

**CONTRACT FOR CONSULTANT SERVICES BETWEEN
THE CITY OF WATSONVILLE AND SWT ENGINEERING, INC.**

THIS CONTRACT, is made and entered into this _____, by and between the **City of Watsonville**, a municipal corporation, hereinafter called "City," and **SWT Engineering, Inc.**, hereinafter called "Consultant."

WITNESSETH

WHEREAS, the City needs to obtain certain professional, technical and/or specialized services of an independent contractor to assist the City in the most economical manner; and

WHEREAS, Consultant has the requisite skill, training, qualifications, and experience to render such services called for under this Contract to City.

THE PARTIES HEREBY AGREE AS FOLLOWS:

SECTION 1. SCOPE OF SERVICES. Consultant shall perform those services as specified in detail in Exhibit "A," entitled "SCOPE OF SERVICES" which is attached hereto and incorporated herein.

SECTION 2. TERM OF CONTRACT. The term of this Contract shall be from execution of this contract to June 30, 2025, inclusive.

SECTION 3. SCHEDULE OF PERFORMANCE. The services of Consultant are to be completed according to the schedule set out in Exhibit "B," entitled "SCHEDULE OF PERFORMANCE," which is attached hereto and incorporated herein. Consultant will diligently proceed with the agreed Scope of Services and will provide such services in a timely manner in accordance with the "SCHEDULE OF PERFORMANCE."

SECTION 4. COMPENSATION. The compensation to be paid to Consultant including both payment for professional services and reimbursable expenses as well as the rate and schedule of payment are set out in Exhibit "C" entitled "COMPENSATION," which is attached hereto and incorporated herein.

SECTION 5. METHOD OF PAYMENT. Except as otherwise provided in Exhibit "C," each month, Consultant shall furnish to the City a statement of the work performed for compensation during the preceding month. Such statement shall also include a detailed record of the month's actual reimbursable expenditures.

SECTION 6. INDEPENDENT CONSULTANT. It is understood and agreed that Consultant, in the performance of the work and services agreed to be performed by Consultant, shall act as and be an independent Consultant and not an agent or employee of City, and as an independent Consultant, shall obtain no rights to retirement

benefits or other benefits which accrue to City's employees, and Consultant hereby expressly waives any claim it may have to any such rights.

SECTION 7. ASSIGNABILITY. Consultant shall not assign or transfer any interest in this Contract nor the performance of any of Consultant's obligations hereunder, without the prior written consent of City, and any attempt by Consultant to so assign this Contract or any rights, duties or obligations arising hereunder shall be void and of no effect.

SECTION 8. INDEMNIFICATION.

To the full extent permitted by law (subject to the limitations of Civil Code section 2782.8 for any "design professional services" performed under this Contract), Consultant will indemnify, hold harmless, release and defend the City (including its officers, elected or appointed officials, employees, volunteers or agents) from and against any and all liability or claims (including actions, demands, damages, injuries, settlements, losses or costs [including legal costs and attorney's fees])(collectively "Liability") of any nature, to the extent arising out of, pertaining to, or relating to Consultant's negligence, recklessness, or willful misconduct in the performance of this Contract. In no event shall the cost to defend charged to the Consultant exceed the Consultant's proportionate percentage of fault. Consultant's indemnification obligations under this Contract are not limited by any limitations of any insurance held by Consultant, including, but not limited to, workers compensation insurance.

SECTION 9. INSURANCE.

A. Errors and Omissions Insurance. Consultant shall obtain and maintain in full force throughout the term of this Contract a professional liability insurance policy (Errors and Omissions), in a company authorized to issue such insurance in the State of California, with limits of liability of not less than One Million Dollars (\$1,000,000.00) to cover all professional services rendered pursuant to this Contract.

B. Auto and Commercial General Liability Insurance. Consultant shall also maintain in full force and effect for the term of this Contract, automobile insurance and commercial general liability insurance with an insurance carrier satisfactory to City, which insurance shall include protection against claims arising from bodily and personal injury, including death resulting therefrom, and damage to property resulting from any actual occurrence arising out of the performance of this Contract. The amounts of insurance shall not be less than the following:

(1) Commercial general liability insurance, or equivalent form, with a combined single limit of not less than \$500,000.00 per occurrence. If such insurance contains a general aggregate limit, such limit shall apply separately to each project Consultant performs for City. Such insurance shall (a) name City, its appointed and elected officials, and its employees as insureds; and (b) be primary with respect to insurance or self-insurance programs maintained by City and (c) contain standard separation of insured's provisions.

(2) Business automobile liability insurance, or equivalent form, with a combined single limit of not less than \$500,000.00 per occurrence. Such insurance shall include coverage for owned, hired and non-owned automobiles.

C. Workers' Compensation Insurance. In accordance with the provisions of Section 3700 of the Labor Code, Consultant shall be insured against liability for Workers' Compensation or undertake self-insurance. Consultant agrees to comply with such provisions before commencing performance of any work under this Contract.

D. Proof of Insurance to City before Notice to Proceed to Work. Consultant shall satisfactorily provide certificates and endorsements of insurance to the City Clerk before Notice to Proceed to Work of this Contract will be issued. Certificates and policies shall state that the policy shall not be canceled or reduced in coverage without thirty (30) days written notice to City. Approval of insurance by City shall not relieve or decrease the extent to which Consultant may be held responsible for payment of damages resulting from services or operations performed pursuant to this Contract. Consultant shall not perform any work under this Contract until Consultant has obtained the required insurance and until the required certificates have been submitted to the City and approved by the City Attorney. If Consultant fails or refuses to produce or maintain the insurance required by these provisions, or fails or refuses to furnish City required proof that insurance has been procured and is in force and paid for, City shall have the right at City's election to forthwith terminate this Contract immediately without any financial or contractual obligation to the City. As a result of such termination, the City reserves the right to employ another consultant to complete the project.

E. Written notice. Contractor shall provide immediate written notice if (1) any insurance policy required by this Contract is terminated; (2) any policy limit is reduced; (3) or any deductible or self insured retention is increased.

SECTION 10. NON-DISCRIMINATION. Consultant shall not discriminate, in any way, against any person on the basis of age, sex, race, color, creed, national origin or disability in connection with or related to the performance of this Contract.

SECTION 11. TERMINATION.

A. City and Consultant shall have the right to terminate this Contract, without cause, by giving not less than ten (10) days written notice of termination.

B. If Consultant fails to perform any of its material obligations under this Contract, in addition to all other remedies provided by law, City may terminate this Contract immediately upon written notice.

C. The City Manager is empowered to terminate this Contract on behalf of City.

D. In the event of termination, Consultant shall deliver to City copies of all work papers, schedules, reports and other work performed by Consultant and upon receipt thereof, Consultant shall be paid in full for services performed and reimbursable expenses incurred to the date of termination.

SECTION 12. COMPLIANCE WITH LAWS. Consultant shall comply with all applicable laws, ordinances, codes and regulations of the federal, state and local governments. Consultant shall obtain and maintain a City of Watsonville business license during the term of this Contract.

SECTION 13. GOVERNING LAW. City and Consultant agree that the law governing this Contract shall be that of the State of California. Any suit brought by either party against the other arising out of the performance of this Contract shall be filed and maintained in the Municipal or Superior Court of the County of Santa Cruz.

SECTION 14. PRIOR CONTRACTS AND AMENDMENTS. This Contract represents the entire understanding of the parties as to those matters contained herein. No prior oral or written understanding shall be of any force or effect with respect to those matters covered hereunder. This Contract may only be modified by a written amendment.

SECTION 15. CONFIDENTIAL INFORMATION. All data, documents, discussions or other information developed or received by or for Consultant in performance of this Contract are confidential and not to be disclosed to any person except as authorized by the City Manager or his designee, or as required by law.

SECTION 16. OWNERSHIP OF MATERIALS. All reports, documents or other materials developed or received by Consultant or any other person engaged directly by Consultant to perform the services required hereunder shall be and remain the property of City without restriction or limitation upon their use.

SECTION 17. COVENANT AGAINST CONTINGENT FEES. The Consultant covenants that Consultant has not employed or retained any company or person, other than a bona fide employee working solely for Consultant, to solicit or secure the Contract, and that Consultant has not paid or agreed to pay any company or person, other than a bona fide employee working solely for Consultant, any fees, commissions, percentage, brokerage fee, gift, or any other consideration contingent on or resulting from the award or making of this Contract, for breach or violation of this covenant, the City shall have the right to annul this Contract without liability, or in its discretion, to deduct from the Contract price or consideration or otherwise recover, the full amount of such fee, commission, percentage fee, gift, or contingency.

SECTION 18. WAIVER. Consultant agrees that waiver by City or any one or more of the conditions of performance under this Contract shall not be construed as waiver of any other condition of performance under this Contract.

SECTION 19. CONFLICT OF INTEREST.

A. A Consultant shall avoid all conflict of interest or appearance of conflict of interest in performance of this Contract. Consultant shall file a disclosure statement, if required by City Council Resolution, which shall be filed within thirty (30) days from the effective date of this Contract or such Resolution, as applicable.

B. No member, officer, or employee of the City, during their tenure, or for one (1) year thereafter, shall have any interest, direct or indirect, in this Contract or the proceeds thereof and Consultant agrees not to allow, permit, grant, transfer, or otherwise do anything which will result in such member, officer, or employee of the City from having such interest.

SECTION 20. AUDIT BOOKS AND RECORDS. Consultant shall make available to City, its authorized agents, officers and employees, for examination any and all ledgers and books of account, invoices, vouchers, canceled checks and other records or documents evidencing or related to the expenditures and disbursements charged to the City, and shall furnish to City, its authorized agents and employees, such other evidence or information as City may require with respect to any such expense or disbursement charged by Consultant.

SECTION 21. NOTICES. All notices shall be personally served or mailed, postage prepaid, to the following addresses, or to such other address as may be designated by written notice by the parties:

CITY

City Clerk's Office
275 Main Street, Suite 400
Watsonville, CA 95076
(831) 768-3040

CONSULTANT

SWT Engineering, Inc.
800-C South Rochester Avenue
Ontario, CA 91761
(909) 390-1328

SECTION 22. EXHIBITS:

- Exhibit A: Scope of Services
- Exhibit B: Schedule of Performance
- Exhibit C: Compensation

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WITNESS THE EXECUTION HEREOF, on the day and year first hereinabove written.

CITY

CONSULTANT

CITY OF WATSONVILLE

SWT ENGINEERING, INC.

BY _____
Rene Mendez, City Manager

BY _____
Michael A. Cullinane, P.E.

ATTEST:

BY _____
Irwin I. Ortiz, City Clerk

APPROVED AS TO FORM:

BY _____
Samantha W. Zutler, City Attorney

EXHIBIT "A"

SCOPE OF SERVICES

The scope of services is as follows:

See attachment labeled **Exhibit "A"**.

EXHIBIT "B"

SCHEDULE OF PERFORMANCE

Services shall commence immediately upon execution of this Contract. All services performed under the provisions of this Contract shall be completed in accordance with the following schedule:

Work shall be completed by June 30, 2025

EXHIBIT "C"

COMPENSATION

a. Total Compensation. The total obligation of City under this Contract shall not exceed Seven Hundred Eight Thousand Nine Hundred Twenty Two Dollars (\$708,922).

b. Basis for Payment. Payment(s) to Consultant for services performed under this Contract shall be made as follows and shall [not] include payment for reimbursable expenses:

c. Payment Request. Consultant shall submit a request for payment for services on a monthly basis by letter to Director, or said Director's designated representative. Such request for payment shall cover the preceding monthly period during the term hereof, shall note the City's purchase order number for this Contract, shall contain a detailed listing of the total number of items or tasks or hours for which payment is requested, the individual dates on which such services were rendered, and invoices for reimbursable expenses, if any. Upon receipt in the Office of Director of said payment request, Director shall cause payment to be initiated to Consultant for appropriate compensation.
r appropriate compensation.



December 20, 2023

PN 23-2091

Mr. William Smith
Solid Waste Division Manager
City of Watsonville
250 Main Street
Watsonville, CA 95076

RE: PROPOSAL FOR ENGINEERING SERVICES, ENGINEERING SUPPORT DURING CONSTRUCTION, CONSTRUCTION MANAGEMENT, AND CONSTRUCTION QUALITY ASSURANCE FOR THE CITY OF WATSONVILLE LANDFILL PHASE IV GROUNDWATER PROTECTION SYSTEM AND PHASE III FINAL CLOSURE

Dear Mr. Smith:

SWT Engineering (SWT) is pleased to submit this letter proposal to the City of Watsonville (City) to provide Engineering Services, Engineering Support during construction, Construction Management (CM), and Construction Quality Assurance (CQA) services for the City of Watsonville Landfill Phase IV and Phase III Final Closure. The Phase IV Liner and Phase III Final Closure projects have been approved by the regulatory agencies. By combining these projects into one construction document, the City will realize the cost savings in construction along with savings on the support tasks included in this proposal.

SWT is a multi-discipline consulting firm specializing in solid waste management. The principals of SWT have a combined experience of over 70 years in the solid waste industry, primarily in the Western United States. SWT is comprised of a diversified staff of professional and technical support personnel with specialized experience in solid waste management. SWT staff prides themselves on the wide range of projects they have successfully completed allowing our clients more flexibility in both design and operation of their solid waste facilities.

For a landfill construction project to be successful, it is very important that the project team works well together. We have developed an excellent understanding with many of the landfill general contractors and liner subcontractors, which typically translates into very competitive bids. We strongly recommend the City uses SWT CM services as it integrates the design with the field observations/management. SWT has a vested interest in the success of this project and can better get in front of any issues before they impact the project. In many cases, we have been able to implement cost savings with this approach. For example, during excavation if we are able to recognize enough clean sand that will meet our permeability requirements, we may be able work with the contractor to segregate the material and substitute clean sand for the imported pea gravel LCRS gravel. This could be a significant cost savings to the project.

In addition, the SWT construction manager is certified by the Geosynthetics Research Institute to provide synthetic CQA services for landfill containment. This is especially important for this project, as the Closure and Liner projects will be occurring simultaneously. If the onsite CQA officer needs support for short periods of time, the SWT construction manager can assist, so that a second CAQ officer will not have to mobilize to the site. Based on SWT's many years and numerous projects working with the Central Coast Regional Water Quality Control Board, we understand their concern with any landfill capping or synthetic installation construction

occurring without a CQA officer observation. Therefore, it is very important to be able to readily support CQA activities on a real time basis, which the SWT construction manager will provide.

Based on our understanding of the site's current and proposed design, SWT has prepared the following scope of services and fee estimate, as requested.

SCOPE OF WORK – ENGINEERING SERVICES FOR RE-BID

SWT will provide the following scope of work items in accordance with the Phase IV Module 1 GWPS and Phase III Closure Construction Projects. Construction level bid documents for basin improvements and other requested improvements include construction drawings, technical specifications, update of CQA Plan, and design stormwater management system improvements including enhancement of the existing stormwater basin. SWT understands the current conditions, existing final closure design, and future expansion of the landfill and has prepared the following scope of services for the proposed worked, as requested.

TASK 1.0 ENGINEERING SERVICES FOR PROJECT RE-BID

TASK 1.1 PREPARATION OF PHASE III CLOSURE DESIGN REPORT

SWT assisted Montrose Environmental Group (Montrose) in the preparation of a Design Report that will be for the Phase III area Closure and will include the 100-percent Design plans, Specifications, and a CQA Plan for the proposed construction area. SWT will prepare design calculations to support the configuration of the refuse disposal area containment system. The Design Report will include the following:

- ◆ Construction Drawings and Details (previously prepared);
- ◆ Technical Specifications (previously prepared);
- ◆ Bid Schedule (previously prepared);
- ◆ Engineer's Cost Opinion (previously prepared); and
- ◆ Separate CQA Plan

TASK 1.2 DESIGN REPORT TEXT AND RESPONSE TO COMMENTS

SWT assisted in preparation of the Design Report Text update with Montrose, the existing Phase III Closure Plan was modified for a design Report as requested by the waterboard. This task also included reviewing and responding to Draft Text comments from the Central Coast RWQCB. Two rounds of comments were received from the waterboard and the text/appendices were modified accordingly to satisfy waterboard requests.

TASK 1.3 CONSTRUCTION QUALITY ASSURANCE (CQA) PLAN

At the request of the Centra Coast Regional Water Quality Control Board (RWQCB) SWT and Montrose prepared a separate Design Report for Construction of the Phase III Closure. The Phase IV GWPS Liner and Phase III Closure previously had one, combined, CQA Plan for the two projects. Modifications were made to the report to separate closure and liner items. The CQA Plan conformed to state regulatory requirements, and also discussed the following:

- ◆ General project design information;
- ◆ Definitions of responsible parties and description of specific materials to be used in the construction;

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- ◆ 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; and,
 - ◆ 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.

The CQA Plan was included in the Design Report Package and was prepared under the direction of, a registered professional civil/geotechnical engineer or registered geologist in the State of California.

TASK 1.4 MODIFICATIONS TO EXISTING CONSTRUCTION DRAWINGS, TECHNICAL SPECIFICATIONS, BID SCHEDULE, AND SUPPORTING DOCUMENTATION

SWT will modify the existing Construction Documents for re-bidding the combined Liner and Closure Project. Modifications, in general, will include but not be limited to:

- ◆ Remove existing 'Add Alternate' slope paving and basin improvements;
- ◆ Modify existing earthen basin improvements (e.g. spillway, excavation/grading, misc. stormwater control) to be re-bid as the 'Add Alternate';
- ◆ Modify Technical Specifications and Bid Schedule to represent new (and modified) Add Alternate(s); and
- ◆ Update Construction Documents and Bid Documents with new schedule and timelines.

TASK 1.5 BID SUPPORT

SWT will provide engineering support during the re-bid process, including attending both the Pre-Bid meeting/Job Walk, provide assistance with preparing addendums, and evaluating submitted bids.

SCOPE OF WORK – ENGINEERING SUPPORT, CM, AND CQA SERVICES

Technical and Management Approach

The proposed method to accomplish the services starts with the SWT philosophy for providing engineering support, CQA, and CM services for Public Works construction contracts:

Maintain contract requirements to not impact existing landfill operation.

- Always keep in mind that we are working with the low bidding contractor;
- Use our experience to help the contractor, without directing and protecting the City;
- Get the minimum requirements of the specifications - "do not try to get more for free";
- Do not let the contractor go in a potentially faulty direction without advising them;
- Never direct the contractor's work;

- Get ahead of the issues to mitigate them before they can impact the project;
- Always be safe, safe, safe; and,
- Work as a team with the City, the general contractor, subcontractor, CQA, and regulators.

TASK 2.0 PHASE IV MODULE I LINER AND PHASE III FINAL CLOSURE ENGINEERING SUPPORT SERVICES

SWT will provide construction engineering support services to the City throughout construction and final certification/acceptance process of the combined Phase IV ml Liner and Phase III Final Closure Projects.

SWT will provide timely responses to eliminate or minimize the impacts/delays to the Contractor. Any issues with construction will first be resolved via teleconference and pictures, if possible. Some of the reconciliations can be done verbally and documented by the CM. When necessary SWT will develop details or plan revisions as necessary to properly document and monitor construction activities or changes, as appropriate.

The following tasks will be performed by SWT as a part of the construction engineering support services relative to the Phase IV Liner and Phase III Final Closure Construction Projects.

- Attend weekly construction meetings (via virtual meetings and intermittently on site, as needed) to maintain project coordination and communications.
- Perform field engineering observation services to evaluate construction activity conformance with the Plans and Specifications after the on-site meeting.
- Review and consult with the City, CM, CQA staff, and Contractor on technical issues that arise during construction.
- Technical review of Contractor submittals.

Technical review of Contractor change order requests which will typically include:

Preliminary GWPS Submittals List

The following is a preliminary list of submittals to be reviewed, updated, and completed by the Contractor and submitted during the pre-construction meeting, the Contractor shall provide to the City for the Engineer's review a complete listing of all anticipated Contractor submittals and the proposed submittal dates for each, including but not limited to the following:

General Submittals:

- | | |
|---------------------------------------|---|
| ○ Injury & Illness Prevention Program | ○ Progress Schedule |
| ○ Preconstruction Survey | ○ Preliminary Const. Schedule |
| ○ Record Drawings | ○ Water Pollution Control Program – Storm Water Management Plan |
| ○ As-Built Surface | ○ Temporary Traffic Control Plan signed by a Traffic Engineer |
| ○ Health and Safety Program | |
| ○ Earthwork Volumes Calculation | |
| ○ Code of Safe Practice | |

Earthwork Submittals:

- | | |
|--|---|
| ○ Earthwork Operations Plan | ○ Protective Soil Cover/Foundation Layer/Veneer Fill Screening Plan |
| ○ Project Sequencing Plan | ○ Subgrade Maintenance Plan |
| ○ Subgrade/Foundation Layer Preparation Plan | |

**PROPOSAL FOR ENGINEERING SERVICES, ENGINEERING SUPPORT DURING CONSTRUCTION,
CONSTRUCTION QUALITY ASSURANCE, AND CONSTRUCTION MANAGEMENT
FOR THE PHASE IV GROUNDWATER PROTECTION SYSTEM AND PHASE III FINAL CLOSURE**

December 20, 2023

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- o Geosynthetics Placement Operations Plan
 - o Pre and Post Construction Topographic Surveys
 - o Survey data and Survey Verification

Subdrain /LCRS Submittals:

- o LCRS Gravel Samples
- o LCRS Certificate of Compliance
- o LCRS Gravel Certified Test Results Sieve Analysis, Permeability, Aggregate Carbonate Content and Durability
- o LCRS HDPE Pipe and Fittings
- o LFG Evacuation Pipe and Fittings
- o Record Drawing

Drainage Geocomposite Underdrain Submittals:

- o LFG Collection Geocomposite Product Data
- o Shipping, Handling, & Storage Procedures
- o Installation Procedures, including Joints and Repairs
- o Installation Drawings (As-built)
- o Manufacturer's Quality Control Certificate
- o Manufacturer's Certified Test Data
- o Manufacturer's Certification
- o Manufacturer's QC Plan
- o Manufacturer's Warranty

Geotextile Submittals:

- o Manufacturer's Product Data
- o Manufacturer's Production List
- o Manufacturer's Certified Test Data
- o Independent Testing Laboratory GAI Certification
- o Shipping, Handling, & Storage Procedures
- o Seam Samples
- o Installation Procedures, Including Seam and Repairs
- o Contractor's Installation Quality Control Procedures
- o Installation Drawings (As-built)
- o Manufacturer's Quality Control Plan
- o Manufacturer's 5 Year Warranty Sample
- o Manufacturer's 5 Year Warranty
- o Installer's Subgrade Certification, Geotextile Conformance Testing
- o Product Samples
- o Proposed Panel Layout

Geomembrane Submittals:

- o Product Data – Geomembrane - (Double Sided Textured)
- o Geomembrane Certification - (Double Sided Textured)
- o Manufacturer's Quality Control Testing
- o Geomembrane Samples - Single Sided
- o Geomembrane Interface Shear Testing (Single Sided Textured)
- o Geomembrane Certification (Double Sided Textured)
- o Seam Samples - HD Extrusion Weld
- o Seam Samples - HD Fusion Weld
- o Manufacturer's 5 Year Warranty Sample
- o Manufacturer's 5 Year Warranty
- o Manufacturer's Certification Attachment
- o Independent Testing Laboratory GAI Certification
- o Manufacturer's Certification of Extrudate Rod or Bead
- o Geomembrane Delivery Notification
- o Subgrade Certification
- o HDPE Proposed Panel Layout
- o Contractor's Geomembrane Installation Procedures
- o Contractor's Installer Resume
- o Quality Control Technician Resume
- o Manufacturing Conformance Testing (Double Sided Textured)
- o Record Drawings (As-built)
- o Geomembrane Installer's Daily Documentation
- o Subgrade Maintenance Plan
- o Manufacturer's Quality Assurance Plan
- o Manufacturer's Installation Quality Assurance Plan
- o As built panel layout
- o Contractor Final Quality Control Records
- o Contractor's Installation Quality Control Plan

Geosynthetic Clay Liner:



ENGINEERING

- Manufacturer's\Installer's quality control program including shipping, handling, storage, and installation
- Conformance Sample Test results
- Identification of the Contractor's GAI Certified Independent Testing Laboratory
- Installation Plans\Panel Layout
- Samples of GCL materials
- Warranties as specified herein
- Installer's subgrade certification
- Quality Control (QC) and Installer's Qualification\Resumes
- Record Drawings

Protective Soil Cover:

- Protective Soil Cover Placement Plan
- Screening Plant Location
- Placement Plan
- Borrow source Certificates of Compliance and confirmation testing
- Sieve analysis
- Permeability
- Soil Classification
- Record Drawings

Miscellaneous Civil and Drainage Submittals:

- Concrete Mix Designs
- Concrete Sand
- Reinforcing Steel (Bars and Welded Wire Mesh) Certificates of Compliance
- Curing Compound Certificate of Compliance
- Joint Sealant Manufacturer's Product Data/ Certificates of Compliance
- Crushed Miscellaneous Base Certificate of Compliance
- HDPE Pipe and Fittings Certificates of Compliance
- Certificates of Compliance for Corrugated Smooth Interior Wall HDPE and fittings
- Certificates of Compliance for Corrugated Metal Pipe
- CMU Certificates of compliance
- Caltrans pipe joint restraints
- Geotextile Certificates of Compliance

Erosion Control Submittals:

- Erosion and Storm Water Control Plan
- Certificates of Compliance for Seed Mixes
- Manufacturer's literature/catalog cuts for all erosion control materials
- Manufacturer's labels for all materials used in the hydroseeding application
- Gravel and Bag Certificates of Compliance

Preliminary Closure Construction Submittals List

The following is a preliminary list of submittals to be reviewed, updated, and completed by the Contractor and submitted during the pre-construction meeting, the Contractor shall provide to CITY for the Engineer's review a complete listing of all anticipated Contractor submittals and the proposed submittal dates for each, including but not limited to the following:

General Submittals:

- Injury & Illness Prevention Program
- Preconstruction Survey
- Record Drawings
- As-Built Surface
- Health and Safety Program
- Earthwork Volumes Calculations
- Code of Safe Practices
- Progress Schedule
- Preliminary Const. Schedule
- Water Pollution Control Program – Storm Water Management Plan

Earthwork Submittals:

- Project Sequencing Plan
- Earthwork Operations Plan
- Post Construction Survey



Geomembrane Submittals:

- Product Data – Geomembrane Manufacturer’s Quality Control Testing.
- Geosynthetic Samples
- Seam Samples - LLDPE Extrusion Weld
- Seam Samples - LLDPE Fusion Weld
- Manufacturer's 5 Year Warranty Sample
- Manufacturer's 5 Year Warranty
- Manufacturer's Certification Attachment 2G-1
- Independent Testing Laboratory GAI Certification
- Manufacturer's Certification of Extrudate Rod or Bead
- Geosynthetics Delivery Notification
- Subgrade Certification
- Proposed Panel Layout(s)
- Contractor's Geomembrane Installation Procedures
- Contractor's Installer Resume
- Quality Control Technician Resume
- Manufacturing Conformance Testing 60-mil LLDPE Super Grip Net
- Record Drawings (As built)
- Geosynthetic Installer’s Daily Documentation
- Subgrade Maintenance Plan
- Manufacturer's Quality Assurance Plan
- Manufacturer's Installation Quality Assurance Plan
- As built panel layout – Geomembrane
- Contractor Final Quality Control Records
- Contractor’s Installation Quality Control Plan

Miscellaneous Civil Submittals:

- Concrete Mix Designs
- Rip Rap Certification of Compliance
- Corrugated HDPE Pipe and Fittings
- Flexible Post Delineators
- Hydroseed Certification
- Crushed Miscellaneous Base Certificate of Compliance
- Reinforcing Steel and Wire Mesh Certificate of Compliance
- Geotextile Manufacturer's Product Data
- Asphalt Concrete Design Mix

- Respond to engineering items associated with Contractor or CM Requests for Information (RFIs).
- Review and comment on product manufacturer information.
- Attend final job-walks and assist the CM with the preparation of a punch list.
- Review CQA firm’s preparation of a final construction report.
- Technical review of the Contractor’s record drawings developed during construction.

TASK 3.0 CQA SERVICES – SEE ATTACHED FROM HAI

TASK 4.0 CONSTRUCTION MANAGEMENT

Task 4.1 Pre-Construction Phase

The Construction Manager (CM) will have developed the format for all project files and pertinent project documents. At a minimum, project files will include:

- All contract documents, i.e., Contract/Agreement, Bid schedule, General Conditions, Special Conditions, Technical Specifications, and CQA Requirements.
- Required safety documentation and equipment.

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- Appropriate reference specifications, standards, and standard plans.
 - Project personnel and emergency phone numbers.
 - Submittal log.
 - Daily construction report format.
 - Contract change order documentation and approval procedures.
 - Progress payment format in compliance with City's standard.
 - Correspondence log.
 - Project photographic log.
 - Record drawing format.

A pre-construction conference will be scheduled. The CM will prepare an agenda and review it with the City's Project Manager. At a minimum, the agenda will include the following:

- Introduction of project participants (City, General Contractor, Regulatory Agencies, Liner Sub-Contractor, and SWT Project Engineer).
- Lines of communication.
- Project health and safety issues.
- Emergency notification procedures.
- Project schedule.
- CQA, (review of project requirements).
- Requests for Information (RFIs).
- Change order/extra work (procedures and approvals).
- Review of site-specific concerns (plans and specifications).
- Survey requirements.

Task 4.2 Field Services

The CQA monitoring staff (CQA services to be provided by Hushmand Associates) will be coordinated by the CM with additional technical support from the engineering and design staff. The CM will evaluate the needs of specific projects based on the level of activities represented on the contractor's schedule and as dictated by field conditions.

The CM will provide detailed reports of contractor activities. Of particular note will be any deviations from the project specifications or CQA plan. All variances will be documented and will be maintained on a "cumulative punch" list until repair and/or remediation has been completed. While all aspects of a project are important, particular attention will be paid to such items as the processing and placement of geosynthetic liner installations.

SWT understands the importance of detailed documentation on all aspects of a construction project. Construction documentation provides not only a project history but is quite often the basis for resolving many outstanding issues. Clarification or adjustment of payment limits, extra work and changed or unforeseen conditions, and ultimately, an evaluation of the

completeness of the project, will all be dependent upon accurate construction documentation. In addition, the construction documentation will be used to gain approval to utilize the lined area for refuse disposal operations.

Below is a brief description of typical documentation that will be maintained during a project:

Submittals

The CM will determine the minimum submittal requirements for material and equipment as outlined in the Project Specifications. Most submittals will require the approval of design staff.

Request for Information (RFI) and Design Clarification Log

The same format as outlined for tracking submittals will be implemented to track RFIs and Design Clarifications. All responses to RFIs and finalization of Design Clarifications will be reviewed and approved by the Design Engineer and, if applicable, the CQA Officer.

Progress Meeting Minutes

In addition to the above noted documentation, progress meetings will be conducted in which many of the issues below will be reviewed and documented (weekly or bi-weekly):

- Contract time summary to date.
- Progress and schedule review.
- Submittal review.
- Amendments or corrections to the previous week's minutes.
- Health and Safety issues.
- Request for Information review.
- CQA review and discussion of issues.
- Progress payment (if applicable).
- Review any out-of-scope or extra work occurring after the previous meeting. Review any changed or unforeseen conditions that have come to the Contractor's attention since the previous meeting. (If required, separate resolution meetings will be scheduled to discuss and resolve specific issues).

Work Force and Material Daily Reports

When "time and material" work has been authorized, or disputed work is taking place, the CM will keep a detailed summary of the manpower, equipment, and material being used in the operation.

Cumulative Corrective Action File

A list will be maintained of deficiencies and items requiring repair, removal, or remediation. As items are corrected, they will be removed from the list. The contractor will be kept advised of the items requiring additional work. At the conclusion of the project, those items which have not been completed will be added to the final punch list.

Contract Time

On a daily basis, the CM will make a determination as to whether or not the day is to be charged

as a "contract day". A Contract Time Summary will be prepared indicating recommended time extensions for inclement weather, change orders, or unforeseen conditions. The summary will reflect the adjusted contract completion date, and the remaining contract time.

Contract Change Orders

All change orders or contract modifications must be approved prior to beginning the work. Contract change orders will be based on either an extension of contract unit prices, an approved contractor estimate, or on a time and materials basis. Change orders will be finalized on a separate Change Order document, approved by City.

Verify Certified Payroll

SWT will verify certified payroll and prevailing wage, as requested by the City to obtain documents. At a minimum, SWT will collect certified payroll from the contractor on a monthly basis and include in the final closeout documents for the project.

Progress Payments

Monthly progress payment applications will be prepared based on a schedule agreed upon by City and the Contractor. Applications may be prepared in Excel or a format of the City's preference. The CM will schedule a meeting with the Contractor to review the Contractor's estimated quantities, prior to preparing the payment application. Standard progress payment packages will include, Contractor's Invoice, Application for Payment (contract summary and signature page), and Contractor's Detailed Monthly Application for Payment (summary of individual bid items status).

Project close-out procedures will commence before the conclusion of the contract. SWT Engineering will maintain a cumulative listing of project deficiencies and corrective action items. Pre-final inspections will be implemented to develop project punch lists.

Task 4.3 Final Construction Close Out Report

SWT will prepare draft and final Construction Certification Reports in accordance with the CQA Plan. The final report will include the field notes, field records, completed field correspondences, project photographs, all approved modifications to the plans and specifications, and a narrative description of the project: liner system construction observation and field test results. CQA report will be referenced in the Close Out Report and any approved changes. Where CQA data differs from the specifications, the CQA Report will explain the deviations and any affect the deviation is expected to have on the performance of the liner system (if any). All plans, specifications, manuals, and technical reports reviewed or utilized during the project will be appropriately referenced in the report.

Project close-out procedures will begin well before the end of construction. All submittals should have been received by this time and the CM will also verify receipt of any Manufacturers warranties, record drawings, or other required literature or documentation.

At the completion of the project close-out procedure, SWT will submit to the City all project photographic logs, final as-built plans, and CQA Report (prepared by HAI) as part of the Close Out Report.

The Final Construction Close Out Report will include a statement certifying that the groundwater protection system was constructed in general accordance with the Project Plan and Special Provisions, and any design changes made to those documents.

TASK 5.0 PROJECT MANAGEMENT/MEETINGS

SWT will provide project administration services including project schedule development, tracking and updating, budget tracking, invoicing, and activity reporting, as requested. The SWT Project Manager will also coordinate activities with the City and the regulatory agencies, if requested. The SWT Project Manager will provide general administration of the contract, track budget performance and task scheduling, conduct regular progress meetings, document scope changes, provide City with required monthly invoice activity reports, and generally coordinate all efforts related to the project within the bounds of the scope as directed by the City.

TASK 6.0 COMBINED PROJECT SUPPLEMENTAL BUDGET

A supplemental budget should be considered for the combined project to cover unknown and unforeseen circumstances for CM and CQA services to be provided. For example, weather and/or schedule delays are common with heavy civil construction and a contingency budget could account for rain/weather days as a portion of the proposed work is anticipated to be performed during winter months.

SCHEDULE

The project schedule is based on the Contractor's schedule; budget is based on 135 working days of construction.

FEE ESTIMATE

The following is the fee estimate for each task described above is presented as follows:

Project Re-Bid Services

Task 1.0 Engineering Services for Project Re-Bid\$29,072

Engineering Support, CM, and CQA Services

Task 2.0 Phase IV Liner and Phase III Final Closure Engineering Support Services..... \$86,990

Task 3.0 CQA Services \$261,959

Task 4.0 Construction Management..... \$257,558

Task 5.0 Project Management/Meetings\$17,686

Task 6.0 Combined Project Supplemental Budget \$55,656

Total Fee Estimate..... \$708,922

SWT will keep City informed of the status of the budget balance by issuing monthly progress summary reports with each invoice. SWT will invoice City for the portion of work that has been completed. This Fee Estimate is for budget purposes only. All work performed will be invoiced on a Time-and-Materials basis, based on actual staff providing the service, using the current rate schedule at the time services are provided, see attached 2024 Rate Schedule. SWT understands this is a large commitment for the City, however this is a complete package of field services, and it is less than 5% of the anticipated construction costs. Not only is most of



PROPOSAL FOR ENGINEERING SERVICES, ENGINEERING SUPPORT DURING CONSTRUCTION,
CONSTRUCTION QUALITY ASSURANCE, AND CONSTRUCTION MANAGEMENT
FOR THE PHASE IV GROUNDWATER PROTECTION SYSTEM AND PHASE III FINAL CLOSURE

December 20, 2023

Page 12

this required to gain regulatory approval of the project (CM/CQA) these services will help provide protection for the City and increase the potential successfulness of the project.

CLOSURE

SWT appreciates the chance to propose on this project for the City. We look forward to continuing our working relationship with the City of Watsonville. Should you have any questions or require additional information regarding this proposal, please contact Michael A. Cullinane at (909) 390-1328 or via email at mac@swteng.com, or the Project manager, Brian Reyes via email at bmr@swteng.com.

Sincerely,



Michael A. Cullinane, P.E.
Principal

Attachments:

Fee Schedule 2024

Summary of Full Proposal Fee Estimate

Proposal for CQA Services (HAI) – Fee Estimate Integrated into this Proposal

FEE SCHEDULE 2024

<u>Staff Classification</u>	<u>Hourly Rate</u>
Clerk	\$72
Technician.....	\$88
CADD Operator	\$112
Planner I.....	\$112
Administrative Assistant	\$114
Engineering Technician.....	\$114
Planner II.....	\$132
Engineer I.....	\$138
Project Coordinator	\$146
Planner III.....	\$160
Engineer II/Designer	\$166
Engineer III/ Scientist	\$186
Construction Manager (CM)	\$188
Senior Planner.....	\$188
Project Engineer/Senior Scientist.....	\$202
Project Manager.....	\$232
Principal Planner.....	\$274
Principal Engineer/Sr. CM	\$274
Principal.....	\$286

Overtime premium, if appropriate, will be invoiced at 1.5 times of the above rates.

Reimbursable charges (reproduction, courier charges, miscellaneous in-house expenses.) are invoiced at 5 percent of total labor charges, not requiring a breakdown.

Other reimbursable charges are invoiced as follows:

Mileage	Federal Rate
Vehicle	\$8/Hour
Sub consultants/Outside Services	Cost +15 percent
Outside Out-of-Pocket Expenses	Cost +15 percent
Per Diem for Living Expenses.....	Federal Rate
Drone Topographic Processing by Third Party (Propeller)	\$1,000/Credit Used

Any non-recurring project-specific charges not listed above will be invoiced at Cost + 15 percent, or as negotiated in the contract.

Fee Schedule effective through December 31, 2024

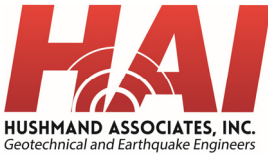


FEE ESTIMATE - PN 23-2091
ENGINEERING SUPPORT & CM/CQA - PHASE IV GROUNDWATER PROTECTION SYSTEM (LINER) AND PHASE III FINAL CLOSURE
AT THE CITY OF WATSONVILLE LANDFILL

	Principal	Project Engineer	Construction Manager	Engineer II	Project Coordinator	TOTAL LABOR	5% Expenses (Note 5)	Vehicle Nbr. Hours (Note 7)	Per Diem (Note 2,3,4)	FEE ESTIMATE
Hourly Rate\\$/	\$286.00	\$202.00	\$188.00	\$166.00	\$146.00			\$8.00		
1.0 ENGINEERING SERVICES FOR PROJECT RE-BID	8	60		80		\$27,688	\$1,384			\$29,072
2.0 PHASE IV MODULE 1 LINER AND PHASE III FINAL CLOSURE ENGINEERING SUPPORT	80	264		40		\$82,848	\$4,142			\$86,990
3.0 CQA SERVICES	CQA Services Provided by Hushmand and Associates (HAI) See Attached Fee Estimate Table for Description of Fee Estimate									\$261,959
4.0 CONSTRUCTION MANAGEMENT	Summarized in Tasks 4.1-4.3 Below									
4.1 Pre-Construction Phase			16			\$3,008	\$150			\$3,158
4.2 Field Services (Note 9)			1080			\$203,040	\$10,152	\$8,640	\$28,620	\$250,452
4.3 Final Construction Close Out Report			20			\$3,760	\$188			\$3,948
5.0 PROJECT MANAGEMENT/MEETINGS	30	12			40	\$16,844	\$842			\$17,686
6.0 COMBINED PROJECT SUPPLEMENTAL BUDGET			240			\$45,120	\$2,256	1920	6360	\$55,656
TOTAL HOURS	110	276	0	40	40					
ESTIMATED FEE	\$31,460	\$55,752	\$0	\$6,640	\$5,840	\$99,692	\$4,985	\$0	\$0	\$708,922
	TOTAL FEE ESTIMATE:									\$708,922

Notes:

- 1) Contract Time is approximately 135 Working Days (27 weeks).
- 2) Santa Cruz County Per Diem for Lodging FY 2024 is \$181/day (June-August) and \$143/day (September-May); SWT is preparing our fee estimate at the lower rate (off-season @ \$143/day) for the entirety of the project.
- 3) Santa Cruz County Per Diem for M&I FY 2024 is \$69/day
- 4) Total Per Diem will be estimated at \$197/day for 135 working days.
- 5) Reimbursable charges (reproduction, courier charges, travel and lodging for Engineering Staff, miscellaneous in-house expenses) will be billed at 5% of labor not requiring a specific breakdown.
- 6) Other reimbursable expenses will be invoiced per our current rate schedule in effect.
- 7) Vehicle rate assessed at \$8/hour of Construction Manager Work Hours.
- 8) Estimate is for budget purposes only and work will be invoiced based on the actual staff performing the work using the current rate schedule at the time of service.
- 9) Field Services hours for Construction Manager are for 8 hour working days for 135 days.



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Irvine, CA 92618

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w. haieng.com
e. hai@haieng.com

December 18, 2023

SWT Civil & Environmental Engineering

800-C South Rochester Avenue
Ontario, California 91761

Attn: Michael Cullinane, P.E., Principal

**Subject: Proposal for Construction Quality Assurance (CQA) Services
City of Watsonville Landfill Phase III Final Closure and Phase IV Cell
Extension Construction, City of Watsonville, Santa Cruz County, CA
HAI Proposal No. P23-1218**

Dear Mr. Cullinane:

Hushmand Associates, Inc. (HAI) is pleased to submit this proposal to SWT Civil & Environmental Engineering (SWT) to provide Construction Quality Assurance (CQA) services during the Watsonville Landfill Phase III Final Closure and Phase IV Cell Extension Construction. This proposal is prepared in response to a Request for Proposal (RFP) submitted by SWT via an email on December 4, 2023.

Our mission is to provide you with the information needed to successfully accomplish the City of Watsonville's goals for this project

The following documents were reviewed for preparing this proposal:

- *Construction Quality Assurance Plan, Liner and Final Cover Construction, City of Watsonville Landfill, Watsonville, California (June 2010);*
- *Combined Project Schedule, Request for Proposals Consulting Services for Phase III Final Closure & Phase IV Development Design, Permitting, Construction Support, and CQA Services at the City of Watsonville Landfill*
- *Table 1 - City of Watsonville Landfill - Phase III Closure, Final Closure Cost Estimate 2021*

1.0 PROJECT DESCRIPTION AND BACKGROUND

The Landfill was designed and permitted and is operated in compliance with Class III landfill standards set forth in 27 CCR. The City began installing composite liners with the development of Phase III in 1996. A composite liner and LCRS were constructed in Phase III. As-built plans have previously been submitted to the RWQCB as a part of construction reports documenting construction activities. The as-built plans are also on file at the City office.

Phases I and II have been closed. Phase III final cover construction is planned to start in 2022. A Partial Final Closure and Post-closure Maintenance Plan for Phase III was prepared as part of the Joint Technical Document (JTD) prepared by ES Engineering Services LLC (ES) in June 2018. The Partial Final Closure Plan provides general design and construction guidance for the closure of Phase III and landfill operations during the service life of the landfill and through site closure.

Phase III final cover system from top-down consists of the following elements:

- 24-inch vegetative/protective soil cover layer (~ 40,000 cubic yards)
- Geotextile separator layer,
- 60-mil LLDPE Super Gripnet® geomembrane layer,
- Foundation soil layer for Bench Gradient/Width (~ 5,000 cubic yards), and
- 6- to 8-inch re-compacted interim cover over refuse.

The assumed final cover system layers are based on design information presented on Design Detail Sheet No. D1 contained in the "Watsonville Landfill Phase III Closure Construction Project Drawing Set," prepared by SWT Engineering, Inc., dated February 2018.

2.0 COMPANY BACKGROUND AND EXPERIENCE

Hushmand Associates, Inc. (HAI) is a geotechnical and material testing firm with more than 30 years of experience in providing design and construction support services for municipal and hazardous waste landfill projects for the public and private sectors. HAI has extensive experience providing QA/QC services for a variety of landfill projects throughout California and Hawaii including cell construction and expansion, evapotranspirative (ET) covers, and post-closure maintenance. HAI performs comprehensive QA/QC services including geosynthetic liner installation monitoring and testing, field density testing and oversight of mass grading, geologic inspection of slope cuts and landfill floor subgrade, field permeability testing, and comprehensive laboratory testing of geo-materials and concrete. HAI has also provided geotechnical design, inspection, and testing for building structures, scales, bridges, water pipelines, electrical conduits, pavement, and other infrastructure for landfill facilities. HAI's experience covers landfill projects in large number of counties in northern, central, and southern California, Montana, and Hawaii for public and private entities.

3.0 PROJECT TEAM

Our team for this project will consist of Ben Hushmand, PhD, PE (CQA Officer, Peer Reviewer), Alex (Ashkaan) Hushmand, PhD, PE (CQA Resident Manager), and Ted Mapramook (CQA Lead Monitor).

4.0 SCOPE OF WORK

The required tasks and laboratory testing for the CQA services have been specifically stated in the CQA plan prepared by GC Environmental, Inc. (June 2010) and by SWT in the January 21, 2022 email sent by Mr. Brian Reyes of SWT. This CQA Proposal is prepared under the assumption that all sampling and testing of the geosynthetic materials (pre-construction conformance tests and during construction destructive samples testing) will be handled by the contractor and/or liner installer. The contractor/liner installer will collect and ship the samples to a third party geosynthetic testing laboratory for testing.

HAI will perform pre-construction conformance and during construction laboratory testing of the landfill liner and closure cover soils. CQA Monitor will collect and ship the soil samples to HAI Geotechnical Testing Laboratory. HAI's in-house geotechnical and material testing laboratory is certified by Caltrans, AASHTO Materials Reference Laboratory (AMRL) and Cement and Concrete Reference Laboratory (CCRL) programs, and City of Los Angeles, and validated by the United States Army Corps of Engineers.

The following are the tasks required for the Phase III Final Closure Construction project:

- Mobilization, Demobilization, Health & Safety Plan/AHA's (one for combined project);
- Project Initiation and Project Management: Review of project documents (construction drawings, technical specifications, construction quality assurance [CQA] plan), pre-construction meeting, project management;
- CQA Field Services: Mobilization and demobilization, full time observation and testing during subgrade preparation and liner installation and placement of vegetative/protective soil layer by on-site CQA Monitor, review of field daily memorandum and test data and communication with CQA Monitor and Project Construction Manager/City of Watsonville representative by the CQA Manager/Engineer, and as-needed CQA Manager on-site or virtual weekly meetings during subgrade preparation and liner installation (this task includes cost of per diem and required testing equipment [field truck, nuclear densitometer, sand cone, Shelby tubes, oven, electronic scale, etc.]);
- Geotechnical Laboratory Testing: Pre-construction conformance and during construction geotechnical laboratoring testing of subgrade, foundation, and protective/vegetative soil layers (sieve analysis, moisture-density relationships, field moisture content);
- Geotechnical field testing for placement and compaction of unclassified fills per requirement of the Technical Specifications and CQA Plan; and
- CQA Report for Phase III Final Closure: Preparation of draft and final CQA reports.

The scope of CQA services during construction of the Phase IV Landfill Cell are:

- Mobilization, Demobilization, Health & Safety Plan/AHA's (one for combined project);
- CQA Monitoring Personnel [full time on-site during subgrade preparation and liner installation];
- CQA Manager on-site inspection of work product and project progress during subgrade preparation & liner installation, and for attending weekly construction meeting (as-needed)
- Geotechnical Laboratory Testing: see Phase III Closure, laboratory testing will be combined for the closure and liner projects;
- Geotechnical testing for placement and compaction of unclassified fills per requirement of the Technical Specifications and CQA Plan;
- Grain size particle analysis, moisture/density relationships & laboratory permeability tests
- Review and Approve Geosynthetics material testing (to be managed by Project Contractor); and
- CQA Report (the final CQA report, including all documentation required by the CQA Plan, will be submitted within 30 days following the completion of construction).

Clarifications

1. The overall goals of the project CQA services for the Phase III Final Closure and Phase IV Cell liner construction are as the following:
 - Certify that the final closure construction, and the landfill cell liner and leachate collection and removal system (LCRS) construction were completed in accordance with the approved plans, technical specifications and CQA Plan,
 - Observe and document construction of each component of the final cover system and the landfill liner and LCRS system,
 - Observe, test, and document test locations and corresponding data (e.g. test results, etc.) for import materials and fill construction of the final cover foundation layer, and for various landfill liner components,
 - Observe and document survey of top of the landfill cover subgrade layer prior to placement of the final cover foundation layer, and top of the landfill liner subgrade and other landfill liner layers (e.g. top of the geomembrane or GCL liner),
 - Document geosynthetics preconstruction material data information and testing required in the drawings and technical specifications, and CQA Plan, and
 - Coordinate work efforts and testing (final cover and landfill liner systems) with the landfill construction manager, design engineer, and liner installer. Follow details of the observation, testing, and reporting requirements included in the technical specifications and CQA Plan.
2. The overall construction schedule includes earthfill placement to construct the final subgrade/foundation before placement of the final cover foundation layer, and preparation of the landfill liner subgrade including earthfill placement. Construction Quality Assurance (CQA) will begin with preparation of the subgrade for the cover foundation layer or for the landfill cell liner system.
3. The final CQA report, including all documentation required by the CQA Plan, shall be submitted within 30 days following the completion of construction.

5.0 FEES AND TERMS

Tables 1 and 2 provide estimated project costs for a period of 20 weeks and for the weekly cost of additional weeks, respectively. Our cost estimate includes responses to two (2) rounds of review comments from the Client and reviewing agencies. Any additional responses to more rounds of review comments will be charged on an actual time-and-expense basis.

TABLE 1. COST ESTIMATE (Assumes 20 Weeks Construction Period)

Task No.	Task	No. of Units	Unit	Unit Rate	Labor Cost	Direct Cost	Total
1	Review of Available Information, Planning and Preconstruction Meeting, Project Management						
	CQA Officer (Review CQA Plan, Drawings, and Specifications)	6	hours	\$210	\$1,260		
	CQA Manager (Review CQA Plan, Drawings, and Specifications)	8	hours	\$150	\$1,200		
	CQA Monitor (Review CQA Plan, Drawings, and Specifications)	8	hours	\$110	\$880		
	CQA Manager (meeting, drive time, sample pickup)	12	hours	\$150	\$1,800		
	CQA Monitor (meeting, drive time, sample pickup)	12	hours	\$110	\$1,320		
	Car Rental	1	days	\$150		\$150	
	Per Diem (1 day, 2 people)	2	days	\$200		\$400	
	Flight to site (CQA Manager & CQA Monitor)	2	item	\$320		\$640	\$7,650
2	CQA Field Services (assume 19 weeks)						
	CQA Officer (Project Management & Supervision)	40	hours	\$210	\$8,400		
	CQA Manager (daily review of field data, communication with CQA Monitor & Project Construction Manager & City)	200	hours	\$150	\$30,000		
	CQA Monitor (8 hour days, Prevailing Wage Rate)	800	hours	\$135	\$108,000		
	Project Site Meetings, Assumes 2 Meetings (CQA Manager)	24	hours	\$150	\$3,600		
	CQA Manager per diem	2	days	\$200		\$400	
	Flight to Site (CQA Officer)	2	item	\$320		\$640	
	Field Vehicle for CQA Officer	2	days	\$150		\$300	
	CQA Monitor per diem	20	weeks	\$1,085		\$21,700	
	Mob/Demob to Site	1	item	\$1,800		\$1,800	
	Field Vehicle for CQA Monitor	100	days	\$75		\$7,500	
	Field Equipment (nuclear gauge, sand cone equipment)*	100	days	\$35		\$3,500	\$185,840
3	Geotechnical Lab Testing						
	Lab Testing	1	item			\$12,000	
	Shipping	8	each	\$200		\$1,600	\$13,600
4	Draft & Final CQA Reports (Two Reports) including printing & shipping (Phase III Final Closure & Phase IV Cell Extension)	1	item			\$20,700	\$20,700
Grand Total =							\$227,790

Notes: The 2 site meetings (every 10 weeks) for duration of the project is necessary to ensure quality of the QA services.



TABLE 2. WEEKLY COST ESTIMATE FOR ADDITIONAL WEEKS

Task No.	Task	No. of Units	Unit	Unit Rate	Labor Cost	Direct Cost	Total
2	CQA Field Services						
	CQA Officer (Project Management & Supervision)	2	hours	\$210	\$420		
	CQA Manager (daily review of field data, communication with CQA Monitor & Project Construction Manager & City)	10	hours	\$150	\$1,500		
	CQA Monitor (8 hour days)	40	hours	\$135	\$5,400		
	CQA Monitor per diem	1	week	\$1,085		\$1,085	
	Field Vehicle for CQA Monitor	5	days	\$75		\$375	
	Field Equipment (nuclear gauge, sand cone equipment)*	5	days	\$35		\$175	\$8,955
Grand Total =							\$8,955

