

SUPPLEMENTAL SERVICES AGREEMENT NO. 1
LANDFILL ENVIRONMENTAL SERVICES

THIS SUPPLEMENTAL SERVICES AGREEMENT NO. 1, hereinafter referred to as Supplemental Agreement, is made and entered into this 7th day of January, 2024, by and between the County of Lake, hereinafter referred to as COUNTY, and Geo-Logic Associates, Inc., hereinafter referred to as CONSULTANT:

W I T N E S S E T H:

WHEREAS, the COUNTY has entered into a General Services Agreement with CONSULTANT to perform environmental services at the Eastlake Sanitary Landfill; and,

WHEREAS, the COUNTY and CONSULTANT now desire to also enter into this Supplemental Agreement with the scope of services described herein for design services for Phase 2 & 3 of the Eastlake Sanitary Landfill Expansion Project.

NOW, THEREFORE, IN CONSIDERATION OF the covenants and agreements herein set forth, it is hereby agreed:

1. The General Services Agreement remains in full force and effect, and in the performance of this Supplemental Agreement CONSULTANT is held to all provisions and the terms of the General Services Agreement.

2. PROJECTS

The projects covered by this Supplemental Agreement shall include design services for Phase 2 & 3 of the Eastlake Sanitary Landfill Expansion Project.

3. SCOPE OF WORK

The scope of work covered by this Agreement is described in the Scope of Work

and Cost Proposal prepared by CONSULTANT, which is attached as Exhibit "A".

4. COMPENSATION

As full compensation for all work or services to be provided by CONSULTANT hereunder, County shall make payments to CONSULTANT based on monthly invoices for all services performed under this Agreement. Invoices shall reference the project title and include a detailed breakdown of work items completed to date and the cost of work remaining. Invoices shall be separate for each facility. Payment will be based on time and materials. Invoices are due and payable upon receipt. The total fee for the project will not exceed \$244,542 without prior approval of the County. Upon satisfactory completion of services summarized in Exhibit "A", the final payment of any balance will be due upon receipt of the final invoice. The final invoice shall be submitted within 60-calendar days after completion of the CONSULTANT's work.

5. TERM

CONSULTANT shall begin immediately on the work as assigned and this AGREEMENT shall remain in full force for a period of two (2) years from the date of approval or until terminated by either party.

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IN WITNESS WHEREOF, the parties hereto have executed this AGREEMENT the day and year first written above.

County of Lake, a political
subdivision of the State of California

CONSULTANT

By 
Eddie Cranden (Jan 10, 2025 12:33 PST)
Chair, Board of Supervisors


Geo-Logic Associates, Inc.

ATTEST: SUSAN PARKER
CLERK TO THE BOARD

By 
Johanna Delong (Jan 10, 2025 11:41 PST)



APPROVED AS TO FORM:
LLOYD GUINTIVANO
COUNTY COUNSEL



EXHIBIT A

October 21, 2024

Mr. Lars Ewing
County of Lake Solid Waste Division
2964 Richardson Drive
Lakeport, California 95453

Scope and Cost Proposal for Phases 2 and 3 Development at the Eastlake Sanitary Landfill

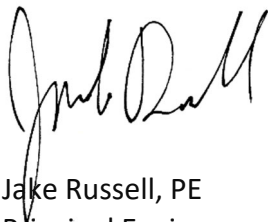
Dear Lars,

Lake County (County) was made aware of Geo-Logic Associates' (GLA) landfill design experience and capabilities as a result of a proposal that was submitted to the County in 2023. In April of 2024, GLA was contacted regarding future design work for the County's Eastlake Landfill in Clearlake, California. A meeting between GLA and the County was held on May 22, 2024, and was attended by Richard Mitchell, PG, CEG (Principal Geologist) and Jake Russell, PE (Principal Engineer) and John Hower, PG, CEG (Senior Vice President). Pursuant to our conversations during this meeting as well as our extensive experience completing design packages for northern California landfills, enclosed is our scope and cost proposal for the Phases 2 and 3 Development at the Eastlake Sanitary Landfill.

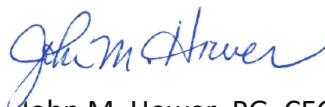
Provided on the following pages is our scope of work for the Phase 2 and 3 Development, as well as brief qualifications regarding our team and design experience. A preliminary project schedule is included as Attachment 1 and our cost estimate based on the scope of work is included as Attachment 2. Please contact Jake Russell, PE, at (530) 320-1554 or jrussell@geo-logic.com if you have any questions or need clarifications regarding our proposal. We look forward to working with the County on this project.

Sincerely,

Geologic Associates, Inc.



Jake Russell, PE
Principal Engineer



John M. Hower, PG, CEG
Senior Vice President

Attachments:

Attachment 1: Preliminary Schedule

Attachment 2: Cost Estimate and Schedule of Fees

PROPOSAL FOR PHASES 2 AND 3 DEVELOPMENT AT THE EASTLAKE SANITARY LANDFILL

BACKGROUND INFORMATION

The Eastlake Sanitary Landfill (ESL) is a public municipal solid waste disposal facility located in Clearlake, California and owned and operated by the County of Lake (County). The ESL has been in operation since 1972 and includes the original 34.7 acres of disposal area and the 21.8-acre expansion area per the 2021 Joint Technical Document (JTD). Phase 1 of the expansion area is currently under construction with completion expected in the fall of 2024. The purpose of this scope of work is to plan and design the Phases 2 and 3 expansion area with construction starting in the spring of 2026.

PROPOSED SCOPE OF SERVICES

GLA has developed a proposed scope of services for the development of Phases 2 and 3 at the ESL, consisting of the following tasks:

- Task 1: Project Management and Meetings
- Task 2: Preliminary Engineering
- Task 3: Engineering Analyses and Design Report
- Task 4: Bid and Construction Documents
- Task 5: Permitting Assistance
- Task 6: Assistance During Bidding

This task breakdown reflects our understanding of activities that need to be completed in support of the project objectives. GLA will work closely with County personnel throughout the project to complete the project tasks in a cost efficient and timely manner.

Task 1 – Project Coordination/Management and Meetings

The general scope of work for Task 1 consists of:

- Project Management and Team Coordination
- Project Meetings
 - Kick-off Meeting
 - County/GLA Progress Meetings (6)
 - Regulator Meetings (2)

This section summarizes how this project will be organized and managed to optimize effectiveness, communications, and cost control.

Project Management and Team Coordination

We will convene an internal kick-off meeting to review Project Instructions that we will develop to ensure a full understanding of the project goals and objectives. This communication will help in preventing errors, delays, and reassignment costs in completing project deliverables.

GLA will initially work with the County to develop the project visions, goals, and objectives. We assume that these items will be addressed during the project kick-off meeting and virtual meetings as necessary.

Project Meetings

GLA project team members will have periodic internal progress meetings to keep apprised of project progress, client instructions, and other developments affecting the execution of the project.

GLA anticipates that there will be a number of conference calls and meetings with County staff and the Central Valley Regional Water Quality Control Board (CVRWQCB). We have assumed these meetings will be held either at the Landfill, County offices, or virtually via MS Teams.

Face-to-face meetings will be supplemented with regularly scheduled conference calls to review project progress and discuss issues that arise during the course of the project. We propose starting with bi-weekly conference calls to supplement the face-to-face meetings. The frequency of these calls can be revised as the project progresses.

Face-to-face communication at milestone stages of the project is critical. To that end, we have assumed a total of six (6) formal meetings, in addition to the project kick-off meeting to be held during the permitting and design stage of the project. Based on our experience with similar projects, we believe the six formal meetings will be sufficient to communicate internally with the County and with the regulators during the design stage. Periodic check in conference calls will be scheduled as necessary or as requested by the county in addition to the six project meetings.

Deliverables:

- ***Draft and final meeting agendas.***
- ***Draft and final meeting minutes.***

Task 2 – Preliminary Engineering

GLA will provide preliminary engineering support related to the development of Phases 2 and 3, Phase 4, or other areas of the landfill as requested by County personnel. The actual scope of this task may vary depending on project needs and requests from the County. For purpose of providing a cost estimate for this task we have assumed that GLA will perform the following preliminary/conceptual level design and support tasks:

- Preliminary grading plans and associated earthwork volumes based on the permitted base grades from the JTD and current topographic survey of the landfill.
- Development of conceptual waste fill plans to determine airspace volumes.
- Preliminary estimates of geosynthetics and earthworks materials required to construct the liner system.
- Conceptual grading and layouts of access for landfill operations.

- Conceptual borrow area grading, access, and volumes.
- Surface water run-off controls layouts.
- Permanent leachate collection sump location and configuration.
- Supporting the County's Environmental Consultant.

As part of this task, GLA will develop a complete schedule for the project. Schedule development will begin with an approximate date of when the County would like to begin waste placement operations in Phases 2 and 3. From there we will back into a design report submittal date based on our experience and estimates with permitting approval and construction timelines. GLA will maintain the project schedule and provide monthly updates as requested. GLA has developed a preliminary schedule for the project based on our previous discussions with the County (included as Attachment 1).

Deliverables:

- ***Draft and final preliminary and conceptual drawings, plans, and documents in PDF file format.***
- ***Project schedule and updates.***

Task 3 – Engineering Analyses and Design Report

GLA will perform necessary engineering analyses and prepare the design for Phases 2 and 3 in accordance with the site's Waste Discharge Requirements (WDRs). This work will include the evaluation and review of the current JTD and the previous Phase 1 design. We expect that the Design Report for Phases 2 and 3 will follow a similar format and contain a similar level of detail as the approved Phase 1 Design Report and include the following sections:

- Introduction
- Geologic Conditions
- Phase 2 and 3 Engineering Evaluations
- Environmental Monitoring Programs
- References

GLA will perform or update the following engineering evaluations specific to Phases 2 and 3:

- Soils Analysis
- Base Grading Design
- Composite Liner System Design
- Leachate Collection and Recovery System (LCRS) Design
- Slope Stability Analysis, including seismic hazard analysis update
- Stormwater Drainage Analysis

- Groundwater Separation Evaluation

Each of these design components is discussed in more detail in the following sections.

Soil Analysis

Soil analysis will include estimates of excavation and engineered fill requirements for the construction of Phases 2 and 3. Soil samples will be obtained, if necessary, from within the Phases 2 and 3 footprint and tested for baseline properties for use in development of the project Technical Specifications. Our cost estimate includes the following baseline testing of up to three soil samples:

- Particle size analysis (ASTM D422)
- Soil classification (ASTM D2487)
- Moisture-density relationship (ASTM D1557)
- Atterberg limits (ASTM D4318)

Base Grading Design

The approved base grades from the JTD will be used as the basis for the base grading design. During this phase we will assess impacts to existing facility infrastructure, requirements for slope inclinations, benches, and access roads, and stockpiling requirements and locations.

GLA will consider operational and construction access for Phases 2 and 3 in the design. This will help to assure continued efficient access for waste placement and soil hauling during construction and as well as after completion of construction. GLA will coordinate this task with the landfill engineering and operations staff as necessary.

Composite Liner System Design

Composite liner system design will conform to the requirements set forth in the JTD and WDRs. Tie-ins to existing liner phases will be analyzed based on available as-built data. Anchor trenches will be designed to properly secure the Phases 2 and 3 liner system.

Leachate Collection and Removal System Design

The leachate collection and removal system (LCRS) will be designed in accordance with California Code of Regulations (CCR) Title 27 requirements and the facility WDRs. GLA will review site specific leachate collection data and incorporate into the analysis as necessary. GLA has developed a standard procedure for this design that includes performing an analysis of leachate generation potential based on the Hydrologic Evaluation of Landfill Performance (HELP) software and using the results from this analysis to size the collection pipe diameter, perforation sizing, and pipe spacing.

Leachate collection system calculations will be completed to demonstrate that the specified drainage layer, collection piping system, and sump satisfies minimum performance standards from liquid conveyance, maximum head on the liner, and pipe stability perspectives for the proposed final fill contours. The LCRS sump sizing will be verified according to CCR Title 27

standards. Leachate pumping, conveyance, and storage needs will also be assessed. Based on our review the JTD, the permanent leachate collection sump has been located, but not sized; therefore, sizing the sump and pumping system will be included in this task.

Slope Stability Analysis

GLA will evaluate the proposed static and dynamic slope stability of Phases 2 and 3 subgrade excavation, interim fills, final fill, and cut slopes. Iterative analyses will be performed to optimize the design for stability, airspace, and potential future in-fill considerations.

The engineering strength properties of all the materials that will be used in the liner system will be identified, taking into account the probable loads to which each material will be subjected. Site-specific soil and soil/synthetic properties will be used in these analyses.

Two-dimensional stability analyses will be performed using the limit equilibrium slope stability software, SLOPE/W. A variety of search procedures will be used to identify the critical potential failure surface for a given cross section. Critical surfaces may be circular, wedge, or composite in nature. As appropriate, individual critical surface analyses will take advantage of an optimization procedure within SLOPE/W wherein the lowest factor of safety potential slip surface at the end of standard limit equilibrium iterations is further iterated on a segment-wise basis to find potentially lower factors of safety (and often non-circular) slip surfaces. Use of this procedure will always result in a factor of safety that is equal to or lower than that identified if it had not been used (i.e. it is conservative).

GLA will perform deterministic and probabilistic seismic hazard assessment using the latest update of the US Geological Survey/California Geologic Survey fault model (2008; 2014), supplemented from the latest Uniform California Earthquake Rupture Forecast studies. The latest update of the Next Generation Attenuation (NGA) Ground Motion Prediction Equations (GMPE) (NGA West-2) will be used. In particular, the equations developed by Abrahamson, Silva, and Kamai (2014); Boore, Stewart, Seyhan, and Atkinson (2014); Campbell and Bozorgnia (2014); Chiou and Youngs (2014); and Idriss (2014) will be used.

Excavation and final fill slopes will be analyzed to demonstrate a minimum static and pseudo-static factor of safety of 1.5. Interim fill slopes will be analyzed to demonstrate static factors of safety of at least 1.3. In the event that the pseudo-static factor of safety is less than 1.5 for any excavation or final fill slope section, potential seismically-induced permanent displacements will be estimated using site response information generated from the analysis described above.

Stormwater Drainage Analysis

GLA will analyze the changes in hydrology associated with Phases 2 and 3 and develop a surface water run-off control system for the project area. Previous evaluations included in the JTD and the Phase 1 Design Report will be reviewed and used to the greatest extent possible. Our evaluation will include performing surface hydrology modeling to calculate the runoff from the landfill area and run-on from the areas outside the landfill area. A drainage plan will be prepared showing the watershed area data, drainage paths, and points of concentrating flow.

Once the drainage plan has been prepared, runoff calculations from the landfill area and run-on from the areas outside the landfill area impacting Phases 2 and 3 will be performed. The results of these calculations will be used to size the runoff drainage structures and identify the erosion control measures necessary to manage surface water flows associated with a 100-year return, 24-hour frequency storm event. In addition to the prescribed 100-year, 24-hour storm evaluation, GLA will evaluate the ability of the stormwater drainage system to handle, without catastrophic failure, other more severe storm events such as the 500 year, 24 hour storm as well as more intense storms.

Groundwater Separation Analysis

GLA understands that groundwater separation from the base of the liner was an issue during the design and approval of Phase 1 of the expansion area and the development of the JTD. GLA will evaluate current and historic groundwater elevations and work with the County to propose a based grading plan that will comply with the site permitting documents and current regulations and gain approval from the CVRWQCB.

Miscellaneous Calculations

Other calculations may be necessary to justify the specific base liner profile proposed. These calculations, such as anchor trench designs, geocomposite transmissivity calculations, and so forth would be completed under this task. GLA will provide calculations to gain approval of the base liner system from the CVRWQCB.

Regulatory Interaction

GLA proposes two meetings with the CVRWQCB in order to discuss the project parameters, design basis, and project schedule. Our experience has been that involving the proper regulatory agency early in the project helps prevent “surprises” from occurring during the approval process. This should make for a streamlined and efficient approval process. GLA proposes onsite meetings with the CVRWQCB at the 30% and 60% completion levels. These meetings can be in person at the landfill or virtual, if needed.

Phases 2 and 3 Design Report

GLA will prepare a Design Report for submittal to the CVRWQCB. The Design Report will include, at a minimum, the 90% Plans and Specifications for the proposed construction area incorporating the following information:

- Design rationale and criteria
- Design calculations
- Construction Drawings
- Construction Specifications
- Construction Quality Assurance (CQA) Plan
- Stability analysis and geotechnical information
- Interim refuse grades and ultimate Phase capacity

Design Report deliverables are described below. Preparation of the Construction Drawings, Technical Specifications, and CQA Plan are included in Task 4. These components will be included in the Design Report deliverables as appendices.

60% Design Submittal

GLA will prepare preliminary Construction Drawings at the 60% level of completion based on the current Master Plan, revisions discussed with County personnel, and the engineering analyses completed in Task 2. The 60% design submittal will include:

- Construction plans, general cross sections, and typical details
- Preliminary draft Technical Specifications outline
- Access road design and layout
- Stockpiling grading
- Phasing plans showing refuse filling, soil management, interim storm water controls, and leachate and management systems
- Initial Engineer's Estimate of construction cost

The list of bid items, quantities, and initial draft engineer's construction cost estimate for the work shown on the Construction Drawings and details and included in the Technical Specifications will be developed. The cost estimate will use unit prices developed from local cost data and from experience with similar work. Costs will include labor, equipment, materials, contractor mark-up, and overhead. An estimate for the appropriate construction duration will also be developed.

90% Design

A Design Report reflecting the 90% design will be developed. The Design Report will include the 90% Plans and Specifications for the proposed Phases 2 and 3 construction incorporating the following information:

- Site information and background
- Design calculations
- 90% Construction Drawings
- 90% Technical Specifications
- 90% CQA Plan
- 90% Engineer's Estimate of construction costs
- Interim refuse grades and ultimate module capacity

We will incorporate review comments from our 60% submittal and develop additional details for the drawings. We will also update our Technical Specifications, engineer's estimate, and construction duration estimate. The 90% design package submittal will be complete from a GLA

perspective, will model the substance and format of the final design package, and be consistent with County Standards.

Final (100%) Design Submittal

We will incorporate review comments from our 90% submittal to prepare a final (100%) design. Once all changes have been completed, we will provide to County personnel:

- Final Technical Specifications
- Final CQA Plan
- Final Design Report
- Electronic files for the Technical Specifications, construction drawings, Engineer's Estimate, and Design Report
- Printed copies of the Technical Specifications, construction drawings, Engineer's Estimate, and Design Report

Deliverables:

- ***Hard copies and digital bookmarked PDF files of the 60%, 90% and 100% Design Report.***

Initially our goal will be to include 90% Plans and Specifications in the Design Report submittal to the CVRWQCB. However, at this time, we believe the project timeline will allow for completion of 100% Plans and Specifications for the Design Report submittal. This will be discussed with the County as the Design progresses.

Task 4 – Phases 2 and 3 Bidding and Construction Documents

GLA will develop construction and bidding documents that will be used to solicit bids and for the construction of Phases 2 and 3. It is expected that Task 4 will be completed at the same time as Task 3 with the 60%, 90% and 100% documents combined in each submittal as discussed above. These documents will include the Construction Drawings, Specifications, Engineers Estimate, and CQA Plan. Each of these documents is discussed below.

Construction Drawings

GLA will complete the Construction Drawings for the construction of Phases 2 and 3. Designs will be developed in accordance with current regulatory requirements, the JTD, and the site WDRs. In addition, GLA will incorporate any "lessons learned" from the Phase 1 expansion. GLA construction management staff, in coordination with County personnel, will complete a review of the constructability of the design. The proposed design will be routinely reviewed throughout its development for impacts related to diversion and control of surface water, logistics of grading and materials handling, potential traffic impacts, lay-out and work areas, material delivery, water availability, and quality control.

Plan Review

GLA will submit the Plans and Specifications for review and comment at the 60 and 90 percent completion stage for Phases 2 and Phase 3. Both the 60 and 90 percent submittals will also include material quantity take-offs, back-up calculations, Technical Specifications, engineer's cost estimate, and a price schedule.

Drawing Format

The construction drawings will be prepared in a digital format using AutoCAD Civil 3D (current release) to an appropriate scale. A digital copy of the drawing files will be supplied to County with representative hard copy drawings, if requested. Detail sheets will also be provided. Details of the design including cross-sections will be shown enlarged on the detail sheets and will be cross-referenced to the Construction Drawings and construction notes. It is estimated that approximately 12 to 15 sheets will be necessary to prepare the Construction Drawing set for Phases 2 and 3.

Standard and Technical Specifications

The Standard Provisions will be developed for the project in conjunction with County personnel. These include the bid instructions, bid forms, and construction contract.

Technical or special provisions of the Specifications for Phases 2 and 3 construction will be prepared for inclusion into the bid package. The special provisions will be suitable for Public Works construction and will be submitted in a format acceptable to the CVRWQCB. The Specifications will be provided in MS Word and in PDF file format. Note that the Specifications will require that a Construction Health and Safety Plan be developed and submitted by the Contractor.

Engineer's Estimate

An engineer's construction cost estimate for the work shown on the Construction Drawings and details and included in the Technical Specifications will be prepared based on final material quantities using unit prices developed from published local cost data and from experience with similar work. Costs will include labor, equipment, materials, contractor mark-up and overhead. A bid schedule tabulating specific items, units, and quantities will be prepared. The engineer's estimate will be prepared during the early stages of the project and updated throughout. This will allow the County and GLA to understand the costs and impacts on the project costs as the design progresses.

CQA Plan

GLA will prepare a CQA Plan for the construction of Phases 2 and 3 based on the final design. The CQA Plan will be prepared to ensure that acceptable test results and inspection observations are obtained to evaluate whether the final product is completed in compliance with minimum regulatory standards and the approved project design. The CQA Plan will conform to applicable state regulatory requirements as well as the CVRWQCB's requirements and will, among other things, discuss:

- General project design information.

- Definitions of responsible parties and description of specific materials to be used in the construction.
- Personnel qualifications, chain of command, and CQA organization.
- Project meetings.
- Test methods and inspection requirements for materials to be used in the construction of the leachate piping and the liner system.
- CQA testing interpretation protocols, including data evaluation, pass/fail criteria, and methods for combining different test methods to provide overall confidence in the quality and uniformity of the completed liner system.
- Documentation requirements and formats, including daily records, inspection sheets, photographs, acceptance of completed portions of the project, final documentation (Construction Report of Compliance) and document storage.

Deliverables:

- ***Hard copies and digital bookmarked PDF files of the 60%, 90%, and 100% Construction and Bid Documents.***

Task 5 – Permitting Assistance

Construction of Phases 2 and 3 will require some biological mitigation and monitoring of the area south of the project. Our understanding is that the County will retain their own consultant, SHN, to perform the necessary biological monitoring of this area. For this task we have assumed a small cost for coordination with SHN to ensure the necessary requirements are met and included in the Design Report. GLA can provide a scope of work and cost estimate for additional support services for biological monitor or mitigation if requested by the County.

Task 6 – Aerial Survey

GLA will subcontract SHN to perform an aerial survey of the landfill. The approximate limits of the aerial survey are shown below:



SHN will survey the area and provide a topographic map with a contour interval of 1-foot, and orthographic photo. The cost for this task includes all site visits (7 total) required to verify aerial target controls, set control points and aerial targets, and supplemental ground surveys. All aerial data will be compiled into a topographic survey compatible for use with AutoCAD Civil 3D.

Task 7 – Assistance During Bidding

GLA will perform the following tasks during advertising, bidding, and award of the project. Each of these tasks is described in more detail below:

Attend Pre-Bid Meeting

GLA will attend the pre-bid meeting with County personnel and the Contractors preparing to bid on the project. Background information regarding the site permitting and CVRWQCB approvals leading to the composite liner system will be discussed. Design features will be described, as well as site logistics and coordination with the County.

Bid Process Assistance/Addenda Preparation

GLA will support the County, as required, throughout the bidding process. Contractor questions during the bid process will be answered in written form and will be included with addenda prepared by GLA.

Review and Evaluate Final Bids and Make Recommendation for Award

GLA will assist County personnel in reviewing and evaluating the bids received from the contractors.

Deliverables:

- ***Pre-bid meeting agenda and minutes, bid addenda, and bid evaluation spreadsheet.***

QUALIFICATIONS

GLA is an employee owned firm that provides civil, environmental, geotechnical, and water resources services to clients in the United States and internationally and is an ENR Top 200 Environmental Firm with more than 300 staff members nationwide. GLA is one of the most experienced environmental containment system and solid waste consulting firms in the western US providing permitting, design and on-site construction observation and testing services. The GLA team has provided:

- ***These or similar services at more than 300 solid waste sites in 16 states and 7 countries***
- ***More than 600 million square feet of geosynthetic liner design and/or CQA***
- ***More than 200 million cubic yards of soil liner design and/or CQA***

GLA has successfully completed design and bid packages for more than 50 landfill projects in California and the western United States. This work includes the following clients whose projects lie within the jurisdiction of the Central Valley RWQCB: Butte County Public Works, Fresno County Department of Public Works (DPW); Sacramento County Division of Waste Management and Recycling; California Department of Resources Recycling and Recovery; Kern County DPW, San Joaquin County DPW, Solid Waste Division; Waste Connections; Calaveras County Integrated Waste; Western Placer Waste Management Authority (WPWMA); Republic Services; and Yolo County Integrated Waste Management Division. Core project team members who worked on these projects comprise the team that will undertake the designs for the ESL.

Project Team

GLA's overall principal for these projects, Jake Russell, PE (CA), is a Principal Engineer with the company who has a proven track record of managing landfill design projects. He leads a talented group of landfill design engineers mainly based in our Grass Valley, California, office. There are 24 registered California civil engineers in the company as a whole, the majority of whom have landfill design experience and who can be called upon should a project (or phase of a project) require additional civil engineering services. We also have several staff engineers who assist our registered Professional Engineers with various aspects of the design process.

Brief bios of our key design team are provided on the following page. All of these team members possess current California Professional Engineer registrations.

- **Jake Russell, PE:** Mr. Russell is a Principal Civil Engineer with 26 years of permitting, design, and construction experience focusing on environmental containment and solid waste facilities. His experience includes civil and geotechnical design, permitting, and construction management of landfills, composting facilities, impoundments, and mining projects throughout the United States and abroad. For more than 20 years he has managed all of the engineering and overall solid waste planning for several major public and private solid waste facilities.
- **Caleb Miller, PE.** Mr. Miller provides engineering, analytical, and project management support for various solid waste, mining, and other civil design projects. He is highly

skilled at utilizing AutoCad Civil 3D (CADD) in the preparation of construction plan sets. His primary engineering responsibilities include project management, preparing plans, specifications and certification reports, quantity takeoffs, and supervising other engineers.

- **Noah Campbell, PE:** Mr. Campbell's 20+-year experience includes extensive permit document preparation (Joint-Technical Documents, Closure and Post-Closure Maintenance Plans, and compost facility permits). His experience also encompasses site hydrology evaluations; hydraulic structure design and sizing; cell design and sequencing; liner system design; liquid collection and recovery system (LCRS) design and sizing; stockpile design and placement; settlement analysis; site life determination; roadway and pad design; and utility system design.
- **Jordan Greenman, PE:** Ms. Greenman manages and assists with the design of liner systems, structural sections, and hydraulic structures for landfills, mines, and compost facilities; creates design and detail drawings; performs engineering calculations for landfill, mining, and composting projects; writes specifications, plans and reports; and provides design support in AutoCAD Civil 3D software.
- **Ryan Berquist, PE:** Mr. Berquist is responsible for the preparation of design reports, Stormwater Pollution Prevention Plans (SWPPP), and surface hydrology studies. He also has experience in land development and infrastructure improvement, stormwater management, mining and solid waste projects and project coordination. In addition, he is a skilled Auto-CAD technician and prepares design drawings for solid waste landfills, and lined containment ponds. He has worked on various development projects ranging from single family residences to commercial developments, municipal roadway improvement, compost facilities, and solid waste transfer stations.

This team has more than 10 years of collaboration on many similar projects in northern California. Detailed resumes are available upon request.

CONCLUSION

We are grateful for this opportunity to provide the County with this proposal and look forward to partnering with the County to partner with the County to realize the master planning goals the County undertook several years ago. As outlined in our cover letter, please reach out to Mr. Russell for clarifications and/or additional information.

**COST ESTIMATE FOR PROFESSIONAL SERVICES
COUNTY OF LAKE
EASTLAKE SANITARY LANDFILL PHASES 2 AND 3 DEVELOPMENT**

Billing Category	Geo-Logic Associates Professional Costs and Expenses													Total Estimated Cost
	Principal Professional II	Principal Professional I	Senior Professional III	Senior Professional II	Project Professional III	Project Professional II	Staff Professional III	Staff Professional I	Admin	Total Labor	Subcontractor	Lab Testing	Expenses ⁽²⁾	
Unit Rate ⁽¹⁾	hr. \$289	hr. \$270	hr. \$255	hr. \$239	hr. \$216	hr. \$200	hr. \$168	hr. \$138	hr. \$117				3%	
Task 1 - Project Management and Meetings	40		40							\$21,760			\$653	\$22,413
Task 2 - Preliminary Engineering	24		24		40		20	40		\$30,576			\$917	\$31,493
Task 3 - Engineering Analyses and Design Report	24		40		80		40	20	8	\$45,768		\$3,000	\$1,373	\$50,141
Task 4 - Bid and Construction Documents	16		32		60		80	100		\$52,984			\$1,590	\$54,574
Task 5 - Permitting Assistance	8		16		16					\$9,848			\$295	\$10,143
Task 6 - Aerial Survey			4		4					\$1,884	\$60,950		\$57	\$62,891
Task 7 - Assistance During Bidding	8		16		24				4	\$12,512			\$375	\$12,887
	120	0	172	0	224	0	140	160	12					
Total	\$34,680	\$0	\$43,860	\$0	\$48,384	\$0	\$23,520	\$22,080	\$1,404	\$175,332		\$3,000	\$5,260	\$244,542

Notes:

- Unit rates based on 2024 NorCal fee schedule
- Estimated expenses. Expenses will be invoiced in accordance with the negotiated agreement between GLA and the County based on actual cost plus markup.