing capacity of the restoration sites (estimated);
- Season and intensity of grazing based on management goals, current plant communities, hydrology and sensitive species;
- A conceptual monitoring program and adaptive management strategies; and
- Strategies for optimizing the control of target invasive plants based upon the flowering time, level of threat and reproduction methods of various target plant species.

XII. SUBTASK EA.14.6 PERMITTING SUPPORT

A. Budget = \$27,552

B. Objective

Support SPUC permit application process.

C. Approach

- The first step will be to finalize project engineering design criteria and habitat mitigation design criteria to both support the permitting effort and coordinate with the proposed design.
- The SFPUC may choose to use the 30% design submittal to finalize and obtain permits. The design will be presented to the interagency task force for the Calaveras Dam Replacement Project. This task includes attendance at up to 4 meetings to

assist SFPUC in answering questions and comments from the interagency task force.

D. Assumptions

- Four meetings are included in the scope, to be attended by two URS staff, selected as appropriate to meet the specific meeting objectives.

E. Deliverables

- Meeting notes.

TASK GROUP EB – NOA COMPLIANCE PLAN

For construction activities associated with the Calaveras Dam Replacement Project, a Compliance Plan will have to be developed to address potential issues related to the presence of naturally occurring asbestos (NOA) and potentially other excavated materials and materials containing elevated concentrations of NOA and metals at the Proposed Project Site. The Compliance Plan was developed under Agreement Amendment 2 as a Scope of Work. During the implementation of these activities, additional activities were identified or tasks were found to require additional work that will be provided under this Agreement Amendment 3.

The following documents were prepared: NOA and Metals Evaluation Report, the Water Quality Evaluation Memorandum, the Dust Mitigation Plan (DMP), the BAAQMD and CalOSHA Requirements Memorandum, and various supporting documents. In addition, background air monitoring for asbestos and metals was commenced in August 2008.

Compliance Plan Objectives

The overall objectives of the NOA Compliance Plan are, as follows:

- Provide a NOA compliance approach that includes a procedure to gain regulatory concurrence.
- Provide documents required for air, water, and worker safety in accordance with the regulatory agency requirements.
- Integrate the requirements into the project bid documents.

Due to the complexity of the project, additional Phase I work is ongoing and is included herein to document additional work requested and/or deemed necessary for the CDRP.

As a result of these evaluations, additional objectives for the Compliance Plan were identified, as follows:

- Evaluate whether background asbestos concentrations exist regionally in air at concentrations comparable with levels of potential concern related to the CDRP.
- Understand the various risk-based and regulatory trigger levels compared to the CDRP background airborne asbestos and selected metal concentrations.
- Develop trigger level specific laboratory asbestos analytical methods.
- Develop water treatment approaches for asbestos and removal efficiencies.
- Provide technical support to the development of risk communication tools.

A. (In Task Order 7, Amendment 5)

B. New Tasks that Started Prior to January 2009

The cost of the following items has increased the previous budget as indicated in the paragraphs below:

- Task B1 - In Task Order 7, Amendment 5
- Task B2 – In Task Order 7, Amendment 5
- Task B3 - Dust Accumulation Evaluation and Scope Development (will continue in 2009)
- Task B4 - Regional Air Quality Data Evaluation and Monitoring Scope Development (will continue in 2009)
- Task B5 – Background Water Quality Data Evaluation and Work Plan for Additional Data Collection

Task B3 - Dust Accumulation Monitoring Scope and Budget Development

A. Budget = \$8,250

Baseline dust accumulation monitoring is recommended based on the EIR mitigation measure 5.9.2d that requires certain protections be afforded existing buildings. A scope is being developed by the team to address this concern.

Metals and asbestos containing dust generated during project operations can potentially be transported by winds to the inside of nearby structures where it can settle onto floors and other horizontal surfaces. Such settled dust can later be re-entrained by routine household activities, which can then contribute to ongoing exposure. The EIR requires the following:

“Mitigation Measure 5.9.2d would require site-specific measures to address NOA/metals in dust that has settled in structures would, including protection of structures from NOA and metals-laden dust, coordination with relevant regulatory agencies regarding acceptable levels of residual asbestos and naturally occurring metals in the structures, and clearance sampling to demonstrate compliance with these standards.”

Structures near the construction area are more likely to be impacted by the generation of dust during construction, compared to structures that are farther away from the construction site. The watershed keeper’s residence and the EBRPD’s Ranger residence are fairly close to the construction site. There are a number of residences and businesses that are farther away from the construction site.

B. Objective

Develop dust accumulation sampling scope and budget.

C. Approach

Develop protocols to monitor the quantity of settled dust that may be generated during construction of the CDRP and develop protective measures to minimize dust accumulation in the indoor environments of structures near the CDRP site.

Two types of dust accumulation sampling are recommended:

1. For nearby residences, sampling could include:
 - Baseline monitoring of ambient dust accumulation (indoor and outdoor)
 - Pre-construction sampling

- Soil to establish existing dust on ground surface (that could be tracked in)
 - Floor and other horizontal surfaces
 - During construction - Tenting of structures with ambient sample collection inside tenting to measure tent effectiveness
 - Post construction - Cleaning of structures with verification (clearance) sampling of cleaning
 - Long term sampling – Post construction monitoring
 - Track in/out concentrations indoors to measure ongoing concentrations (diminishment)
 - Soil to establish existing dust on ground surface (that could be tracked in)
 - Floor and other horizontal surfaces
2. For residences at a distance, sampling could include:
- Baseline monitoring of dust accumulation (outdoor)
 - During construction dust accumulation (outdoor)
 - Post construction dust accumulation to measure diminished concentrations and soil samples to measure post construction concentrations (outdoor)

D. Assumptions

The scope and budget will include a description of the stations, monitoring frequency and period, sampling and analytical procedures, staffing and equipment needs, as well as proposed protective measures for minimizing dust accumulation in nearby structures.

E. Deliverables

Draft technical memorandum with the scope and anticipated budget.

Task B4 - Regional Background Monitoring Scope Development (Completed)

A. Budget = \$12,708

Regional background monitoring will be used to establish whether asbestos occurs in the region near the CDRP prior to construction, and to evaluate whether post-construction regional concentrations are affected by the construction of the CDRP. This task involves the development of a general scope and approach.

B. Objective

A general scope was prepared and submitted to the SFPUC in September 2008.

C. Assumptions

One active and one passive air sampling station will be established in 6 locations (Cities of Sunol, Milpitas, Fremont, Pleasanton, Livermore, and Tracy) at SFPUC-owned facilities or publicly accessible locations.

D. Deliverables

Receive and incorporate comments into the general scope and approach. One meeting with SFPUC.

Task B5 - Background Water Quality Data Evaluation and Monitoring Scope Development (completed)

A. Budget = \$17,988

B. Objective

Evaluate background asbestos and metals concentrations in the three surface water bodies (Alameda and Calaveras Creeks, and Calaveras Reservoir) associated with the CDRP and develop needs for additional background water quality data.

C. Assumptions

SFPUC will provide existing water quality data.

D. Deliverables

URS will evaluate the existing data set and make recommendations for additional background water quality monitoring. URS will prepare a work plan for SFPUC to implement.

C. Funded Tasks that Expanded and Will Continue in 2009

- o Task C1 - Continued Implementation of Baseline Air Quality Monitoring in 2009
- o Task C2 – Additional Baseline Meteorological and Air Quality Monitoring in 2010
- o Task C3 - Additional Meteorological and Air Quality Stations Installation
- o Task C4 - Continued CEQA Support for Hazards and Water and Air Quality Sections (includes PEL work – partially completed)

Task C1 - Continued Implementation of Baseline Air Monitoring in 2009

A. Budget = \$327,042 for 9 monthly events

B. Objective

Continue collection of air quality samples for NOA and metals at up to 17 stations at the CDRP site.

C. Approach

A four-day field effort with a four-person team will set up and break down up to 17 air quality monitoring stations over the CDRP site. Monitoring will include 14 baseline air quality monitoring stations and the new EBRPD stations and one residence installed under Eb Task C3. Each air quality monitoring station will use two pumps one for metals and one for asbestos. Each sample will be analyzed for asbestos by the AHERA method and for the five metals, copper, nickel, cobalt, chromium, and arsenic. In addition, it is estimated that 10 percent of the asbestos samples will also be analyzed by the "extended standard operating procedure (SOP) developed in conjunction with Dr. Wayne Berman. For the purposes of costing we estimated that approximately 25 percent of the asbestos samples that are analyzed by the extended SOP would require

up to 700 grids read. The cost for the extended SOP can range from \$350 to \$4000 per analysis depending on the number of grids that require reading.

D. Assumptions

Monitoring will occur over 9 months in 2009. Meteorological and air quality monitoring is conducted concurrently.

E. Deliverables

Reports (3 total) will be provided each quarter and will be comprised of three monthly reports containing the following:

- A description of the field effort
- Tabulated data
- Quality assurance / quality control review of data, and
- A discussion.

Task C2 – Additional Baseline Meteorological and Air Quality Monitoring in 2010

A. **Budget = \$244,942** for 6 events selected to be conducted in the 12-month period from Jan. - Dec. 2010

B. Objective

Continue collection of air quality samples for NOA and metals at up to 17 stations at the CDRP site. (This monitoring would include the additional stations for EBRPD and one resident.)

C. Approach

Events will be selected to target either additional seasonal data or specific conditions, such as high wind events. Field effort is the same that described above for Eb Task C1.

D. Assumptions

Meteorological and air quality monitoring is conducted concurrently.

E. Deliverables

Reports (6 total) will be provided for each event and will contain the following:

- A description of the field effort
- Tabulated data
- Quality assurance / quality control review of data, and
- A discussion.

Task C3 – Additional Meteorological and Air Quality Stations Installation

A. **Budget = \$39,374**

B. Objective

Provide one sentry station at a sensitive receptor (for the nearby residence on the ridge), and one meteorological station, at the EBRPD Park.

C. Approach

The air quality monitoring station and meteorological station at the EBRPD Sunol Visitors Center will be installed and monitored during the baseline air monitoring efforts covered under Eb Task C1. The installation of one additional sentry station is included.

The installation of the meteorological station would require a new foundation and tie line system located within a 12' x 12' concrete pad. Monthly downloads of data would be included in the meteorological monitoring work conducted under Eb Task C1.

D. Assumptions

The cost estimate assumes that the stations would be the same or similar to that which already exists as part of the Baseline Air Monitoring Program.

The monitoring scope would be the same as that described under Eb Task C1 and is assumed that the cost of Eb Task C1 would cover the additional monitoring of the stations for EBRPD and one additional sentry station at a residence.

The cost for this task includes subcontractor and equipment procurement, installation of stations, and equipment setup and calibration. This cost does not include negotiations with the parties involved for access or other requests. Equipment changes requested may change the cost of the installation. We have assumed the existing meteorological station and air quality baseline stations would be duplicated.

E. Deliverables

A memo will be provided to document the installation of the new stations. The memo will include a description of the field activities, and will also include copies of the equipment manuals.

Task C4 - Continued CEQA Support for Hazards and Water and Air Quality Sections

A. Budget = \$24,820

B. Objective

Provide support to SFPUC in the development of responses to requests for information from the MEA regarding the Preliminary Draft Environmental Impact Assessment (PDEIR) for NOA-related issues during various phases of the project to the public.

C. Approach

In response to requests from SFPUC, prepare written comments and responses regarding information presented in the PDEIR and review PDEIR text. Responses may include proposed language, technical memoranda, feasibility assessment of mitigation measures, among other things.

D. Deliverables

As requested or needed, including various written material regarding NOA.

D. (Not Used)

E. Funded Tasks that Expanded and Will Continue in 2009

Task E1 – Expanded Comprehensive Air Monitoring Plan (CAMP) Development

The original scope of work for the CAMP included development of trigger levels, establishment of baseline conditions, suitable target monitoring criteria, and the CAMP document itself. The plan will include triggers (action levels) and their associated corrective actions, should monitoring results exceed established criteria and will also include benchmarks that will allow relaxing of monitoring requirements, if observed concentrations are substantially lower than anticipated. The plan will include monitoring requirements, laboratory selections, analytical requirements, and quality assurance / quality control requirements. Agency review and approval is required. A draft and final plan will be prepared. One round of agency comment responses is included.

A. Budget = \$76,482

B. Objective

Due to early input from Dr. Wayne Berman and other City divisions, and the EIR requirements and the background asbestos results, the CAMP will include factors related to the site and surrounding conditions and risk-approaches for asbestos. The scope has expanded due to the need to provide additional review, which requires our interaction with another, possibly outside, expert reviewer.

C. Approach

URS will provide the CAMP and the protocols to evaluate the perimeter and activity area air monitoring data generated during construction. Additional trigger level development is included in Task A2 in Amendment 2 (Task Order No. 7 - Amendment 5) provided under separate cover. Senior risk review will include the review of risk-based approaches appropriate for the CDRP site and particular conditions. Decisions related to trigger level and target criteria development and selection, and protocols for implementing corrective actions will be reviewed.

D. Assumptions

- The CAMP review will include outside expert or internal personnel.
- The cost is provided as follows: \$50,000 (senior expert review) and remainder for URS document preparation and reviewer comment incorporation.

E. Deliverables

As in the original scope, a draft and final report will be provided. Documentation of reviewer comments and responses will be provided.

F. New Items in 2009

These tasks are new work that will continue in 2009:

- Task F1 – Baseline Dust Accumulation Work Plan and Implementation
 - Work Plan
 - Quarterly Dust Accumulation Implementation
 - Selected Baseline Soil Sampling and Analysis
- Task F2 – Construction Dust Accumulation Monitoring Work Plan Development
- Task F3 - Regional Air Quality Monitoring Detailed Scoping and Implementation
 - Detailed Work Plan
 - Implementation

- [Task F4 - Implementation of Jar Testing (in Amendment 3A)]
- Task F5 - Treatability Study
- Task F6 - Baseline Water Quality Monitoring Support
- Task F7 - Public Communication Support
- Task F8 - Meetings (Attendance and Preparation)

Task F1 - Baseline Dust Accumulation Monitoring Work Plan and Implementation

A. Budget = \$201,781

B. Objective

Develop a detailed dust accumulation monitoring work plan for both baseline and construction monitoring that identifies station locations, equipment needs, sampling and analysis protocols and reporting requirements. The work plan is anticipated to include the only the baseline portion of the scope outlined below and will consist of baseline soil and accumulated dust samples.

C. Approach

Develop protocols to monitor the quantity of settled dust that may be generated during construction of the CDRP and develop protective measures to minimize dust accumulation in the indoor environments of structures near the CDRP site.

The following describes the general scope for pre-construction (or baseline) dust accumulation monitoring. This scope of work only includes the implementation of the baseline portion, and will include a description of the stations, monitoring frequency and period, sampling and analytical procedures, and staffing and equipment needs.

Two types of dust accumulation sampling are recommended:

1. For nearby residences or occupied buildings, sampling could include:
 - Baseline monitoring of ambient dust accumulation (indoor and outdoor)
 - Pre-construction sampling
 - Soil to establish existing trackable dust on ground surface
 - Floor and other horizontal surfaces
2. For residences at a distance, sampling could include:
 - Baseline monitoring of dust accumulation (outdoor)

D. Assumptions

For cost purposes, we assumed that dust accumulation samples would be collected at each baseline monitoring station (up to 17) and at 5 other residential or occupied settings (e.g., Sunol Valley Treatment Plant, Watershed Keeper's house, EBRPD buildings and residence). Sampling includes asbestos and metals. Costs provided for implementation and soil sampling are based on the draft approach provided above.

This baseline dust accumulation monitoring is conducted concurrently with the monthly baseline air quality monitoring, and dust accumulation results will be included in the baseline air monitoring reports provided under Eb Tasks C1.

E. Deliverables

Draft and final baseline dust accumulation work plan. In addition, draft and final reports provided under Eb Tasks C1 and C2 will include the dust accumulation monitoring results for the associated periods.

Task F2 - Construction Dust Accumulation Monitoring Work Plan Development

A. Budget = \$26,645

B. Objective

Develop a detailed dust accumulation monitoring work plan for the construction phase of the CDRP. The work plan will identify station locations, equipment needs, sampling and analysis protocols and reporting requirements. An engineer's estimate will also be developed for planning purposes for the implementation of dust accumulation during the construction phase of the CDRP.

C. Assumptions

The results of the baseline dust accumulation work will be used to compare the dust accumulation monitoring conducted during construction.

D. Deliverables

Draft and final work plan and engineer's estimate will be provided.

Task F3 - Monthly Regional Air Quality Monitoring Detailed Scoping and Implementation (As-Needed)

Regional background monitoring is required to establish whether asbestos occurs in the region near the CDRP prior to construction, and to evaluate whether post-construction regional concentrations are affected by the construction of the CDRP. This cost is for a 12-month period prior to NTP (12 sampling events).

A. Budget = \$279,919 for a 12-month period. (An additional budget of \$94,933 is provided for 6 additional events in 2010. Individual events in 2010 are estimated to be \$15,822 each.)

B. Objective

Develop a detailed work plan, establish monitoring station locations and protocols. To implement the regional air quality monitoring work plan.

C. Approach

The detailed work plan will be prepared by URS, and access procured by SFPUC. One active and one passive air sampling station will be installed in 6 locations (cities of Sunol, Milpitas, Fremont, Pleasanton, Livermore, and Tracy) at SFPUC-owned facilities or publicly accessible locations. Stations will be monitored once per month for 12 months. Samples will be analyzed for asbestos using the AHERA method and filters will be archived in case extended analyzed is desired.

D. Assumptions

Access agreements are procured by SFPUC.

This represents a 12-month period (January – December 2009) in which monthly events are conducted, and provides for finding locations, procuring equipment, communicating and working with property owners for event work, conducting the sampling and

analyzing the samples. In the event that monthly regional monitoring is pursued the additional monthly cost would apply to events conducted after December 2009.

E. Deliverables

Reports (4 total) will be provided each quarter and will be comprised of three monthly reports containing the following:

- A description of the field effort
- Tabulated data
- Quality assurance / quality control review of data, and
- A discussion.

Task F5 - Treatability Study Report for Asbestos and Metals Removal from Storm Water and Groundwater

A. Budget = \$53,950

B. Objective

Evaluate the feasibility of construction water treatment at the CDRP given the hydrologic conditions, storage capacity, site topography and treatment efficiency rates expected.

C. Approach

URS will prepare a preliminary engineering analysis of the hydrologic conditions will be conducted and compared to estimated site storage capacity, site topography and treatment efficiency rates derived from the jar testing results. An analysis of the engineer's estimated schedule and staging will provide the storm water volume ranges. This report will include an estimate of the treatment train efficiency and the associated storm volume ranges for the CDRP.

D. Assumptions

Readily available data and information from SFPUC and other public sources will be used. No field storm water sampling will be required under this task.

E. Deliverables

Draft and final report will be prepared.

Task F6 - Baseline Water Quality Monitoring Support

A. Budget = \$5,420

B. Objective

Support SFPUC storm water quality monitoring.

C. Approach

One URS employee experienced in storm water sampling will conduct a debriefing meeting in the office to discuss the scope. In addition, the URS employee will spend one day accompanying the SFPUC water quality monitoring team prior to the first storm water sampling event to locate the background stations and train the team on sampling procedures. The locations of the storm water sampling stations will be identified and located with GPS. In addition, URS will provide storm water sampling training and

instruction based on the previously provided Draft Background Water Quality Sampling and Analysis Plan.

D. Assumptions

One field event.

E. Deliverables

None.

Task F7 - Public Communication Support

A. Budget = \$33,774

B. Objective

Provide support to SFPUC's public information team regarding the communication of NOA-related issues during various phases of the project to the public. Typically this work would include preparation of documents for discussions regarding NOA. Additional requests are anticipated as part of the CEQA process and public review of the environmental documents.

C. Deliverables

Various written material and presentation displays regarding NOA.

Task F8 - Meetings (Attendance and Preparation)

A. Budget = \$46,318

B. Objective

Attend meetings to discuss NOA related issues for the CDRP (up to budget limit).

C. Approach

Based on requests.

D. Assumptions

This task includes six meetings where one presenter has 24 hours per meeting to prepare in one dry run with SFPUC, participate and conduct debrief and peripheral activities. Meetings could include public participants, team reviewer Dr. Wayne Berman, and other SFPUC staff. A nominal amount of additional time is provided for staff support.

E. Deliverables

As requested or needed, including various written material, presentations, or boards regarding NOA.

Task F9 - Risk Assessment (As-Needed)

F. Budget = \$304,320

G. Objective

Provide a risk assessment for the public and/or workers exposed to dust at the CDRP.

H. Approach

The scope of work will be developed in conjunction with risk assessment practitioners. Assumptions will be developed during scoping. Modeling of air emissions may be performed or exposure assessments for emissions may be generated.

I. Deliverables

Draft and final Human Health Risk Assessment

TASK GROUP Ec - ADDITIONAL MISCELLANEOUS AS-NEEDED SERVICES (AS-NEEDED)

A. Budget = \$150,044

B. Objectives

Provide additional as-needed services as requested and authorized by SFPUC.

C. Approach

Due to the uncertainties associated with the environmental permitting, air and water quality issues related to NOA and metals, fisheries issues, and other related activities, there may be additional services required that cannot be adequately scoped at this time. These services may include:

- Design for bypass tunnel / gate and flow monitoring instrumentation at Alameda Creek Diversion Dam.
- Additional GIS and/or visual simulations for CEQA review.
- Additional risk assessment modeling.
- Additional data acquisition to fill data gaps for fisheries BA.
- Other services as may be required but unforeseen at this time.

D. Assumptions

IF ANY OF THE ABOVE SERVICES ARE REQUIRED, A DETAILED SCOPE OF WORK AND BUDGET WOULD BE PREPARED AND WOULD NOT BE IMPLEMENTED WITHOUT WRITTEN AUTHORIZATION OF THE SFPUC.

E. Deliverables

Deliverables would be specified at the time that the work is requested by SFPUC.

TASK GROUP ED – On-going Permitting Support

I. TASK ED.1 – ON-GOING PERMITTING SUPPORT – STEVE LEACH AND DAVID REEL (JULY 2009-JUNE 2010) (AS-NEEDED)

A. Budget = \$511,599

B. Objectives

Support BEM permitting and related environmental efforts on the CDRP.

C. Approach

As authorized by SFPUC, support and coordinate permitting and environmental consulting efforts for the CDRP as follows:

- *Provide weekly support with 1 full-time equivalent person between Steve Leach and David Reel. At times this may include using other technical staff to support efforts, as requested.*
- *Tasks will include attending meetings, provide strategic input, prepare technical papers, review documentation and meet with agencies, as requested.*
- *Support integration of permit conditions on plans and specifications and coordination with selected construction management contractor, as requested.*

D. Assumptions

The proposed cost estimate is based on the following assumptions:

- *Continue weekly BEM permitting support by Steve Leach and David Reel from July 1, 2009 to June 30, 2010.*
- *Weekly support will consist of 1 full-time equivalent person with 36 hours of Steve Leach's time and 16 hours of David Reel's time.*
- *52 weeks period from June 2009 through June 2010*
- *12 monthly progress meetings with BEM.*

E. Deliverables

Requested information and review input on an as-needed regular basis.

II. TASK W – FISHERIES RELATED FEASIBILITY STUDIES SUPPORT

A. Budget = \$154,979 (Note: Partial Funding for this task was previously provided under Task Order 7, Amendment 5)

B. Objectives

Prepare draft and final fisheries related passage feasibility studies.

C. Approach

As requested by SFPUC, URS will provide the following fisheries technical support:

- Review technical data and reports, conduct site visits, and attend meetings with SFPUC and agencies(as requested), to support prepare efforts of four technical memoranda.
- Prepare draft and final versions of four technical memoranda based on SFPUC comments, including reorganization, technical review and editing as requested.
- Participate in and facilitate meetings with agencies to discuss findings of fisheries feasibility studies and respond to limited comments.

D. Assumptions

The proposed cost estimate assumes the following:

- One additional round of review and comments by SFPUC between draft and final technical memoranda.
- Up to eight meetings with SFPUC to review comments and complete proposed edits to the four technical memoranda.
- Up to two meetings with agency personnel to present the findings of the technical memoranda.

- Revisions to the technical memoranda in response to agency comments will be provided as addenda.

E. Deliverables

The following deliverables are included in this task:

- Draft and final versions of the four passage feasibility technical memoranda.
- Draft and final addenda in response to agency comments.
- Summary tables containing SFPUC comments and URS proposed responses.

III. TASK GROUP I – ENGINEERING SUPPORT SERVICES DURING CONSTRUCTION

A. Budget = \$2,800,535

B. Objectives

Provide engineering support services for URS-designed elements during construction of the CDRP.

C. Approach

As requested by SFPUC, URS will provide the following engineering support during construction:

- Task I1 - Site visits for activities such as attendance at construction meetings, and monitoring of foundation conditions, test borings and test pits, and other issues that may arise during construction.
- Task I2 - Review of technical submittals that pertain to design of the project features
- Task I3 - Prepare responses to Requests for Information (RFIs).
- Task I4 - Engineering/design of features to adjust to field conditions that may be required. This task also includes preparation of an inspection and instrumentation manual for construction.
- Task I5 - Surface geologic mapping and inspections to confirm that foundation and abutment excavation objectives are met, and that the foundation areas are ready for DSOD inspection.
- Task I6 - Review of grouting data to confirm that the grouting objectives are met.
- Task I7 - Review of tie-back wall construction including tie-back load test data.
- Task I8 - Review of rock reinforcement, which includes recommending locations for reinforcement on the high spillway and stilling basin excavation slopes.
- Task I9 - Underground (adits and intake shaft) geologic mapping and inspections to confirm that conditions meet design objectives.
- Task I10 - Review of QA testing data to confirm that constructed conditions are consistent with design assumptions.
- Task I11 - Provide technical support for change orders.

D. Assumptions

The proposed cost estimate assumes the following:

- Budget is based on a 4-year construction period, with NTP in February 2011.

- Budget does not include the following:
 - NOA compliance monitoring
 - Environmental compliance monitoring
 - Preparation and maintenance of record drawings (by CM); URS to review only (see Task J3).
 - Contact administration (by CM/SFPUC)
 - Engineering services during construction for SFPUC-designed elements
- QC data and grout monitoring will be performed by the CM.
- Surface geologic mapping is for dam foundation, spillway excavation, and Borrow Area B.

E. Deliverables

The following deliverables are included in this task:

- Records of site visits including geologic maps and review memoranda for the tasks indicated above.
- Responses to submittals and RFI's.
- Inspection and Instrumentation Manual for Construction.
- QA testing data reviews.

IV. TASK GROUP J – ENGINEERING SUPPORT SERVICES DURING START-UP, COMMISSIONING AND CLOSE-OUT

A. Budget = \$200,160

B. Objectives

Provide engineering support services for URS-designed elements during start-up, commissioning and close-out of the CDRP. The design engineer of record will provide engineering services during the start-up / commissioning / and close-out phases of the project to include the following:

C. Approach

As requested by SFPUC, URS will provide the following engineering support during start-up, commissioning and close-out:

- Task J1 - Provide design engineer review of monitoring data obtained from new dam instrumentation during re-filling and in the early post-construction period of the new dam and reservoir operation. In addition, provide design engineer review comments and/or recommendations on any unusual condition or anomaly in the dam performance during re-filling or in the post-construction period.
- Task J2 - Prepare operations and maintenance manuals for the new dam and appurtenant facilities, including an update to the inspection and instrumentation manual for the post-construction period.
- Task J3 - Provide technical support for close-out of the project, including change order/claims technical support, and review of record drawings.

D. Assumptions

The proposed cost estimate assumes the following:

- Budget is a preliminary allowance. Detailed estimate of these services has not yet been developed.

E. Deliverables

The following deliverables are included in this task:

- Instrumentation Data Review Memorandum.
- Operations and Maintenance Manual.
- Updated Inspection and Instrumentation Manual.

V. TASK GROUP K – ADDITIONAL MISCELLANEOUS AS-NEEDED SUPPORT SERVICES (AS-NEEDED)

A. Budget = \$1,998,956

B. Objectives

Provide additional as-needed services as requested and authorized by SFPUC.

C. Approach

Due to the uncertainties associated with the remaining design work, construction and start-up/commissioning/close-out, there may be additional services required that cannot be adequately scoped at this time. These services may include:

- Task K1 - Additional design services that may be requested by DSOD.
- Task K2 - Additional NOA compliance support services.
- Task K3 - Additional permitting services.
- Task K4 – Additional design modifications during construction.
- Task K5 - Additional site visits due to conditions found during construction.
- Task K6 - Additional support for change order/claims.
- Task K7 - Other services as may be required but unforeseen at this time.

D. Assumptions

IF ANY OF THE ABOVE SERVICES ARE REQUIRED, A DETAILED SCOPE OF WORK AND BUDGET WILL BE PREPARED AND WILL NOT BE IMPLEMENTED WITHOUT WRITTEN AUTHORIZATION OF THE SFPUC.

E. Deliverables

Deliverables will be specified at the time that the work is requested by SFPUC.

APPENDIX B-4
Agreement No. CS-716, Amendment No. 3B

Calculation of Charges

As part of Contractor's negotiated scope of work and budget incorporated herein as Appendix A-4, Contractor submitted proposed billing rates for CS-716 Amendment 3B, attached hereto as Appendix B-4 Fee Schedule Form.

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

1. Billing Rates

Contractor's billing rates and each and every staff classification as stated in Appendix B-4 Fee Schedule Form will be the billing rates for the listed individuals. The billing rate may not exceed the lowest rate charged to any other governmental entity except the City and County of San Francisco. Billing rates may be adjusted annually on April 1 (prorated in the first year from the effective date of Amendment 3B as stated in the Notice of Contract Award letter). The amount of the adjustment is limited to a maximum of the CPI annual percentage change increase (San Francisco Bay Area for Urban Wage Earners and Clerical Workers) for the previous calendar year. No increase, including the annual CPI adjustment, is allowed to billing rates exceeding \$220 per hour, unless Project Manager and Bureau Manager authorize an increase to the rate in writing.

2. Personnel Changes:

Any proposed changes to project personnel or staff classification as listed in Appendix B-4 Fee Schedule Form must be approved prior to implementing the changes in writing by the SFPUC Project Manager. These personnel changes may include but are not limited to:

- Proposed addition of new project personnel to perform requested services that are within the scope of the Agreement;
- Proposed change of staff classification for existing personnel; and/or
- Proposed replacement or substitution of any employee listed in Appendix B-4 due to termination, promotion or reclassification.

All proposed personnel must meet all qualification requirements established by the Agreement.

3. Effective Overhead and Profit Rate (EOPR)

The Effective Overhead and Profit Rate multiplier for CS-716 Amendment 3B is **2.82**. The EOPR OR Individual Firm Overhead and Profit Rate multiplier will apply to the billing rate of all individuals not listed in Appendix B-4 Fee Schedule Form. If a new subconsultant is added during the duration of the Agreement, the new individual firm multiplier can be no more than the EOPR.

4. Other Direct Costs (ODC)

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

The following items will be eligible for reimbursement as ODCs:

- Out-of-town travel for project related business (“out-of-town” shall mean outside the nine Bay Area counties: San Francisco, Alameda, Marin, Santa Clara, Sonoma, Contra Costa, Napa, San Mateo, Solano);
- Out- of town meal, and lodging expenses for project-related business trips. Meal and lodging expenses shall be reasonable and actual but limited to Federal government per diem rates;
- Rental or leased vehicle(s): traveler must select the most economical contractor and type of vehicle available and acquire any commercial rate or government discount available when the vehicle is rented. Rental or leased vehicle will be on an as needed basis and will require prior written approval of the SFPUC Project Manager. ODCs may include rental or lease payments, fuel, maintenance, insurance, parking, and other associated vehicle expenses for Project Vehicles approved by SFPUC;
- Personal vehicle use: Contractor will be paid per mile as established by the United State Internal Revenue Service and only for that portion of travel that is outside the nine Bay Area counties and non-routine. If the Contractor needs to use personal vehicles for Project related business within the nine Bay Area Counties a prior written approval from the SFPUC Project Manager is required.
- Specialty printing (“specialty” as used herein shall mean large volume printing and color printing and requires **prior** written approval by SFPUC project staff and documentation of the written approval by the SFPUC must be included with the invoice);
- Specialty computer hardware and software (only with **prior** written approval by SFPUC project staff and documentation of the written approval by the SFPUC must be included with the invoice);
- Courier services that are project related;
- Permit fees;
- Expedited courier services when requested by SFPUC staff;
- Safety equipment;
- Special services, used solely for the benefit of this project and not performed by the Prime Contractor or by the Sub-consultants, such as electrical testing, hazardous material testing, training, deliveries, diving services, office and field office setups and maintenance, and telephone and network installations and maintenance. All such service must receive prior written approval of SFPUC project staff and documentation of the written approval by the SFPUC must be included with the invoice.

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

- All other travel expenses such as parking, bridge tolls, public transit, vehicle mileage within the nine Bay Area Counties, and travel for personal vehicle usage from Contractor's home office or residence to SFPUC facilities;
- Contractor personnel relocation costs;
- Any home or regional office labor charges or pass-throughs, including but not limited to, administrative and clerical personnel time;
- Personnel relocation and temporary assignment expenses;
- Entertainment expenses;
- Cell phones;
- Home office expenses;
- Telephone calls and faxes originating in the firm's home office, standard computer use charges, computer hardware or software computer hardware or software (other than the specialty hardware or software mentioned above), communication devices, and electronic equipment;
- Meal expenses which are not related to project-related business trips, including refreshments and working lunches with SFPUC staff;
- Equipment to be used by SFPUC staff; and
- Postage and courier services which are not requested by SFPUC staff.

5. Subcontractor Mark-Up and Documentation

Second-tier and pass-through subcontracting is prohibited. Additional subcontractors may be added to the contractor team after obtaining pre-authorization by the SFPUC Project Manager and Bureau/Division Manager. Subcontractor administration markup is limited to five percent (5%) of *subconsultants' actual labor costs*.

6. 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 Regional Project Manager and all work products have been received and approved by the SFPUC Regional Project Manager, the Contractor may request that the retention be released. In lieu of money retention, an irrevocable letter of credit acceptable to the City will be accepted.

7. Invoice Requirements

The contractor shall submit one original invoice package with the appropriate HRC reporting forms and supporting documentation to substantiate services provided and allowable ODCs. Original invoices should be sent directly to:

San Francisco Public Utilities Commission

Contract Administration Bureau – Centralized Invoice Processing Unit
1155 Market Street, 9th Floor
San Francisco, CA 94103

Contractor will work with City Staff to establish an invoice format that will correlate with appropriate City reporting requirements and will be used thereafter.

All invoices must include the following information:

- Contract number;
- Task Order Number;
- Purchase Order Number(s);
- Index Code(s);
- Billing Start Date; and
- Billing Ending Date.

Invoice Supporting Documentation:

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

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

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

HRC Form 9 "Payment Affidavit" must be sent to the Contract Administration Bureau's Centralized Invoice Processing Unit within ten (10) days of receiving payment for each invoice to document the subcontractor's payment by the prime contractor.

Staff Name	Amendment 3	
	Billing Rate	Effective Date

Hammond, Kristin	\$ 65.02	09/01/09
Lindquist, Eric S.	\$ 160.12	09/01/09
Administrative Assistant	\$ 110.53	09/01/09
Boissevain, Polly	\$ 168.38	09/01/09
Brown, Paul	\$ 245.00	09/01/09
Capito, Linda	\$ 103.08	09/01/09
Clerk	\$ 63.01	09/01/09
Contract Administrator	\$ 95.04	09/01/09
Daniel, Phillippe	\$ 211.00	09/01/09
Draftsperson/Designer/Technicain	\$ 142.55	09/01/09
Engineer/ Scientist	\$ 142.55	09/01/09
Fry, R.	\$ 189.99	09/01/09
Giorsetto, Paul	\$ 187.00	09/01/09
Hinchcliff, J.	\$ 102.70	09/01/09
Meyerhoff, Paul	\$ 245.00	09/01/09
Moncrief, W.J.	\$ 175.61	09/01/09
Pickus, W.	\$ 210.08	09/01/09
Sr. Engineer/Scientist	\$ 158.05	09/01/09
Staff Engineer/Scientist	\$ 110.53	09/01/09
Sturtz, Ernest	\$ 161.15	09/01/09
Talbot, W.	\$ 101.84	09/01/09
Toyoda, Jon	\$ 223.89	09/01/09
Trott, K.	\$ 91.92	09/01/09
Tuero, J	\$ 101.34	09/01/09
Von Bargaen, C.	\$ 220.00	09/01/09
Word Processor	\$ 95.04	09/01/09
Holman, Richard	\$ 142.55	09/01/09
Subsurface Survey Crew	\$ 145.00	09/01/09
Steiner, Daniel B.	\$ 139.46	09/01/09
CADD Operator	\$ 71.28	09/01/09
Liu, Cynthia	\$ 152.88	09/01/09
Project Manager	\$ 131.19	09/01/09
Senior Project Engineer	\$ 114.66	09/01/09
Word Processor	\$ 50.62	09/01/09
Assistant Staff Scientist	\$ 52.68	09/01/09
Computer Specialist	\$ 61.33	09/01/09
Project Assistant	\$ 54.23	09/01/09
Project Coordinator	\$ 68.12	09/01/09
Project Scientist/ Engineer	\$ 99.85	09/01/09
Senior Consultant 1	\$ 165.28	09/01/09
Senior Consultant 2	\$ 165.28	09/01/09

Senior Management Consultant	\$	165.28	09/01/09
Senior Project Scientist	\$	126.10	09/01/09
Senior Staff Scientist	\$	74.04	09/01/09
Staff Scientist	\$	63.16	09/01/09
Taylor, Thomas	\$	165.28	09/01/09
Technical Editor	\$	109.98	09/01/09
Cornell, J.	\$	107.04	09/01/09
Hadden, S	\$	75.34	09/01/09
Huchet, J.	\$	67.20	09/01/09
Olson, J.	\$	220.00	09/01/09
Perez-Comos, J.	\$	157.60	09/01/09
Snider, William M.	\$	183.04	09/01/09
Ware, C.	\$	61.55	09/01/09
Administrative	\$	56.82	09/01/09
Goldstein, Beth L.	\$	130.16	09/01/09
Hannaford, Margaret	\$	153.92	09/01/09
Senior Engineer	\$	118.80	09/01/09
Deas, Michael	\$	149.79	09/01/09
Merritt-Smith, Amy	\$	165.28	09/01/09
Smith, David W.	\$	165.28	09/01/09
Stevens, Michael A.	\$	134.29	09/01/09
Gazit, Mike	\$	120.00	09/01/09
Revey, Gordon	\$	180.00	09/01/09
Chew, Robert Y.	\$	185.93	09/01/09
McKee, Mark	\$	117.39	09/01/09
Njoloma, Stephen	\$	74.72	09/01/09
Ntambakwa, Eric	\$	85.50	09/01/09
Project Engineer/Geologist	\$	87.81	09/01/09
Senior Engineer/Geologist	\$	113.63	09/01/09
Staff Engineer/Geologist	\$	77.48	09/01/09
Tech Illustrator	\$	61.98	09/01/09
Word Processor	\$	61.98	09/01/09
Lee, Branden	\$	35.12	09/01/09
Admin/Accounting	\$	74.38	09/01/09
Bliss, Enkhtuya	\$	77.48	09/01/09
Chan, Mennor	\$	162.25	09/01/09
Chiu, Stella	\$	87.89	09/01/09
Clerical	\$	159.00	09/01/09
Cortez, Angeles	\$	82.28	09/01/09
Drafter/Mapping CAD	\$	89.67	09/01/09
Engineer/ Scientist	\$	83.67	09/01/09
Fleming, Liam	\$	76.78	09/01/09
Hulbert, Jr., Eugene	\$	126.40	09/01/09
Liu, Irene	\$	79.20	09/01/09
Mak, Toni	\$	61.98	09/01/09

Manansala, Denmark	\$	97.52	09/01/09
McGrath, Benny	\$	147.16	09/01/09
Oehlert, E. A.	\$	92.97	09/01/09
Project Engineer/Geologist	\$	92.97	09/01/09
Project Manager	\$	123.96	09/01/09
Salgado, Edmundo	\$	56.35	09/01/09
Surveyor (2-m-crew)	\$	180.00	09/01/09
Abbott, Robert	\$	128.17	09/01/09
Akhtar, Mohammad	\$	88.21	09/01/09
Allan, Natalie	\$	78.96	09/01/09
Allen, Jennifer	\$	134.80	09/01/09
Amdur, Jon R.	\$	220.00	09/01/09
Arnold, Vivien S.	\$	98.25	09/01/09
Arulnathan, Rajendram	\$	148.44	09/01/09
Austin, Valarie	\$	71.97	09/01/09
Autie, Lois	\$	168.14	09/01/09
Bammes, Karel	\$	61.17	09/01/09
Bandel, Joseph A.	\$	88.21	09/01/09
Barboza, Gilda	\$	74.67	09/01/09
Batista Anchisi, Alessandra	\$	69.91	09/01/09
Bekele, Woubabeba	\$	88.79	09/01/09
Bell, Eric	\$	85.16	09/01/09
Bellows, Robin	\$	43.70	09/01/09
Bente, Chris	\$	92.61	09/01/09
Bente, Vance	\$	206.42	09/01/09
Bero, David	\$	123.18	09/01/09
Bertolucci, Steven	\$	130.67	09/01/09
Bettelheim, Matthew	\$	101.18	09/01/09
Bischoff, John	\$	301.21	09/01/09
Blair, Harold	\$	155.10	09/01/09
Bowcott, Sydney	\$	203.38	09/01/09
Brantley, James	\$	223.80	09/01/09
Bricker, Jeremy	\$	103.10	09/01/09
Brokken, Elizabeth	\$	45.12	09/01/09
Brokken, Steven	\$	203.38	09/01/09
CAD	\$	72.25	09/01/09
Canty, Bridget	\$	90.01	09/01/09
Capps, Clyde	\$	143.14	09/01/09
Carbiener, Michael	\$	116.75	09/01/09
Carrington, Christopher	\$	71.85	09/01/09
Carroll, Gregory	\$	86.07	09/01/09
Cash-Sanchez, Sheri	\$	66.54	09/01/09
Chan, Sherry	\$	86.86	09/01/09
Chang, Sunghye	\$	99.72	09/01/09
Cherry, Kathleen	\$	78.17	09/01/09

Chio, Man-San	\$	108.74	09/01/09
Chiu, George	\$	129.27	09/01/09
Cobos-Roa, Diego	\$	101.63	09/01/09
Coleman, Andrea L.	\$	56.40	09/01/09
Connell, Anne	\$	184.43	09/01/09
Consultant	\$	144.49	09/01/09
Cooke, Terry	\$	207.33	09/01/09
Cory, Pamela	\$	89.68	09/01/09
Couch, Shannon	\$	108.01	09/01/09
Coudray, Shel	\$	160.22	09/01/09
Czarnecki, R. Martin	\$	245.10	09/01/09
Daniels, Christopher	\$	86.40	09/01/09
Dant, Rebecca	\$	56.03	09/01/09
Davidson, Richard	\$	206.40	09/01/09
Davis, Anna	\$	105.58	09/01/09
Dawson, Ethan	\$	169.20	09/01/09
De Vries, Douglas	\$	167.73	09/01/09
Demgen, Francesca	\$	181.16	09/01/09
Deshmukh, Vibha	\$	87.98	09/01/09
Dexter, Sean	\$	79.36	09/01/09
Dillon, Reinhold	\$	113.88	09/01/09
Diouf, Mohamed	\$	105.13	09/01/09
Disuanco III, Felliciano	\$	51.12	09/01/09
Dober, Mark	\$	105.58	09/01/09
Doo, Chung-Soo	\$	125.79	09/01/09
Drew, Dan	\$	154.20	09/01/09
Drury, Alison B.	\$	125.66	09/01/09
Dufour, Alexis	\$	102.33	09/01/09
Dunn, Maureen	\$	108.85	09/01/09
Eck-Lewis, Bryan	\$	76.72	09/01/09
Edmunds, Jody L.	\$	121.60	09/01/09
Eichstaedt, Kenneth	\$	182.62	09/01/09
Ekanayake, S.	\$	105.62	09/01/09
Elliot, Elizabeth	\$	126.08	09/01/09
Engineer/ Scientist	\$	89.78	09/01/09
Evans-Walker, Daria	\$	101.25	09/01/09
Farley, Christy L.	\$	71.06	09/01/09
Farre, Raul	\$	84.94	09/01/09
Fee, David	\$	165.59	09/01/09
Feldsher, Theodore B.	\$	162.09	09/01/09
Fendick, Edward	\$	138.74	09/01/09
Fenton, Clark	\$	102.36	09/01/09
Fiorella, Frank	\$	64.09	09/01/09
Flack, Phyllis	\$	143.37	09/01/09
Forrest, Michael	\$	207.55	09/01/09

Fournier, Deborah	\$ 79.00	09/01/09
France, John	\$ 206.40	09/01/09
Fraser, Alexandra	\$ 146.19	09/01/09
Gambino, Sam	\$ 141.11	09/01/09
Gandhi, Harshavardhan	\$ 46.61	09/01/09
Garder, Derek	\$ 198.01	09/01/09
Garner, Des	\$ 191.87	09/01/09
Gentzler, Seth	\$ 151.40	09/01/09
Gerbig, Lee	\$ 160.22	09/01/09
Giangerelli, April	\$ 109.19	09/01/09
Gillan, Chad	\$ 106.26	09/01/09
Godinez Jr., Salvador	\$ 73.76	09/01/09
Golding, Jessie	\$ 78.17	09/01/09
Gong, Chao	\$ 169.20	09/01/09
Gotauco, Adrian	\$ 81.05	09/01/09
Green, Robert	\$ 196.84	09/01/09
Gross, Daniel	\$ 150.36	09/01/09
Hakimi, Haleh	\$ 86.40	09/01/09
Hakos, Matthew	\$ 85.45	09/01/09
Handa, Manoharlal	\$ 167.99	09/01/09
Harder, David	\$ 177.41	09/01/09
Harrell, Eugene	\$ 96.20	09/01/09
Harris, Ronald	\$ 78.17	09/01/09
Hatoff, Brian	\$ 154.87	09/01/09
He, Miao	\$ 82.37	09/01/09
Heick, Denise	\$ 203.87	09/01/09
Heinen, Bob	\$ 163.19	09/01/09
Henricks, Jolie	\$ 73.32	09/01/09
Henry, Jacob T	\$ 98.11	09/01/09
Hirsch, D.	\$ 94.85	09/01/09
Hom, Stephen	\$ 206.40	09/01/09
Hopper, Kenneth	\$ 80.79	09/01/09
Horowitz, C.	\$ 92.93	09/01/09
Horwath, Robert	\$ 151.88	09/01/09
Howard, Dreama K.	\$ 82.97	09/01/09
Hsu, Kevin	\$ 52.44	09/01/09
Hudson, Jeane	\$ 107.27	09/01/09
Hughes, David	\$ 175.40	09/01/09
Hughes, Jacqueline	\$ 64.41	09/01/09
Hunt, Elizabeth	\$ 149.01	09/01/09
Hutton, Nadine	\$ 112.68	09/01/09
Ideris, Alan	\$ 71.74	09/01/09
Imoro, Yasmeeen	\$ 74.23	09/01/09
Jackson, Arthur	\$ 83.20	09/01/09
Jackson, Lisa	\$ 96.56	09/01/09

Jacobsen, Bradley	\$	72.08	09/01/09
Jaffe, Beth	\$	133.65	09/01/09
Janowski, Sheri	\$	100.62	09/01/09
Jansen, Derek	\$	75.69	09/01/09
Jantzen-Marson, Candace	\$	92.27	09/01/09
Jaramillo, Carlos	\$	201.12	09/01/09
Jenkins, Susan	\$	66.07	09/01/09
Jerman, Michelle	\$	73.46	09/01/09
Johnson, Tracy	\$	158.16	09/01/09
Jolley, Dustin	\$	107.02	09/01/09
Jones, Jason	\$	90.07	09/01/09
Jones, Patricia	\$	61.17	09/01/09
Jones, Scott	\$	111.67	09/01/09
Kanagalingam, Thangalingam	\$	106.60	09/01/09
Kawamura, Nelson	\$	131.55	09/01/09
Keeley, Amy	\$	110.60	09/01/09
Kellogg, Stephen	\$	212.97	09/01/09
Kick, Maureen	\$	90.43	09/01/09
Kindell, Belinda	\$	74.11	09/01/09
Klein, Galen	\$	168.86	09/01/09
Koike, Hiroko	\$	97.01	09/01/09
Kolbe, Thomas	\$	130.16	09/01/09
Kolekar, Alok D.	\$	107.95	09/01/09
Kozlowicz, Benjamin	\$	88.89	09/01/09
Ku, Wynham	\$	113.88	09/01/09
Kulkarni, Ram	\$	206.40	09/01/09
Kurasaki, Irving	\$	115.17	09/01/09
Kuwabara, Yu	\$	86.93	09/01/09
La Belle, Sarah	\$	128.59	09/01/09
Langston, William	\$	103.82	09/01/09
Lau, Fan	\$	96.90	09/01/09
Lawton, Gil	\$	149.79	09/01/09
Leach, Steven	\$	220.00	09/01/09
Lee, Kevin	\$	85.73	09/01/09
Lee, Melinda	\$	79.41	09/01/09
Lemein, Todd	\$	82.46	09/01/09
Less, Jodi	\$	61.17	09/01/09
Leung, Wai Lun	\$	84.88	09/01/09
Lewis, Jean M.	\$	112.24	09/01/09
Lewis, Sarah	\$	82.80	09/01/09
Li, Wei	\$	115.28	09/01/09
Li, Wei D.	\$	115.28	09/01/09
Li, Zhihua	\$	92.60	09/01/09
Linden, Carl	\$	206.40	09/01/09
Lindsteadt, Crystal	\$	68.67	09/01/09

Little, Scott	\$	76.70	09/01/09
Loadholt, Suzanne	\$	66.65	09/01/09
Locke, Samantha	\$	61.17	09/01/09
Logeswaran, Segaran	\$	93.80	09/01/09
Losberg, Renata	\$	70.03	09/01/09
Lovelady, Suzanne	\$	87.39	09/01/09
Lowenthal-Savy, Danielle L	\$	82.14	09/01/09
Lowrie, Scott	\$	73.32	09/01/09
Lu, Corinna	\$	92.92	09/01/09
Maat, Paula	\$	94.03	09/01/09
MacDonald, Thomas C.	\$	207.55	09/01/09
Marshall, Timothy	\$	222.44	09/01/09
Martinez, Misty	\$	73.65	09/01/09
Martorana, Dean	\$	94.08	09/01/09
Matthew, Andrew D	\$	84.13	09/01/09
Mattox, Dan	\$	88.55	09/01/09
McCain, John	\$	104.68	09/01/09
McCulloch, Roderick M.	\$	97.12	09/01/09
McDevitt, Brendan	\$	206.40	09/01/09
McEvoy, Sadie	\$	98.36	09/01/09
McFarlan, Renee M.	\$	87.76	09/01/09
McIntyre, Lynn	\$	36.28	09/01/09
Mejia, Lelio	\$	206.40	09/01/09
Mendonca, Jennifer A.	\$	81.44	09/01/09
Messelbeck, James	\$	159.09	09/01/09
Meyer, Nikolai	\$	84.53	09/01/09
Meymand, Philip	\$	166.38	09/01/09
Mineart, Philip	\$	167.40	09/01/09
Mitchell, Cassandra	\$	60.49	09/01/09
Mittal, Prapti	\$	88.32	09/01/09
Moler, William	\$	172.92	09/01/09
Monaghan, Mike	\$	140.32	09/01/09
Morgan III, Joe	\$	168.07	09/01/09
Morgan, Joseph	\$	46.61	09/01/09
Morris, Kimberly A	\$	87.76	09/01/09
Mueller, Chris	\$	180.00	09/01/09
Mullins, Dominic	\$	74.91	09/01/09
Murray, Richard	\$	77.92	09/01/09
Murugaiah, Satish	\$	112.12	09/01/09
Naccarati, Rachel	\$	88.32	09/01/09
Nagle, Galen	\$	136.03	09/01/09
Nelson, Richard	\$	80.20	09/01/09
Newell, Justine	\$	70.50	09/01/09
Newman, Erik	\$	101.07	09/01/09
Newman, Melissa	\$	84.65	09/01/09

Newton, Matthew	\$	45.09	09/01/09
Nicholson, Benjamin	\$	94.08	09/01/09
Nielsen, Elizabeth	\$	96.90	09/01/09
Niles, Leonard	\$	103.30	09/01/09
Novak, Jan	\$	104.79	09/01/09
Ocampo, Roger	\$	59.88	09/01/09
O'Connell, James	\$	46.61	09/01/09
Ooraikul, Asi	\$	118.57	09/01/09
Orozco, Rosalva	\$	60.46	09/01/09
Owen, Jeffrey	\$	75.35	09/01/09
Owen, Joseph A.	\$	93.62	09/01/09
Owens, Nicole	\$	58.61	09/01/09
Owyong, Clifford	\$	206.40	09/01/09
Ozgurel, Huseyin	\$	101.25	09/01/09
Pablo Paster	\$	104.15	09/01/09
Paik, Jung Hwan	\$	95.84	09/01/09
Palacios, Jacqueline	\$	70.26	09/01/09
Paxton, John	\$	147.86	09/01/09
Pearson, Clifford J	\$	64.75	09/01/09
Pearson, Jason	\$	99.49	09/01/09
Pecora, David	\$	78.17	09/01/09
Peracca, Galen	\$	90.13	09/01/09
Perri, Juan	\$	110.21	09/01/09
Pietrzak, Julie A	\$	101.29	09/01/09
Plano, Jay	\$	117.13	09/01/09
Popp, Ned D.	\$	103.76	09/01/09
Prasetyo Jo, Nathalia M	\$	79.60	09/01/09
Pretare, Jennifer	\$	101.49	09/01/09
Prett, Michael	\$	108.84	09/01/09
Project Professional	\$	123.84	09/01/09
Quinones-Rozo, Camilo	\$	104.11	09/01/09
Rambo, Charles Wayne	\$	104.45	09/01/09
Raumann, Christian	\$	121.49	09/01/09
Reeves, Steven	\$	121.69	09/01/09
Rehor, Jay	\$	89.63	09/01/09
Reichert, Gregory	\$	213.42	09/01/09
Respass, Phil	\$	130.74	09/01/09
Rex, Lori	\$	63.37	09/01/09
Rex, Rusty	\$	65.99	09/01/09
Rice, Raymond	\$	205.45	09/01/09
Riggins, Denise	\$	53.94	09/01/09
Ritchie, Steve	\$	199.94	09/01/09
Roadifer, John W.	\$	156.02	09/01/09
Robertson, Dina	\$	112.09	09/01/09
Rogers, David K.	\$	220.00	09/01/09

Rosidi, Dario	\$	128.53	09/01/09
Rowcliffe, Dennis	\$	99.04	09/01/09
Salah-Mars, Said	\$	220.00	09/01/09
Sathisbalamurugan, Murugaiah	\$	82.73	09/01/09
Savannah, Michael	\$	84.15	09/01/09
Schmoll, Mark	\$	175.29	09/01/09
Schwach, Catherine	\$	76.03	09/01/09
Schwettmann, Roxana	\$	97.91	09/01/09
Shoaf, Robert	\$	166.04	09/01/09
Short, Catherine S.	\$	98.71	09/01/09
Siegel, Randall	\$	157.47	09/01/09
Simpson, Dave	\$	166.15	09/01/09
Smith, Craig J.	\$	199.77	09/01/09
Smith, Matthew	\$	85.38	09/01/09
Smith, Michael	\$	182.06	09/01/09
Smith, Peter	\$	86.07	09/01/09
Solorzano-Vincent, Lorena	\$	119.08	09/01/09
Somera, Christina	\$	85.68	09/01/09
Sorensen, Juan	\$	154.87	09/01/09
Soria, Octavio	\$	86.40	09/01/09
Spicer, Jason	\$	89.71	09/01/09
Sr. Project Consultant	\$	130.03	09/01/09
St Onge, Derek	\$	98.11	09/01/09
St. Clair, Michelle	\$	71.38	09/01/09
Staff Professional	\$	107.20	09/01/09
Stamberger, Jean	\$	114.89	09/01/09
Stead, Jonathan	\$	119.08	09/01/09
Stevens, Robert	\$	101.86	09/01/09
Stewart, Eric	\$	61.44	09/01/09
Stewman, Casey	\$	126.79	09/01/09
Strehlow, Mark A	\$	197.40	09/01/09
Sweet, Thomas	\$	151.48	09/01/09
Tabatabaie, M.	\$	161.03	09/01/09
Tamburello, Teresa	\$	104.15	09/01/09
Tamhane, Avanti S.	\$	81.44	09/01/09
Tan, Laureen	\$	61.64	09/01/09
Taraya, Rogelio	\$	95.88	09/01/09
Tech Typist/ Proj Ad	\$	66.04	09/01/09
Tear, Winston	\$	92.52	09/01/09
Tekle, Mannie	\$	73.32	09/01/09
Tentler, Janet	\$	79.60	09/01/09
Terra, Fabia	\$	89.34	09/01/09
Thapa, Srijesh	\$	99.38	09/01/09
Thornton, Geoff	\$	102.31	09/01/09
Todaro, Sal	\$	140.99	09/01/09

Tough, Steven	\$	118.89	09/01/09
Trinh, Nien	\$	118.57	09/01/09
Tsering, Topden	\$	79.88	09/01/09
Tsutsumi-Smith, Judy	\$	71.43	09/01/09
Upadhyaya, Shobhna	\$	112.24	09/01/09
Upham, Brady	\$	69.63	09/01/09
Vahey, Brian	\$	98.70	09/01/09
Vais, Christopher	\$	194.29	09/01/09
Vedagiri, Usha K	\$	195.60	09/01/09
Velzy, Cheri	\$	118.78	09/01/09
Verity, Rebecca	\$	108.48	09/01/09
Virreira, Pablo	\$	83.25	09/01/09
Volz, Tim	\$	179.27	09/01/09
Wanless, Lawrence	\$	184.65	09/01/09
Watts, Roy	\$	146.08	09/01/09
Weinberg, Daniel	\$	77.60	09/01/09
Wells, Joanne	\$	73.09	09/01/09
Whitfield, Justin	\$	100.28	09/01/09
Whitney, Gerald	\$	102.31	09/01/09
Wilson, Mark	\$	73.32	09/01/09
Wimmell, Laurel	\$	39.33	09/01/09
Wolfe, Kyle	\$	86.93	09/01/09
Wong, Chi Wah	\$	101.63	09/01/09
Wong, Hoi	\$	43.70	09/01/09
Wong, Ivan	\$	198.98	09/01/09
Wong, Noel	\$	220.00	09/01/09
Wood, Michelle	\$	107.16	09/01/09
Wright, Doug	\$	125.66	09/01/09
Wu, Jaier	\$	126.34	09/01/09
Wymer, Bert	\$	94.85	09/01/09
Yang, Zhaohui	\$	104.19	09/01/09
Yiadam, Yaw	\$	79.30	09/01/09
Yong, Ka Man	\$	96.02	09/01/09
Yun, Sunghye	\$	103.01	09/01/09
Zdeb, Thomas	\$	145.98	09/01/09
Zimmerman, Jeff	\$	178.46	09/01/09
Zusi, Michael	\$	166.72	09/01/09
Bachhuber, Jeffrey	\$	220.00	09/01/09
Baldwin, John	\$	220.00	09/01/09
Bradaric, Julie	\$	96.72	09/01/09
Givler, Rob	\$	139.20	09/01/09
Graphics/CAD	\$	78.59	09/01/09
Holmberg, Jason	\$	109.25	09/01/09
Kelson, Keith	\$	220.00	09/01/09
Lettis, William	\$	220.00	09/01/09

Principal	\$	165.28	09/01/09
Project Geologist	\$	100.31	09/01/09
Senior Staff Geologist	\$	80.26	09/01/09
Sernior Geologist	\$	138.77	09/01/09
Staff Geologist	\$	73.57	09/01/09
Sunderman, Sean T.	\$	121.40	09/01/09
Technical Typist	\$	70.24	09/01/09
Technician	\$	42.61	09/01/09
Thompson, Steve	\$	167.51	09/01/09
Unruh, Jeff	\$	220.00	09/01/09
Admin Assistant	\$	55.29	09/01/09
Ao, Sandy	\$	60.82	09/01/09
CADD Operator	\$	52.50	09/01/09
Cheung, George	\$	132.82	09/01/09
Dias, Dennis	\$	145.82	09/01/09
Dong, Richard	\$	86.46	09/01/09
Elec/Mech Engineer	\$	82.88	09/01/09
Hidalgo, Hubert	\$	86.03	09/01/09
Ho, Shew	\$	67.35	09/01/09
Knight, Carol	\$	76.14	09/01/09
Lam, Lawrence	\$	144.18	09/01/09
Mallillin, Patrick	\$	134.21	09/01/09
Principal	\$	159.66	09/01/09
Project Administrator	\$	75.16	09/01/09
Schwartz, Karen	\$	83.96	09/01/09
Senior CADD Designer	\$	66.50	09/01/09
Senior Elec/Mech Engineer	\$	100.10	09/01/09
Siu, Sonia	\$	60.31	09/01/09
Tam, Marcus	\$	89.48	09/01/09
Wingred, Paul	\$	53.18	09/01/09
Yung, Douglas	\$	161.72	09/01/09