

AMENDMENT NO. 1
AGREEMENT FOR PROFESSIONAL SERVICES
FOR
PHASE 4 FEATHER RIVER LEVEE REPAIRS
BETWEEN
THREE RIVERS LEVEE IMPROVEMENT AUTHORITY AND
BOOKMAN-EDMONSTON/GEI CONSULTANTS

THIS AMENDMENT TO AGREEMENT is made effective April 13, 2006, by and between Three Rivers Levee Improvement Authority ("TRLIA") and Bookman-Edmonston/GEI Consultants, a division of GEI Consultants, Inc. ("Consultant"), who agree as follows:

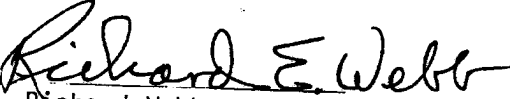
1. **Recitals.** This Amendment is made with reference to the following background recitals:
 - 1.1. Effective December 13, 2005, the parties entered into the Agreement for Professional Services relating to TRLIA's Phase 4 Feather River Levee project.
 - 1.2. The parties now desire to amend the Professional Services Agreement to expand scope of services and base contract fee.

2. **First Amendment to Agreement.** The Professional Services Agreement is hereby amended as follows:
 - 2.1. The scope of services (Attachment A to the Agreement for Professional Services between TRLIA and B-E/GEI, dated December 13, 2005) is amended to expand the scope of work as described by the attached Exhibit A dated April 13, 2006 to include the Phase 4 Feather River levee repairs, approximate Feather River left bank PLM 13.3 to 17.1 and PLM 23.6 to 26.1 and Yuba River left bank PLM 0.0 to 0.3.
 - 2.2. The payment, budget, and not-to-exceed amounts (Professional Services Agreement Attachment B) are amended to include the additional amounts of \$3,082,240 (Exhibit B) for a total contract of \$4,521,640 (including Optional Task).


3. **No Effect on Other Provisions.** Except for the amendments in Section 2, the remaining provisions of the Professional Services Agreement shall be unaffected and remain in full force and effect.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement on
April 25 _____, 2006.

THREE RIVERS LEVEE IMPROVEMENT
AUTHORITY OF YUBA COUNTY


Richard Webb
Chairman

BOOKMAN-EDMONSTON, A
DIVISION OF GEI
CONSULTANTS, INC.


Raymond D. Hart
Senior Vice President

ATTEST:
DONNA STOTTLEMEYER
SECRETARY, THREE RIVERS



APPROVED AS TO FORM:
DANIEL G. MONTGOMERY
COUNTY COUNSEL




EXHIBIT A
SCOPE OF WORK FOR DESIGN OF PHASE 4 FEATHER RIVER LEVEE REPAIRS,
APPROXIMATE FEATHER RIVER LEFT BANK PLM 13.3 TO 17.1 AND PLM 23.6 TO
26.1 AND YUBA RIVER LEFT BANK PLM 0.0 TO 0.3

A.1 BACKGROUND

Studies by the Department of Water Resources (DWR), U.S. Army Corps of Engineers (Corps), and Three Rivers Levee Improvement Authority (TRLIA) indicate that several reaches of the left (east) Feather River levee between the mouth of the Yuba River and the Reclamation District No. 784 (RD 784) Pump Station No. 2 do not satisfy geotechnical criteria for seepage at the 100-year water surface. Most recently, a Problem Identification Report (PIR) prepared by Kleinfelder for TRLIA addressed the left bank levee from approximate project levee mile (PLM) 13.3 near Pump Station No. 2 to the beginning of the Yuba River left bank levee at approximate PLM 26.1. The purpose of the PIR was to perform a feasibility-level evaluation of the subsurface geotechnical conditions and levee conditions in accordance with Federal Emergency Management Agency (FEMA) requirements. The conclusions of the PIR indicate that portions of the subject levee do not currently meet FEMA geotechnical certification requirements for through-seepage or underseepage.

A.2 OBJECTIVE

The objectives of the Feather River levee repairs are (1) to secure flood protection for at least a flood event with a 0.5 percent (or 1 in 200) annual chance of exceedance, (2) to help secure FEMA certification of the subject reaches of levee, (3) to achieve these objectives as soon as possible, and (4) to incorporate environmental mitigation as appropriate.

For purposes of this Scope of Work, the left bank levee of the Yuba River between PLM 0.0 and 0.3 (from the north end of the Feather River levee to the Western Pacific Railroad bridge) is included with the reach of Feather River levee to be evaluated and will not be referred to separately except where specifically needed. The levee reach under study is shown on Figure 1.

A.3 APPROACH

Primary alternatives for upgrading the left bank Feather River levee include (1) strengthening the levee, and (2) strengthening certain segments and replacing other segment(s) of the existing levee with a new levee located at some distance from the existing levee. This second option is referred to herein as a "setback levee." Also, in the context of this scope, the term "levee strengthening" is a general term that means levee modifications to improve seepage and/or stability deficiencies.

This scope of work addresses the reaches of the left bank Feather River levee that are to be upgraded by strengthening the levee to meet project objectives. These reaches include the Feather River levee PLM 13.3 to 17.1 and PLM 23.6 to 26.1, and the Yuba River left bank levee

PLM 0.0 to 0.3.

This scope of work does not include the reach of Feather River levee between approximately PLM 17.1 and 23.6. This levee reach is the subject of an ongoing Phase 4 Alternatives Analysis that is evaluating setback levee and existing-levee strengthening options. Detailed design of repairs for this reach will await the evaluation of alternatives and selection of an alternative for implementation.

The proposed work breakdown structure is listed below:

Task 1 – PreDesign/Detailed Investigation

- 1.1 – Site Visits/Data Review
- 1.2 – Basis of Design Report
- 1.3 – Field Exploration
- 1.4 – Geotechnical Data Report
- 1.5 – Phase 1 Environmental Site Assessment

Task 2 – Detailed Design and Construction Documents

- 2.1 – Engineering Analyses
- 2.2 – Hydraulic Modeling
- 2.3 – Geomorphic Studies
- 2.4 – Design of Protective Measures for Environmental Resources
- 2.5 – Facilities Design, Including Drawings
- 2.6 – Specifications
- 2.7 – Design Report
- 2.8 – Construction Cost Estimate and Schedule
- 2.9 – Construction Contract Documents

Task 3 – Bidding and Contract Award

Task 4 – Environmental Coordination and Permitting

Task 5 – Project Management

A brief description of the scope of each task is presented under the heading SCOPE OF SERVICES AND DUTIES below. A tentative project schedule is shown on Figure 2. The schedule shows the proposed implementation sequence with major summary activities (engineering, environmental/permitting, land acquisition, and construction).

General Assumptions:

- *Available data developed by the Corps, RD 784, DWR, TRLIA and their respective consultants will be made available to the Consultant and will be relied upon by the Consultant in the performance of our services.*
- *Land acquisition services, land pricing, preparation of plats and legals, right-of-way negotiations, and negotiation of access agreements are not included in B-E/GEI's*

Exhibit A
4/13/06

scope. It is assumed that necessary land pricing input and right-of-entry will be provided to B-E/GEI by TRLIA and its other consultants at the appropriate times.

- *Engineering services during construction and construction management services are not included in this scope.*
- *Based on a review of the water surface profiles and levee crown profile presented in Kleinfelder's PIR dated February 2006, it is our understanding that the existing Feather River levee has sufficient freeboard for the 1:200 AEP water surface profile. Therefore, it is assumed that a levee raise is not required.*
- *All necessary CEQA compliance will be covered under the separate, previously awarded Phase 4 Alternatives Analysis contract. If it is determined that additional CEQA compliance is needed to address environmental effects not covered by the EIR (e.g., development of a new borrow site not identified at the time of the EIR preparation), an additional scope and budget would be prepared.*

A.4 SCOPE OF SERVICES AND DUTIES

The services to be provided by Consultant and the scope of Consultant's duties include the following:

Task 1. Pre-Design / Detailed Investigations

Task 1.1. Site Visits/Data Review

Site visits to the left bank Feather River levee area will be required to obtain information, assess existing site conditions and reconcile design details with actual field conditions. A kickoff meeting will be held between design team members and TRLIA personnel to discuss design, operations, and environmental criteria and requirements. Available information pertaining to levee design, construction and performance will be collected, reviewed for relevance, and incorporated into the levee repair design as appropriate. Information collected and reviewed will include details from previous levee evaluation studies, levee repair and maintenance information, Corps investigations, the PIR, and construction records.

Deliverables:

- *Data obtained will be included in other reports described below.*

Assumptions:

- *TRLIA will provide B-E/GEI with all available information from their files, including information prepared by Kleinfelder for the PIR, Corps studies, DWR studies, and other related work.*

Task 1.2. Basis of Design Report

The Basis of Design Report (BDR) will establish the design basis and will present the criteria, methods of analysis, and standards to be used in the design of the levee upgrades. The general design criteria established in the PIR will be reviewed and verified. FEMA levee certification criteria will be set forth and will be the basis for assuring conformance in design and construction. FEMA requirements are described in Section 65.10 of the National Flood Insurance Program (NFIP) regulations and summarized in Appendix H of FEMA's *Guidelines and Specifications for Flood Hazard Mapping Partners*. Corps, Reclamation Board, and RD 784 operations requirements will be addressed in establishing the design criteria.

Deliverables:

- *Draft and final Basis of Design Report*

Assumptions:

- *One round of regulatory comments.*
- *Two-week turn-around time for regulatory comments.*

Task 1.3. Field Explorations

This task will begin with the collection and assimilation of existing geotechnical data developed by the Corps and its consultants, TRILIA and RD 784's consultants, DWR, and B-E/GEI from previous studies. An evaluation of geotechnical data gaps will be made and a detailed Field Exploration Work Plan prepared. Field explorations in support of the levee repair design are anticipated to include the following:

- *Review of geologic mapping of the levee alignment and detailed geologic reconnaissance to augment the existing information.*
- *Review of current and historical aerial photographs and maps to identify geomorphic features such as buried channels and abandoned meanders that may have an impact on levee performance during flooding.*
- *Topographic mapping of the levee and potential borrow area site(s). The available topographic mapping from the Corps' 1997 Comprehensive Study will be reviewed, field checked, and used as the base map. Additional surveys will be performed in areas where greater detail is needed, such as along the crown of the levee and at sections selected for seepage and/or stability analysis. Locations of all borings, test pits, and other explorations performed for this contract will be established by survey methods.*
- *Drilling of geotechnical test borings through the existing levee and its foundation in areas where the spacing between existing borings exceeds approximately 500 feet, at selected locations along the landside and/or waterside levee toe, and where the available data is insufficient to properly characterize the subsurface conditions to the appropriate depths. These explorations will provide needed data on the levee and foundation geotechnical conditions, including the presence of permeable layers in the embankment and foundation that would require seepage mitigation.*

- *Cone penetration testing (CPT) may be used to provide supplemental foundation information between borings along the levee alignment.*
- *Identification of potential borrow areas if needed for new or expanded seepage berms.*
- *Excavation of test pits and drilling of test borings in potential borrow areas to define the limits of potential borrow, determine quantity of material available for borrow, and to obtain soil samples for material property testing.*
- *Sampling and laboratory testing to evaluate material properties for the existing levee and foundation soils and proposed borrow material. Anticipated soil testing includes the following: gradation, unit weight, specific gravity, Atterberg limits, compaction, permeability, consolidation, and shear strength.*

Other activities within this task will include preparation of subcontracts, coordinating site access with TRLIA, utility clearance, supervision of subcontractors, documenting and logging field exploration activities, and preparing logs and data summaries.

A preliminary site subsurface exploration program is shown in the tabulation below. The final explorations will be adjusted depending upon detailed review of available data and actual site conditions encountered.

Exploration	Location	Number	Depth (feet)
Soil Borings	Levee centerline	25 to 35	80 to 120
Soil Borings	Levee toes	10 to 20	60 to 80
Test Pits	Borrow areas and levee toe	50 to 60	10 to 15

Deliverables:

- *Field Exploration Work Plan*
- *Topographic maps and surveys*

Assumptions:

- *One round of regulatory comments for the Field Exploration Work Plan.*
- *Rights-of-entry will be secured by TRLIA in a timely fashion to permit the orderly progress of the work.*
- *Field investigation program is summarized in the tabulation above.*
- *The topographic map prepared by the Corps for their 1997 Comprehensive Study will be used as base map for design.*

Task 1.4. Geotechnical Data Report

A Geotechnical Data Report will be prepared that will present available geotechnical data and information obtained during the data collection and field investigation activities. Information in this report will include the results of current and previous investigations including:

- *Geologic mapping*
- *Summary of previous geotechnical field investigations and laboratory testing*
- *Summary of current geotechnical field investigations and laboratory testing*
- *Borehole and CPT logs*
- *Test pit logs*
- *Field testing results*
- *Laboratory testing results*

Deliverables:

- *Draft and final Geotechnical Data Reports*

Assumptions:

- *One round of regulatory comments for the Geotechnical Data Report.*
- *Two-week turn-around time for regulatory comments.*

Task 1.5. Phase 1 Environmental Site Assessment

A Phase 1 Environmental Assessment will be performed to identify whether recognized environmental conditions (hazardous substances or petroleum products) may be present at the site in areas that could be impacted by levee repair activities. Task activities will include:

- *Radius search of listed hazardous materials sites and records listed in California and Federal regulatory databases.*
- *Review of historic aerial photographs.*
- *Review of documents on file at the California EPA Central Valley Regional Water Quality Control Board and the Yuba County Board of Environment and Health.*
- *Interview of landowners or operators of properties within the Site.*
- *Inspection of properties within the Site.*

Deliverables:

- *Draft and final Phase 1 Environmental Assessment Report*

Task 2. Detailed Design and Contract Documents

Task 2.1. Engineering Analyses

Engineering analyses will be performed for the design of the levee repairs and associated features (berms, drainage structures, etc.). These analyses will include:

- *Levee through-seepage and underseepage*
- *Levee stability*
- *Levee settlement (if a landside berm is contemplated)*
- *Levee erosion resistance*
- *Relief well and drainage analyses*
- *Grading plans*
- *Borrow area development*
- *Structural evaluations and other analyses as required*

Results of these analyses will be presented in a Design Report, to be prepared under Task 2.7.

Assumptions:

- *Up to thirty-five representative levee cross sections will be analyzed for through-seepage and underseepage. Up to ten sections will be analyzed for stability. Up to five sections will be analyzed for settlement.*
- *Preparation of an interior drainage study for the RD 784 basin, as may be needed for FEMA certification, is not included in this scope.*

Task 2.2. Hydraulic Modeling

This task will summarize the hydraulic analysis of the existing levee on the Feather River using the existing Feather-Yuba HEC-RAS model. Hydraulic analyses will be performed for the existing levee as well as the setback levee alternative alignments between PLM 17.1 and 23.6 shown in the March 9, 2006 Alternatives Identification Memorandum (three different alignments). Because the hydraulic modeling under this task will be concluded before a final decision has been made on the configuration for levee repairs between PLM 17.1 and 23.6, the envelope of the highest water surface profiles will be adopted for design of the strengthen-in-place levee repairs. Minor modifications will be made to the HEC-RAS model as needed for Phase 4 specific needs. Water surface profiles will be developed for the 1:100 and 1:200 annual exceedence probability (AEP) flood events for two storm centerings. Water surface profiles, charts, and maps will be prepared to present results.

The analysis will evaluate whether there are downstream impacts. However, the hydraulic analysis does not include evaluation of mitigation measures (i.e. Thermalito Afterbay reoperation, forecast-based operation of Oroville and Bullards Bar Reservoirs) if there are downstream impacts.

The existing two-dimensional hydraulic model will be run to develop velocity information along the left bank levee. The model will be run for the 1-in-100 and 1-in-200 AEP flood events for two storm centerings. This velocity information will be evaluated to determine if and where erosion problems may exist along the levee. Erosion protection alternatives will be developed.

This task also will include meetings and coordination required with the Corps and other agencies and stakeholders to communicate the results of this modeling effort and to obtain agency/stakeholder consensus with the final "design level" product.

Deliverables:

- *Hydrologic and Hydraulic Report for Phase 4 Levee Repairs. This report will detail the hydraulic analyses and contain tabular and graphical presentation of the results of these analyses.*

Assumptions:

- *MBK Engineers will perform the hydraulic modeling and prepare the H&H Report under contract to TRLIA. Budget for the MBK contract is not included herein.*
- *Evaluation of mitigation measures for downstream impacts (if any) is not included.*

Task 2.3. Geomorphic Evaluation

The Yuba, Feather and Bear River basins and channels are continuing to adjust to the effects of hydraulic mining activities of the late nineteenth century. Some of these adjustments include channel degradation, which could have the potential for detrimental effects on the functioning of the subject levee system. For previous Corps studies of the Feather River, geomorphology and sedimentation studies were conducted along this reach of the Feather River to address the stability of the levee for consideration of levee upgrades. A qualitative geomorphic evaluation will be performed to confirm that the proposed levee repair measures will not create short- or long-term effects on the sedimentation and channel and levee stability conditions through this reach. Available information will be reviewed on the existing geomorphic, sediment transport, and channel stability conditions in the project reach. Geomorphic input to the project design will be based on a review of existing sediment data, a field geomorphic reconnaissance, review of literature on historic and existing site conditions to determine geomorphic trends, and review of previous Corps' geomorphic modeling and evaluation studies for this reach of the river.

Findings will be used to develop preliminary recommendations to the design team with respect to reducing the potential for erosion hazards, and avoiding the potential for the proposed project to create sediment-related problems.

Deliverable:

- *A technical memorandum that summarizes the findings.*

Assumptions:

- *No new analyses are planned for this levee repair project.*
- *A draft memorandum will be submitted for review and comment.*
- *Two-week turn-around time for regulatory comments.*

Task 2.4. Design of Protective Measures for Environmental Resources

Specific measures to satisfy environmental protection requirements will be designed in this task. An environmental mitigation team consisting primarily of EDAW scientists will implement the task. The design recommendations developed under this task (e.g., buffer zones, exclusion areas) will be based on the information documented during the preparation of the environmental impact report (EIR) under a separate contract and in up to three followup surveys and/or site visits with project engineers. The recommendations will be developed for incorporation into the design documents to ensure that documented sensitive resources in the project vicinity will not be adversely affected by project construction activity.

Deliverable:

- *A technical memorandum that presents any recommended protective measures and related information, such as requirements for pre-construction surveys, for inclusion in detailed design and contract documents.*

Assumptions:

- *There will be no changes between the preliminary design evaluated in the EIR and the detailed design that necessitate the evaluation of resources that were not evaluated in the EIR.*

Task 2.5. Facilities Design, Including Drawings

This task consists of the layout and design of the proposed levee modifications in the form of drawings. Construction limits, survey control points, borrow and staging areas, environmental protection, construction access roads, and site restoration requirements will be shown on drawings. Designs will be prepared for site excavation and grading, stability or seepage berms, slurry walls, relief wells, utility relocation, and drainage facilities. The drawings will also include geologic profiles and sections. The drawings will be incorporated into the contract documents for construction. A preliminary list of drawings is included in Table 1. The drawings will be reviewed by TRLIA and other regulatory agencies at the 35%, 90%, and final design levels.

This task will also include support of TRLIA's right-of-way activities. Right-of-way requirements (temporary and permanent easements) will be defined in this task. However, it is our understanding that BRI will prepare plats and legal descriptions working under a separate contract with TRLIA.

As discussed in Task 5, an internal Quality Control team will review the drawings and specifications to ensure that they are complete, conform to standards, and meet or exceed TRLIA's expectations.

Deliverables:

- *35%, 90% and final drawings*

Assumptions:

- *A detention basin will not be required.*
- *Drawing list shown on Table 1.*
- *Reviews at the 35%, 90% and final design levels.*
- *Two-week turn-around time for regulatory comments.*
- *Right-of-way level of effort assumed; actual right-of-way needs uncertain at this time.*
- *Plats and legal descriptions not included in scope (will be prepared by BRI under direct contract to TRLIA)*

Task 2.6. Specifications

This task consists of the preparation of technical specifications for inclusion in the construction contract documents. A preliminary list of specifications anticipated to be prepared is included in Table 2.

The specifications will be reviewed by TRLIA and other regulatory agencies along with the drawings (Task 2.5) at the 35%, 90%, and final design levels.

As discussed in Task 5, an internal Quality Control team will review the specifications to ensure that they are complete, conform to standards, and meet or exceed TRLIA's expectations.

Deliverables:

- *35%, 90% and final technical specifications.*

Assumptions:

- *Specification list is shown on Table 2.*
- *Reviews at the 35%, 90% and final design levels.*
- *Two-week turn-around time for regulatory comments.*

Task 2.7. Design Report

Results of the analyses performed in Task 2.1 will be presented in a Design Report. The Design Report will contain an interpretation and evaluation of the geological and geotechnical information applicable for the design of the levee repair measures. The report will provide the basis for the geotechnical design including the selection of geotechnical parameters and the analysis of slope stability, seepage, erosion, and settlement. The report also will present the basis for the hydraulic and freeboard design, derived from Task 2.2, as well as the geomorphic studies conducted in Task 2.3.

Deliverables:

- *Draft and final Design Report*

Assumptions:

- *One round of regulatory comments for the Design Report.*
- *Two-week turn-around time for regulatory comments*

Task 2.8. Construction Cost Estimate and Schedule

An engineer's cost estimate and schedule will be prepared for construction of the levee repairs, as well as for evaluation of construction bids. The cost estimate will be a budget-level estimate, and construction contingencies and escalations appropriate to this level of estimate will be included. Quantity takeoffs will be prepared in support of the cost estimate. The quantity takeoffs will also be used in developing the bid schedule under Task 2.9. The cost estimate and schedule will be reviewed by TRLIA along with the drawings and specifications (Tasks 2.5 and 2.6) at the 35%, 90%, and final design levels.

Deliverables:

- *35%, 90% and final Engineer's construction cost estimate and construction schedule*

Assumptions:

- *Reviews concurrent with 35% and 90% drawings and specifications.*

Task 2.9. Contract Documents

Contract documents will be assembled in preparation for procuring a construction contract to implement the levee repair measures. The contract documents are expected to include:

- *Scope of work*
- *Construction bid schedule (quantities prepared in Task 2.8)*
- *Measurement and payment provisions*
- *Drawings (prepared in Task 2.5)*
- *Technical specifications (prepared in Task 2.6)*
- *Standard TRLIA contract, general provisions, and forms*
- *Special provisions, as necessary*

Deliverables:

- *Draft and final contact documents*

Assumptions:

- *The contract, general provisions, and other standard information to be included in the contract documents will be adapted from the Bear River Setback Levee Project.*
- *A single construction contract will be awarded.*
- *TRLIA will provide electronic files of other related contract documents (e.g., Upper Bear/WPIC and Yuba River projects) for reference.*

Task 3. Bidding/Contract Award

The contract documents will be issued for bid to qualified contractors. Activities under this task are expected to include the following:

- *Assist TRLIA in pre-qualifying contractors*
- *Prepare letter of invitation to bid, including Instructions to Bidders and Notice to Contractors*
- *Prepare package of information for bidders*
- *Issue bid package to prequalified bidders*
- *Conduct pre-bid meeting and site visit*
- *Respond to bidders' questions and prepare bid addenda, as needed*
- *Receive and evaluate bids*
- *Recommend bid award*

Deliverables:

- *Bidding support documents (letter of invitation, contractor prequalification documents)*
- *Responses to bidders' questions/preparation of bid addenda*
- *Bidder evaluation/recommendation*

Assumptions:

- *Attend one pre-bid meeting*
- *Prepare three addenda to the bid package*

Task 4. Environmental Coordination and Permitting

Based on preliminary assessment of aerial photographs and previously documented environmental conditions in the project area, it is assumed that no Section 404 permitting or species take permits will be required for the subject levee repairs. This subtask entails

conducting informal coordination and consultation with regulatory agencies to ensure their understanding of the project design, coordinate on any measures needed to protect nearby sensitive resources, and obtain agency concurrence that measures incorporated into the project will be sufficient to preclude the need for permitting. EDAW will prepare memoranda providing project description details, information on anticipated construction methods, the locations of sensitive resources in the vicinity of the project site, and descriptions of the measures incorporated into the project design to protect sensitive biological resources as necessary. It is anticipated that coordination will be conducted with the U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, NOAA Fisheries, and California Department of Fish and Game and that up to three site visits and three meetings with agency personnel may be required.

This task will also include preparing draft and final versions of a Reclamation Board permit application and backup information for the levee repairs and submitting the application package to the Reclamation Board. It is assumed that two drafts will be prepared before the application package is finalized and that all exhibits will be prepared by the engineering team.

Deliverables:

- *Memoranda documenting project details, sensitive resource conditions in the vicinity of the project sites, and avoidance measures.*
- *Draft and final application package for Reclamation Board permit.*

Assumptions:

- *No CEQA compliance will be required under this scope (performed under a separate contract).*
- *The subject levee repairs will be designed to avoid any Corps-jurisdictional features and sensitive habitats such that environmental permits will not be required.*
- *As indicated in the MBK report, Sites 2 and 17 in the Three Rivers Levee Improvement Authority Phase IV Erosion Investigation (MBK Engineers, February 2006) will not require water-side protection, and no other water-side improvements will be required.*
- *Level of effort for Agency consultation is uncertain. Best estimate has been included as a budget allocation.*

Task 5. Project Management

Project management and coordination are essential to ensure the successful completion of the Feather River levee repair and subsequent certification. The project management task will include the following activities:

- *Management and supervision of the design team*
- *Management, coordination and evaluation of subconsultant services*
- *Project and design coordination meetings*

- *Documentation of meetings*
- *Coordination of design activities with TRLIA personnel*
- *Coordination of design activities and design reviews with DWR, DFG, Corps, and Reclamation Board*
- *Preparation of monthly invoices and quarterly progress reports to TRLIA with current financial information and updated schedule. For continuity and consistency, the already established process and format for progress reports to DWR will be maintained.*

This task will also include convening a two- or three-member Board of Senior Consultants (BOSC), which will provide the TRLIA with independent reviews of engineering design activities. It is anticipated that the two members of the BOSC for the Bear River Setback Levee (Dr. Faiz Makdisi and Mr. Donald Babbitt) will also form part of the BOSC for the Feather River levee repairs, and a third member could be added if desired by TRLIA. Periodic meetings will be held with the BOSC to review work plans, the results of field investigations, design studies, reports, design drawings, technical specifications, and construction contracting strategies. In advance of each meeting, the design team will prepare and distribute an agenda with the questions for which BOSC input is specifically requested, as well as supporting reports and meeting materials. Representatives of DWR, the Corps and the Reclamation Board will be invited to participate in the BOSC meetings, which will be a main tool for briefing and obtaining input and early concurrence from these organizations. At the conclusion of each meeting, the BOSC will prepare a formal letter report, and the recommendations will be addressed in the design of the levee repairs.

Preparation of the Quality Control Plan (QCP) will also be included in this task. The QCP will establish the procedures, policies and actions for ensuring that the work is carried out to acceptable standards of quality and the project is implemented on time and within budget. The QCP will include preparation, review, coordination and checking of work products at each step of their development. Work products include the key deliverables and support documentation, such as work plans, design basis documents, technical memoranda, geotechnical data, drawings, and reports. The project management team will be responsible for the assurance that these procedures are being implemented.

B-E/GEI's QC team will review technical approaches and verify that deliverables and supporting documents prepared for the TRLIA are complete, conform to standards, and meet or exceed the expectations of TRLIA and the management of the B-E/GEI Team firms.

Deliverables:

- *Schedule*
- *Monthly invoices*
- *Quarterly project status reports*
- *Meeting minutes*
- *BOSC documentation*

- *Draft and final Quality Control Plan*

Assumptions:

- *One project kick-off meeting*
- *Twelve half-day project progress meetings*
- *Four quarterly progress reports*
- *Two one-day BOSCO meetings*

Table 1. Preliminary List of Drawings for Feather River Levee Repairs

GENERAL

- *Project Location and General Notes (1 sheet)*
- *List of Drawings (1 sheet)*
- *Project Boundary and Clearing Plan (1 sheet)*
- *Demolition of Structures (1 sheet)*
- *Environmental Resource Exclusion Zones (1 sheet)*
- *Environmental Resource Protection Details (1 sheet)*
- *Survey Control System (1 sheet)*
- *Construction Access Routes (1 sheet)*
- *Staging Areas (1 sheet)*
- *Site Restoration (1 sheet)*
- *Borrow Area Reclamation (2 sheets)*
- *Typical Power Line Details (2 sheets)*
- *Drawings TBD (5 sheets)*
- *Typical Cross-Sections (5 sheets)*
- *Typical Relief Well Details (1 sheet)*
- *Typical Slurry Wall Details (3 sheets)*
- *Pipe Gate Details (1 sheet)*
- *Drainage Plans, Sections and Details (5 sheets)*
- *Removal and Relocation of Existing Utilities and Facilities (5 sheets)*

GEOLOGY

- *Geology Plan (1 sheet)*
- *Surface Soils (1 sheet)*
- *Borehole Locations (7 sheets)*
- *Geologic Profile Along Levee Alignment (5 sheets)*
- *Geologic Sections (4 sheets)*
- *Borrow Area Geologic Plans and Sections (1 sheet)*

CIVIL

- *General Plan (1 sheet)*
- *Levee Detailed Plan & Profile (1 inch=50 ft scale; 1,300 ft per dwg; 28 sheets)*
- *Levee Cross-Sections (8 sheets)*
- *Borrow Area Plan and Excavation Plan (2 sheets)*
- *Ramp Plan, Profile and Sections (2 sheets)*
- *Relief Well Plans and Sections (2 sheets)*

ELECTRICAL/OTHER

- *Electrical Drawings (5 sheets)*

Table 2. Preliminary List of Specifications for Feather River Levee Repairs

DIVISION 1 - GENERAL REQUIREMENTS

- *Summary of Work*
- *Measurement and Payment*
- *Submittal Procedures*
- *Sources for Reference Publications*
- *Contractor Quality Control*
- *Temporary Construction Facilities*
- *General Signage and Safety*
- *Construction and Demolition Waste Management*
- *Closeout Submittals*

DIVISION 2 - SITEWORK

- *Mobilization and Demobilization*
- *Temporary Water Diversion and Control*
- *Subsurface Drilling, Sampling and Testing*
- *Relief Wells*
- *Demolition*
- *Excavation and Site Preparation*
- *Soil Stabilization*
- *Earthwork*
- *Cement-Bentonite Slurry Cutoff Wall*
- *Geosynthetics*
- *Temporary Erosion Control*
- *Asphalt Paving and Surfacing*
- *Storm Drainage Discharge Pipe and Culverts*
- *Underdrains*
- *Fences and Gates*
- *Site Restoration*
- *Erosion Control Seeding*

DIVISION 3 - CONCRETE

- *Concrete for Minor Structures*
- *Shotcrete*

DIVISION 5 - METALS

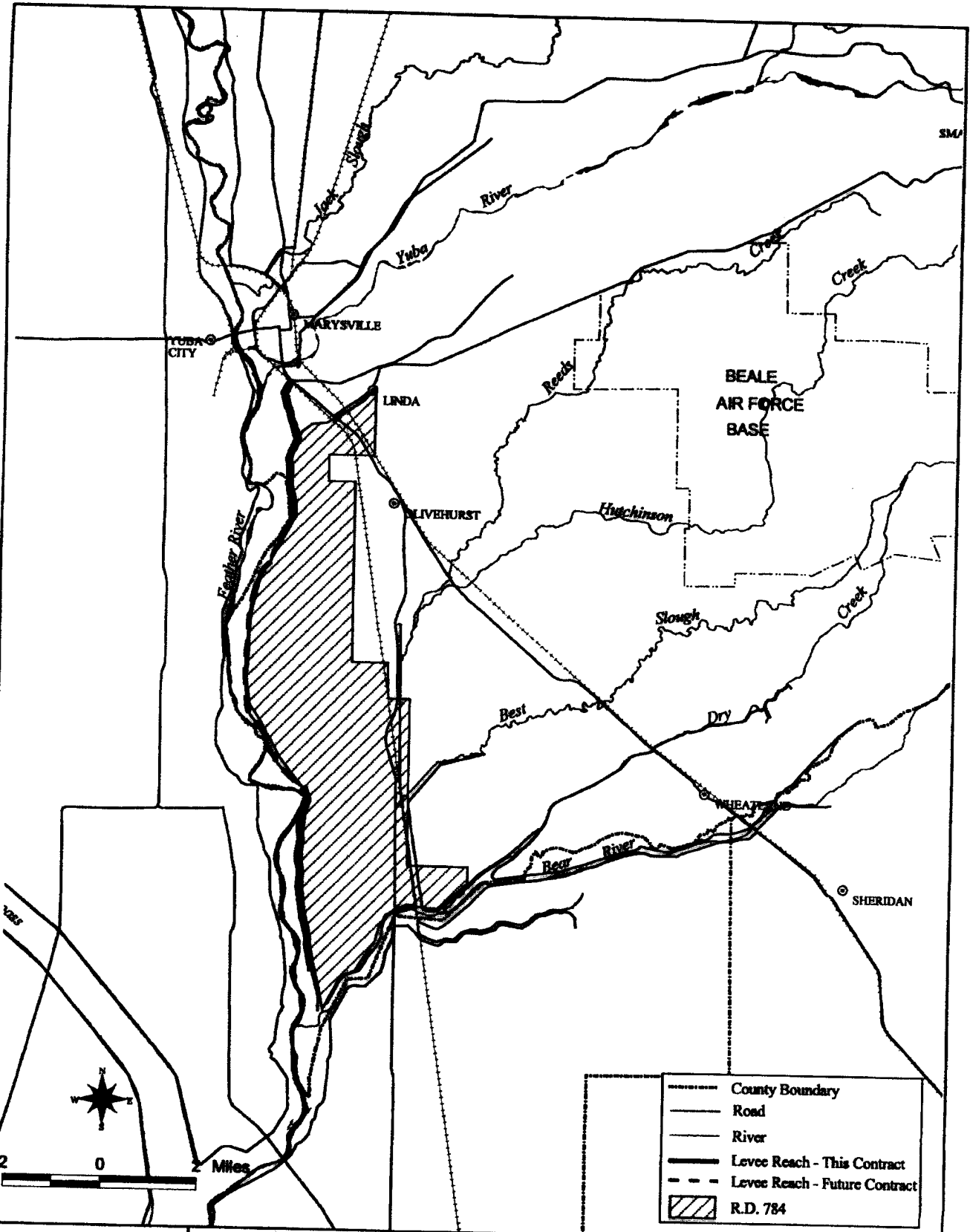
- *Miscellaneous Metals*

DIVISION 15 - MECHANICAL

- *Pumps*
- *Piping*

DIVISION 16 - ELECTRICAL

- *Electrical Construction Work*
- *Conduit, Boxes and Grounding*
- *Wire, Fuses and Terminal Blocks*



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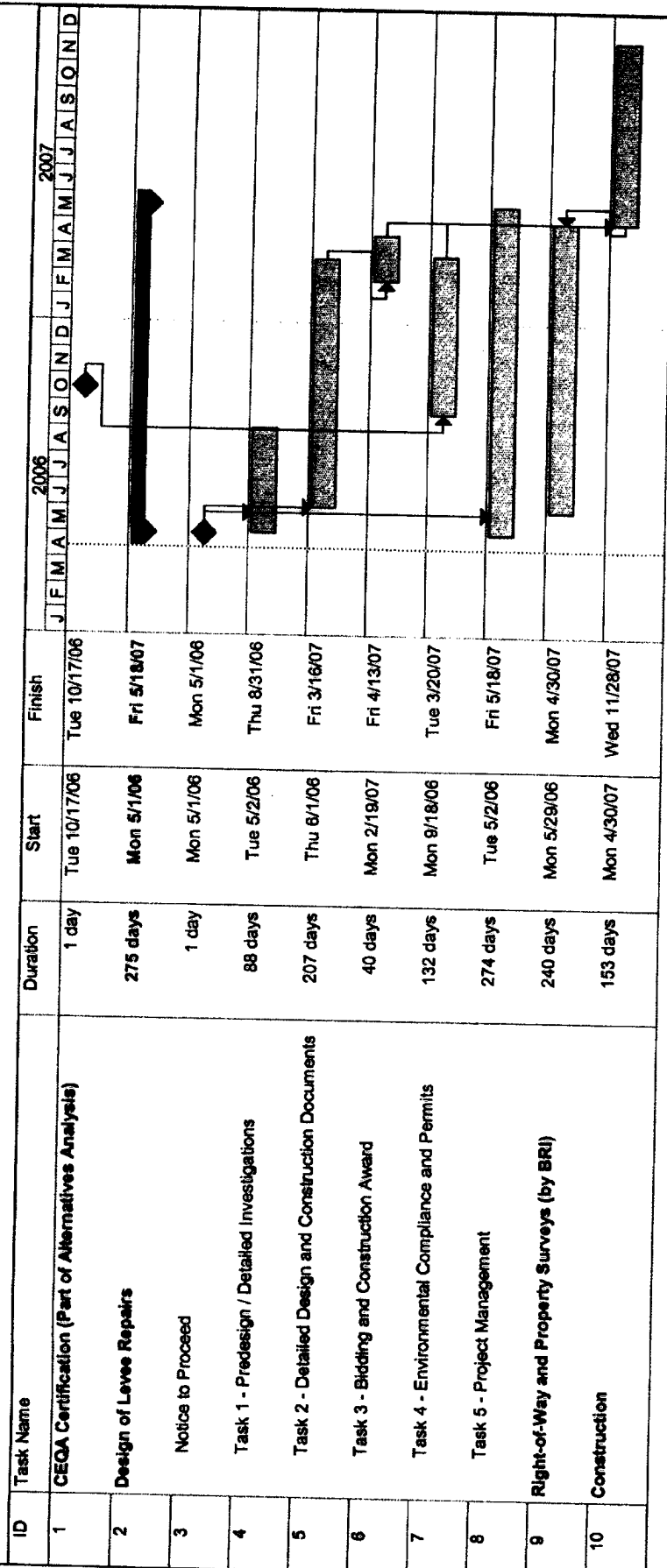


THREE RIVERS LEVEE IMPROVEMENT AUTHORITY
Phase 4 Feather River Levee Repairs
 Feather River Left Bank Levee PLM 13.3 to 17.1 and 23.6 to 26.1
 Yuba River Left Bank PLM 0.0 to 0.3

MARCH 2006

FIGURE 1

**FIGURE 2 - PHASE 4 FEATHER RIVER LEVEE REPAIRS SUMMARY IMPLEMENTATION SCHEDULE
FEATHER RIVER LEFT BANK LEVEE PLM 13.3-17.1 & 23.6-26.1 AND YUBA RIVER LEFT BANK LEVEE PLM 0.0-0.3
THREE RIVERS LEVEE IMPROVEMENT AUTHORITY**



Project: TRLIA Phase 4 Levee Repair:
Date: draft 04/13/06

Task  Milestone  Summary 

Exhibit B (Page 1 of 2)
Phase 4 Feather River Levee Repairs
Summary Cost Estimate - B-E/GEI Team
 (Confidential and Proprietary Financial Information)

revised 4/13/08

Task	Estimated B-E/GEI Labor Effort		Estimated Subconsultant Labor Effort		Estimated Drilling and Laboratory Coets	Estimated ODC's	Total Estimated Task Cost
	Hours	Cost	Hours	Cost			
Design Tasks							
Task 1 PreDesign/Detailed Investigations							
Task 1.1 Site Visits / Data Review	96	\$14,216	0	\$0		\$1,600	\$15,816
Task 1.2 Basis of Design Report	264	\$41,004	40	\$7,523		\$1,000	\$49,527
Task 1.3 Field Explorations	1,736	\$191,248	1,200	\$115,000	\$460,000	\$19,600	\$785,848
Task 1.4 Geotechnical Data Report	700	\$75,932	0	\$0		\$5,200	\$81,132
Task 1.5 Phase 1 Site Assessment	216	\$25,204	0	\$0		\$4,000	\$29,204
Task 1 Subtotal	3,012	\$347,604	1,240	\$122,523	\$460,000	\$31,400	\$961,527
Task 2 Detailed Design and Construction Documents							
Task 2.1 Engineering Analyses	1,376	\$179,336	0	\$0		\$14,000	\$193,336
Task 2.2 Hydraulic Modeling	40	\$6,712	0	\$0		\$0	\$6,712
Task 2.3 Geomorphic Evaluation	40	\$6,712	150	\$23,000		\$0	\$29,712
Task 2.4 Design of Protective Measures for Environ. Resources	56	\$9,096	120	\$17,250		\$430	\$26,776
Task 2.5 Facilities Design, including Drawings	7,088	\$954,378	450	\$69,000		\$1,550	\$1,024,928
Task 2.6 Specifications	624	\$86,128	0	\$0		\$4,000	\$90,128
Task 2.7 Design Report	438	\$84,248	40	\$7,523		\$4,000	\$95,771
Task 2.8 Construction Cost Estimate and Schedule	252	\$30,824	0	\$0		\$400	\$31,224
Task 2.9 Construction Contract Documents	204	\$26,944	0	\$0		\$2,100	\$29,044
Task 2 Subtotal	10,118	\$1,364,378	760	\$116,773	\$0	\$26,480	\$1,507,631
Task 3 Bidding and Contract Award	286	\$44,992	0	\$0		\$2,400	\$47,392
Task 4 Environmental Coordination and Permitting	144	\$23,792	650	\$97,750		\$1,000	\$122,542
Task 5 Project Management	2,408	\$373,772	335	\$60,375		\$9,000	\$443,147
Total Estimated Labor Effort and Cost	15,978	\$2,154,538	2,985	\$397,422	\$460,000	\$70,280	\$3,082,240

Notes:

- 1) See Section A.4 of Scope of Work for scope of each task.
- 2) Estimated labor hours shown above does not include hours for other TRILIA consultants (e.g. MBK and BRI).
- 3) Estimated labor effort and cost is based on our understanding of the project requirements and the attached Scope of Work.
- 4) Hydraulic Analysis performed by MBK under contract to TRILIA - costs for analysis and report preparation not included.
- 5) Preparation of plats and legals performed by BRI under contract to TRILIA - costs not included.
- 6) Labor billing rates and other project costs shall be based on GEI's current fee schedule and payment terms (2006 schedule is attached), except as modified in Note 7 below. GEI's fee schedule is updated at the beginning of each year.
- 7) In discussions with TRILIA, it is agreed that GEI will not seek reimbursement by TRILIA of out-of-state air fares incurred in connection with routine design activities required to perform the Scope of Work described in Section A.4 unless such travel and reimbursement are expressly approved in advance by TRILIA. It is also agreed that GEI will not seek reimbursement of meals expenses incurred in connection with the attendance of GEI personnel to project meetings and short site visits (less than a day in duration). GEI will be reimbursed for meals and lodging expenses incurred in connection with investigations and other engineering activities that involve overnight stay in the project area.

FEE SCHEDULE AND PAYMENT TERMS



EXHIBIT B (PAGE 2 OF 2)

FEE SCHEDULE

<u>Personnel Category</u>	<u>Hourly Billing Rate</u> <u>\$ per hour</u>
Staff Engineer/Consultant – Grade 1	\$80
Staff Engineer/Consultant – Grade 2	\$88
Engineer/Consultant – Grade 3	\$98
Associate Engineer/Consultant – Grade 4	\$108
Senior Engineer/Consultant – Grade 5	\$129
Managing Senior Engineer/Consultant – Grade 6	\$149
Executive Engineer/Consultant – Grade 7	\$175
Principal Executive Engineer/Consultant – Grade 8	\$196
Managing Executive Engineer/Consultant -Grade 9	\$216
Senior Principal	\$250

Senior CADD Operator	\$98
CADD Operator and Senior Technician	\$88
Technician, Administrative/Clerical Staff	\$72
Office Aide	\$57

Expert Witness Testimony will be billed at \$298 per hour for Principal Executive Engineer/Consultant and above, and at \$250 per hour for all other classifications.

These rates are billed for both regular and overtime hours in all categories.

Rates will increase up to 5% annually, at GEI's option, for all contracts that extend beyond twelve (12) months after the original contract date.

OTHER PROJECT COSTS

Subconsultants, Subcontractors, and Other Project Expenses – All costs for subconsultants, subcontractors, and other project expenses will be billed at cost plus a 15% service charge. Examples of such expenses ordinarily charged to projects are subcontractors; subconsultants: chemical laboratory charges; rented or leased field and laboratory equipment; outside printing and reproduction; communication and postage charges; shipping costs for samples and equipment; disposal of samples; rental vehicles; fares for travel on public carriers; special fees for insurance certificates, permits, licenses, etc.; fees for restoration of paving or land due to field exploration, etc.; state sales and use taxes on equipment and services purchased for the project.

Billing Rates for CADD and Specialized Technical Computer Programs – Computer usage for CADD and specialized technical programs will be billed at a flat rate of \$10.00 per hour in addition to the labor required to operate the computer.

Transportation and Subsistence – Automobile expenses for GEI or employee owned cars will be billed at the rate per mile set by the Internal Revenue Service for tax purposes plus tolls and parking charges. When required for a project, four-wheel drive vehicles owned by GEI or its employees will be billed at a daily rate appropriate for those vehicles. Per diem living costs for personnel on assignment away from their home office will be negotiated for each project.

Other Expenses – GEI-owned field and laboratory equipment such as pumps, sampling equipment, monitoring instrumentation, field density equipment, portable gas chromatographs, etc., will be billed at a daily, weekly, or monthly rate as needed for the project. Expendable supplies and large-quantity and oversized in-house copies will be billed at a unit rate.

PAYMENT TERMS

Invoices will be submitted monthly or upon completion of a specified scope of service, as described in the accompanying contract (proposal, project, or agreement document that is signed and dated by GEI and CLIENT).

Payment is due upon receipt of the invoice. Interest will accrue at the rate of 1% of the invoice amount per month, for amounts that remain unpaid more than 30 days after the invoice date. All payments will be made by either check or electronic transfer to the address specified by GEI and will include reference to GEI's invoice number.