AMADOR COUNTY BOARD OF SUPERVISORS

COUNTY ADMINISTRATION CENTER
BOARD OF SUPERVISORS CHAMBERS
810 Court Street
Jackson, CA 95642

REGULAR SESSION ADDENDUM AGENDA

DATE: Tuesday, July 28, 2020
TIME: 9:00 AM
LOCATION: COUNTY ADMINISTRATION CENTER
BOARD OF SUPERVISORS CHAMBERS
810 Court Street
Jackson, CA 95642

1. ADDENDUM #1

1a. Adoption of an Ordinance amending Chapter 10.12 of the Amador County Code regarding parking, stopping and standing.
Suggested Action: Adoption
No Parking Near Lake Camanche - regular ord.docx

2. ADDENDUM #2

2a. Approval of a Resolution authorizing recordation of Termination of Agreement for construction of a Limited Density Owner-Built Rural Dwelling for James P. Donovan and Saskia Donovan.
Suggested Action: Approval
Donovan_LDRD Termination_resol.pdf

3. ADDENDUM #3

3a. General Services Administration: RFQ 20-06 Engineering Design Services for the Buena Vista Landfill Project
Suggested Action: 1) Award RFP 20-06 to APTIM until December 31, 2021 in an amount not to exceed
$80,000.00 and; 2) Authorize the Director of Solid Waste and County Counsel to negotiate final terms and conditions and develop a contract based upon the Sample Agreement, APTIM's proposal dated June 18, 2020 and RFP 20-06 and; 3) Approve the Board Chair to execute said agreement with APTIM contingent upon agreeable terms and conditions.
RFP 20-06 DRAFT Memo to Board regarding recommendations 7.21.20 (1).pdf
RFP 20-06 Memo to Board regarding recommendations 7.21.20.pdf
RFQ 20-06 Landfill Project Bid Receipt 6.18.20.pdf
APTIM Response RFQ 20-06.pdf
Final Eval Sheet 7.14.20.pdf
Sample Consultant Services Agr with add' Federal Provisions for low thresholds 7.14.20.pdf

Board of Supervisors Agenda Item Report

Submitting Department: Board of Supervisors
Meeting Date: July 28, 2020

SUBJECT
Adoption of an Ordinance amending Chapter 10.12 of the Amador County Code regarding parking, stopping and standing.

Recommendation:
Adoption

4/5 vote required:
Yes

Distribution Instructions:
County Counsel, Board Clerk for publication of full Ordiance w/vote in the Ledger within 15 days after adoption

ATTACHMENTS
- No Parking Near Lake Camanche - regular ord.docx

ORDINANCE NO. _____

ORDINANCE AMENDING CHAPTER 10.12 OF THE AMADOR COUNTY CODE REGARDING PARKING STOPPING AND STANDING

The Board of Supervisors of the County of Amador ordains as follows:

SECTION I. Section 10.12.252 Camanche Park--Parking vehicle upon portion of Camanche Road between North Camanche Parkway and Lake Camanche gate is amended to read as follows:

"**10.12.252 No Parking-- Camanche Road near Camanche Parkway North and Lake Camanche gate.**

No person shall stop, park, or leave standing any vehicle, whether attended or unattended, upon that portion of Camanche Road lying between the access gate to Lake Camanche and 1/8th of a mile north of the intersection with Camanche Parkway North. In addition to any fines or other penalties which may be imposed, vehicles parked or left standing in violation of this section may be towed."

SECTION II. Section 10.12.253 is hereby added to Chapter 10.12 of the Amador County Code as follows:

"**10.12.253 No Parking—Camanche Parkway North at intersection with Camanche Road.**

No person shall stop, park, or leave standing any vehicle, whether attended or unattended, upon that portion of Camanche Parkway North lying 1/8th of a mile east and 1/8th of a mile west from the intersection with Camanche Road. In addition to any fines or other penalties which may be imposed, vehicles parked or left standing in violation of this section may be towed."

SECTION III. This ordinance shall be published within fifteen days after the date hereof in a newspaper of general circulation printed and published in the County of Amador, State of California, and shall become effective thirty days after the date hereof.

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The foregoing ordinance was duly passed and adopted by the Board of Supervisors of the County of Amador at a regular meeting thereof, held on the day of 2020, by the following vote:

AYES:

NOES:

ABSENT:

_____
Patrick Crew
Chairman, Board of Supervisors

ATTEST:

JENNIFER BURNS, Clerk of the
Board of Supervisors, Amador County, California

_____

Deputy

Board of Supervisors Agenda Item Report

Submitting Department: Board of Supervisors
Meeting Date: July 28, 2020

SUBJECT
Approval of a Resolution authorizing recordation of Termination of Agreement for construction of a Limited Density Owner-Built Rural Dwelling for James P. Donovan and Saskia Donovan.

Recommendation:
Approval

4/5 vote required:
No

Distribution Instructions:
Building Department

ATTACHMENTS
- Donovan_LDRD Termination_resol.pdf

Recording requested by:
BOARD OF SUPERVISORS

When recorded sent to:
BUILDING DEPARTMENT

BEFORE THE BOARD OF SUPERVISORS OF THE
COUNTY OF AMADOR, STATE OF CALIFORNIA

IN THE MATTER OF:

RESOLUTION AUTHORIZING RECORDATION OF TERMINATION OF AGREEMENT FOR CONSTRUCTION OF A LIMITED DENSITY OWNER-BUILT RURAL DWELLING – JAMES P. DONOVAN AND SASKIA DONOVAN	RESOLUTION NO. 20-XXX

WHEREAS, an Agreement to construct a Limited Density Owner-Built Rural Dwelling as required by Amador County Code Section 15.10.160 was approved by the Board of Supervisors at their December 17, 2019 meeting for Building Permit #LD01035; and

WHEREAS, that Agreement was recorded on December 20, 2019 as DOC-2019-0009708-00; and

WHEREAS, Owners have built a structure on their property; however they no longer intend for that structure to qualify as a Limited Density Owner-Built Rural Dwelling; and

NOW, THEREFORE, BE IT RESOLVED by the Board of Supervisors of the County of Amador that said Board approves with certain conditions the termination of the Limited Density Owner-Built Rural Dwelling Agreement by and between the County of Amador and James P. Donovan and Saskia Donovan and the terms, conditions, and restrictions therein.

BE IT FURTHER RESOLVED that the Chairman of said Board is hereby authorized to sign, execute and record said Termination of the Agreement on behalf of the County of Amador.

The foregoing resolution was duly passed and adopted by the Board of Supervisors of the County of Amador at a regular meeting thereof, held on the ____ day of _____ 2020, by the following vote:

AYES:
NOES:
ABSENT:

_____
Patrick Crew, Chairman, Board of Supervisors

ATTEST:

JENNIFER BURNS, Clerk of the
Board of Supervisors, Amador County,
California

_____

Deputy

Board of Supervisors Agenda Item Report

Submitting Department: General Services Administration
Meeting Date: July 28, 2020

SUBJECT
General Services Administration: RFQ 20-06 Engineering Design Services for the Buena Vista Landfill Project

Recommendation:
1) Award RFP 20-06 to APTIM until December 31, 2021 in an amount not to exceed $80,000.00 and; 2) Authorize the Director of Solid Waste and County Counsel to negotiate final terms and conditions and develop a contract based upon the Sample Agreement, APTIM's proposal dated June 18, 2020 and RFP 20-06 and; 3) Approve the Board Chair to execute said agreement with APTIM contingent upon agreeable terms and conditions.

4/5 vote required:
No

Distribution Instructions:
Jon Hopkins, Jeff Gardner

ATTACHMENTS
- RFP 20-06 DRAFT Memo to Board regarding recommendations 7.21.20 (1).pdf
- RFP 20-06 Memo to Board regarding recommendations 7.21.20.pdf
- RFQ 20-06 Landfill Project Bid Receipt 6.18.20.pdf
- APTIM Response RFQ 20-06.pdf
- Final Eval Sheet 7.14.20.pdf
- Sample Consultant Services Agr with add' Federal Provisions for low thresholds 7.14.20.pdf

GENERAL SERVICES ADMINISTRATION

MAIL: 12200-B Airport Road, Jackson, CA 95642
LOCATION: 12200-B Airport Road, Martell, CA
PHONE: (209) 223-6759 FAX: (209) 223-0749 E-MAIL: jhopkins@co.amador.ca.us

M E M O R A N D U M

TO: Board of Supervisors

FROM: Jon Hopkins, GSA Director Hop

DATE: July 21, 2020

RE: RFQ 20-06 Engineering Design Services for the Buena Vista Landfill Project

On Thursday, June 18, 2020 at 1:30 PM Amador County Request for Qualifications, RFQ 20-06 were received, opened and read publicly for Engineering Design Services for the Buena Vista Landfill Project. Solicitation efforts included a contact list from the department of eight (8) known firms that were sent invitations and one thousand three hundred and seventy two (1372) firms were sent notifications via Public Purchase. One hundred thirty-two (132) accessed the information, seven (7) firms attended the mandatory pre-bid site meeting and three (3) firms responded.

Proposals were evaluated by each committee member based upon points assigned to a category item and then totaled and averaged for a final score. The top scoring proposal was provided by APTIM Environmental & Infrastructure, LLC. located in Sacramento, CA and is recommended to contract with.

Interviews were not conducted as the information provided by each respondent was sufficient to determine the best candidate. Contract term is until December 31, 2021. Of the three (3) firms evaluated, APTIM provided the best overall proposal for the following reasons:

1. Only firm to demonstrate a comprehensive understanding of the RFQ providing how they would approach design to the prescriptive Title 27 standard.
2. Only firm to discuss landfill gas control during construction.
3. Best overall experience utilizing sub-consultants that have significant experience working at the landfill and best experience with the Central Valley Regional Water Quality Control Board.
4. Provided the best project schedule covering all required activities and shortest schedule.

Based upon the Committee's review, I submit the follow recommendations.

Recommendation: 1) Award RFP 20-06 to APTIM until December 31, 2021 in an amount not to exceed $90,000.00 and; **2)** Authorize the Director of Solid Waste and County Counsel to negotiate final terms and conditions and develop a contract based upon the Sample Agreement, APTIM's proposal dated June 18, 2020 and RFP 20-06 and; **3)** Approve the Board Chair to execute said agreement with APTIM contingent upon agreeable terms and conditions.

Cc: Chuck Iley, CAO
Greg Gillott, County Counsel
Danielle Whitaker, Purchasing Manager
Jeff Gardner, Director of Solid Waste
Curt Fujii, Fujii Civil Engineering
File

Attachments: Bid/RFP Receipt Log
Evaluation Score Sheet
APTIM's proposal
Sample Agreement

GENERAL SERVICES ADMINISTRATION

MAIL: 12200-B Airport Road, Jackson, CA 95642
LOCATION: 12200-B Airport Road, Martell, CA
PHONE: (209) 223-6759 FAX: (209) 223-0749 E-MAIL: jhopkins@co.amador.ca.us

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Cc: Chuck Iley, CAO
Greg Gillott, County Counsel
Danielle Whitaker, Purchasing Manager
Jeff Gardner, Director of Solid Waste
Curt Fujii, Fujii Civil Engineering
File

Attachments: Bid/RFP Receipt Log
Evaluation Score Sheet
APTIM's proposal
Sample Agreement

GENERAL SERVICES ADMINISTRATION
Purchasing Division
MAIL: 12200-B Airport Road, Jackson, CA 95642
LOCATION: 12200-B Airport Road, Martell, CA
PHONE: (209) 223-6375 FAX: (209) 223-0749

BID/REQUEST FOR PROPOSAL RECEIPT LOG

Bid/RFP Solicitation No. RFQ 20-06

Project Title: ENGINEERING DESIGN SERVICES FOR THE BUENA VISTA LANDFILL PROJECT

BID/RFP DUE DATE: 6/18/20 DUE TIME: 1:30 PM

FACILITATOR: WASTE MANAGEMENT LOCATION: 12200-B Airport Road, Martell, CA

No.	Vendor Information	Item	Amount
1	Vendor Name: Geo-Logic Associates Address: Granite Bay, CA Date/Time Received: 6-17-20 @ 11:17 Received By: SK		(✓) 1 – Original (✓) 4 – Copies (✓) 1 – CD/FLASH
2	Vendor Name: APTIM Address: Greenwood Village, CO Date/Time Received: 6-18-20 @ 10:32 Received By: SK		(✓) 1 – Original (✓) 4 – Copies (✓) 1 – CD/FLASH
3	Vendor Name: Geosyntec Consultants Address: Oakland, CA Date/Time Received: 6-18-20 @ 11:13 Received By: SK		(✓) 1 – Original (✓) 4 – Copies (✓) 1 – CD/FLASH
4	Vendor Name: _____ Address: _____ Date/Time Received: _____ Received By: _____		( ) 1 – Original ( ) 4 – Copies ( ) 1 – CD/FLASH

COUNTY OF AMADOR, CA

ENGINEERING DESIGN SERVICES FOR THE BUENA VISTA LANDFILL PROJECT

APTIM

RFQ NO. 20-06

JUNE 2020

COUNTY OF AMADOR, CA

ENGINEERING DESIGN SERVICES FOR THE BUENA VISTA LANDFILL PROJECT

RFQ NO. 20-06

JUNE 2020

APTIM

TRANSMITTAL LETTER

APTIM

180 PROMENADE CIRCLE, SUITE 320
SACRAMENTO, CA 95834

APTIM.com

JUNE 18, 2020

ATTENTION: SHANTELL KINSLEE

SUBJECT: RFQ NO. 20-06; APTIM SOQ FOR ENGINEERING DESIGN SERVICES FOR THE BUENA VISTA LANDFILL PROJECT

Ms. Kinslee:

APTIM Environmental & Infrastructure, LLC (APTIM) is pleased to present our statement of qualifications (SOQ) in response to the Amador County request for qualifications (RFQ) No. 20-6 for design of the Phase 1 final cover repair and the surface impoundment improvements at the Buena Vista Landfill (BVLF), located in Amador County (County), California. Our SOQ is organized to match the "Qualification Content" requirements outlined in the RFQ for the County's ease in review. Sections 1.0 and 2.0 represent the SOQ Title page and Transmittal Letter, respectively. The body of the SOQ then begins with Section 3.0 the Executive Summary.

APTIM has extensive experience with the design, construction and operation of landfills and their infrastructure. For this project, we have partnered with NV5, who will be leading the cover system soils analysis. NV5 has extensive experience at BVLF and throughout Amador County.

Thank you for this opportunity to submit a statement of qualifications for this important Amador County project. Please contact the undersigned if you have any questions or need additional information. qualifications

Sincerely,

APTIM Environmental & Infrastructure, LLC

Darrell Thompson
Director of Operations
Solid Waste Services

CELL: 760 977 8106
EMAIL: Darrell.h.thompson@aptim.com

Table of Contents

EXECUTIVE SUMMARY

3.0 EXECUTIVE SUMMARY

Amador County issued on April 3, 2020 a Request for Qualifications (RFQ No. 20-06) to provide Engineering Design Services for repair of the Phase I Waste Management Unit (WMU) existing cover and surface impoundment improvements at the Buena Vista Landfill. The 11-acre Phase I WMU was initially closed in 1995 and "brought up to California Code of Regulations Title 27 (Title 27) standards in 2002" according to Waste Discharge Requirements Order Number (No). R5-2018-0020. In addition to the south of the Phase I WMU are the combined WMUs II and III, which are not involved in the proposed RFQ No. 20-06 scope of work. Presently, the onsite facilities include an active transfer station operated by ACES, an office building, an equipment shop, a landfill gas (LFG) candlestick flare with LFG collection and control systems (GCCS) for all three WMUs, a leachate collection and removal system (LCRS), several LFG extraction wells, a Phase I subgrade dewatering system, and a leachate surface impoundment with a sprayer/evaporator system. APTIM is partnering with NV5 to better provide the necessary resources to meet and exceed the requirements of the proposed work scope described in RFQ No. 20-06. Our project approach and qualifications are presented below.

3.1 Existing Phase I Final Cover

The existing final cover on the Phase I WMU consists of (from top to bottom):

1. 6-inch-thick soil erosion protection layer (vegetative cover)
2. 12-inch-thick compacted clay liner (CCL)
3. 24-inch-thick foundation layer soil.

It is our understanding that the entire Phase 1 WMU cover system was constructed with Ione clay excavated from an onsite borrow area. In 2019 NV5[1] performed a subsurface geotechnical engineering investigation of the existing Phase I WMU final cover and classified the Ione cover soil as a low-plasticity clay soil with a CL designation consistent with the American Society for Testing and Materials (ASTM) D2487 Unified Soils Classification System standard. However, the shrinkage potential of this soil has not yet been quantified by laboratory testing. APTIM/NV5 understands that during the initial closure process the California Regional Water Quality Control Board (RWQCB) approved a 3.5-foot-thick cover system during the initial closure process. On 25 September 2017, the RWQCB staff inspected the site and observed cracks in the Phase I WMU final cover. The RWQCB believes that the existing final cover leaked during the winters of 2016-17 and 2018-19, based upon their observation of numerous 3.5-ft deep cracks during a observed 2018 site

[1] RFQ 20-06 Attachment 1; Phase 1 Waste Management Unit Cover Investigation Report, NV5, October 16, 2019

visit. The 2019 NV5 geotechnical engineering investigation of the cover conditions revealed desiccation cracking has occurred over much of the central portion and western end of the Phase I WMU. The width of the desiccation cracks ranged from one sixteenth (approximately 1/16) of an inch to 4 inches with cracks over 3 feet-deep on the western end at test pits T19-2 and T19-5. In addition, animal burrows as deep as 12 inches (thus penetrating into the Compacted Clay Liner (CCL) were observed in the cover at test pits T191 and T19-3. During the pre-proposal conference site walk on April 17, 2020, APTIM/NV5 staff observed burrowing animals (field mice) and a flock of wild turkey on the cover surface. Animal activity on the existing Phase I final cover is relatively high. There was also healthy grass and weed growth across the top deck on the day of the site walk.

Exposed areas of rocky soil were also observed on the landfill 45cover about 45 days after the site walk. The grass and weeds appeared to be dying off rapidly as can be seen in the photo below taken on June 2, 2020. The rapid drying out of vegetation suggests that the water holding capacity of the Ione Clay soils is relatively low.

APTIM discussed the use of soil additives and/or treatment of the stressed vegetation to improve moisture capacity with the Natural Resources Conservation Service (NRCS). The NRCS indicated that "carbon rich source material" should increase the water storage capacity of the vegetative layer. The grass and weed vegetative species observed typically respond well to manures, mulch, and compost. The quantities and types of soil additives would require further research.

Moisture available in the soils will be transpired by the grasses present. There are patches of various wild grass species on the landfill surface. According to the NRCS the scattered California Meadow Barley patches have the shallowest rooting depth at approximately 10 inches. Other grass species present are deeper-rooted. Hence, the root systems of all of the grass species observed on the landfill are likely penetrating the CCL and removing water from it. Transpiration from these species will remove moisture from the CCL until the stands die out in the late spring to early summer seasons. This likely contributes to desiccation cracking in the summer and fall seasons. The dead, fallen stands of tall grass will obscure most of the desiccation cracking in the final cover. It is APTIM's opinion, that such conditions are detrimental to reconstruction of a prescriptive soil final cover system and will require regular maintenance to preserve the vegetation and CCL. It should be understood that reconstruction of the final cover would not require submittal of a revised Final Closure Plan, because the work would be considered a repair of a pre-approved final cover system.

Multi-year droughts in California are common, so the diurnal cycle of cover soil hydration and desiccation during normal years will eventually be offset by drier years leading to more desiccation than hydration in the typical climatic cycle. The prolonged desiccation conditions will lead to increased precipitation infiltration when climatic cycles return to wetter years which will lead to increased infiltration, leachate migration, LFG generation, and imminent compliance issues. It is clear that the existing soil cover has failed to meet

expectations and the expected Title 27 performance requirements so use of this soil as a cover as previously done will likely fail again unless it undergoes a specialized engineering or treatment.

APTIM and NV5 will evaluate the use of soil additives as advised by the NRCS and/or changes to the final cover profile – such as increasing the organic content and thickness of the vegetative layer to protect the CCL from desiccation in drier years. Our experience with this common final cover issue is discussed in more detail in **Section 11.2**.

3.1.1 Landfill Gas Impacts on Final Cover Operations

LFG is collected at the BVLF and conveyed to the candlestick flare at the southwest corner of the surface impoundment. The LFG collection piping network was constructed on top of the final cover surface and it collects LFG from 11 LFG extraction wells. The GCCS installed on Phase I was active at the time of the site visit. LFG extraction records provided by Amador County[2] indicate the bulk of LFG delivered to the flare is from Phase I. LFG extraction ranges from 107 to 130 standard cubic feet per minute (SCFM) and methane content is less than 50 percent (%) by volume in air which is typical for a closed landfill and older waste mass. The existing cover provides confinement of the LFG within Phase I. Thus, removal of the existing CCL for repair and replacement will require increased LFG control efforts within the areas of cover removal. Control of odors and emissions will likely be a requirement of the local air quality management district (Amador Air District) and local enforcement agency (LEA).

APTIM will prepare a well-defined construction phasing plan to minimize odors and emissions during construction activities to minimize downtime of the GCCS, control and to protect personnel health and safety. This phasing plan will be a component of the project design and bid documents.

3.2 Existing Class II Impoundment

The Class II impoundment is approximately 1.2 acres in size and has approximately 7.5 acre-feet (ac-ft) in storage capacity. It is located immediately east of the WMU II/III landfill unit. On the East side, the impoundment is within approximately 50 feet of the County's property line that borders property owner by a fireworks manufacturer. The interior side slopes of the impoundment range from four horizontal to one vertical (4H:1V) on the southern side to 2:12H:1V on the remaining slopes. A concrete-lined loading bay is on the north end of the impoundment berm. The outboard southeastern section of the impoundment's East berm descends at a roughly 2.5H:1V slope to original grade which drains onto the neighboring property. The impoundment was lined with a Hypalon liner in 1992. The impoundment receives liquids from the leachate collection and removal systems in WMU II and III, groundwater extraction trench L-1 associated with WMU I, impoundment leak detection layer liquids, LFG liquids (condensate and well dewatering liquids) from the LFG extraction wells, and captured leachate seeps and seep-back drains from various WMU's. These fluids are managed by means of an enhanced evaporation spray system along the western impoundment perimeter.

Based on the recent water balance analysis by NV5[3], the impoundment is undersized. Leachate hauling and disposal at third-party locations has been necessary in the past few years to maintain the impoundment's

[2] Item 10, RFQ 20-06 Addendum No. 1, *December 2019 Monthly O&M Report*, SCS Field Services

[3] RFQ 20-06 Addendum No. 1 Exhibit D: Class II Surface Impoundment Amended Water Balance Model, Buena Vista Landfill (Amador County Sanitary Landfill) WDR/MRP No. R5-2018-0020, NV5, Letter Report to Paul Sanders, P.G. March 23, 2020

design freeboard of 24 inches to avoid overtopping during storm events that occurred in the last several years. NV5's analysis indicated that the impoundment berm elevation be raised by approximately 2.5 feet to provide an additional 2.86 ac-ft of storage capacity to handle the 1000-year, 24-hour storm event and recent intense storm events.

APTIM and NV5 will prepare design plans and specifications to raise the impoundment berms to increase capacity per the volume requirements noted in NV5's water balance. From the site visit and inspection of the site topography, APTIM andNV5 are aware that raising the berm along the southeast perimeter may require extra consideration given the existing steep impoundment outboard slope to the property line. There are some options to accommodate this issue which we will explore in the course of the work. In general, we would advise replacing the Hypalon liner with a high-density polyethylene (HDPE) geomembrane liner. The expected half-life of HDPE in exposed ultraviolet light is on the order of 50 years hence would present a long-term solution for Amador County.

Electronic leak location surveys (ELLS) on HDPE liners can be conducted on the as-built liner using ASTM test Method D7002 (water puddle method) and periodically thereafter using ASTM D7007 on the impoundment when full. The advantage of these test methods over an underlying leak detection system is they will pinpoint leak locations for subsequent repair; however, they are not intended to be a replace for the leak detection system.

Additional discussion on this topic is provided under **Section 11, "Mandatory Questions."**

3.3 Proposed Scope of Work and Project Objectives

APTIM and NV5's proposed scope of work detailed below is to:

- Develop a Final Cover Workplan to include:
  - Review of existing conditions
  - Review of soil stockpile areas, haul roads, construction water supply locations
  - Evaluate LFG system, condition, LFG flows;
  - Stormwater Management/erosion control
  - Phasing/sequencing
  - Controls required to avoid environmental and human health impacts
- Prepare final cover construction drawings, specifications, CQA Plan, bid documents, schedule and engineer's estimate.
- Design Class II impoundment expansion and lining
- Modify the leachate sprayer system design to ensure capture of leakage.

APTIM and NV5's approach to the scope of work is provided in the following sections.

3.3.1 Final Cover Workplan

The first task in achieving project objectives with regard to final cover reconstruction will be to evaluate and analyze all aspects of the project inclusive of the challenges of controlling LFG emissions during construction activities. As discussed above, the earthworks approach is complicated by the presence of a biologically active waste mass below generating 50,000 to 60,000 cubic feet of LFG during a standard 8-hr workday based on the LFG flow information provided by the County.

A phased rework of the final cover system will have to be prepared to minimize downtime of the GCCS as best possible during earthwork operations to control odors and emissions. APTIM's workplan we will include details pertaining to Tasks 1 through3 of the RFQ which include:

- Review of existing conditions and infrastructure that may be affected by the project, such as the existing GCCS wells, lateral piping and header piping, leachate collection and removal system components, other environmental monitoring system components, and buried utilities if any
- Review of soil stockpile areas, haul roads, construction water supply locations, Contractor staging and laydown area, haul routes, and erosion/sediment control needs
- Control of odors and emissions
- Developing based on information gathered and technical evaluation of data
- Engineer's Estimate of Quantities and Cost
- Bidding Documents consisting of:
  - Construction Drawings
  - Construction Specifications
  - General Standard Specifications and Requirements
  - Construction Quality Assurance Plan
  - Bid Schedule
  - Engineer's Estimate of Quantities and Costs
- As based on the LFG flow information provided by the County
- Prepared Vegetative Improvement analysis

3.3.2 Class II Impoundment Design

As discussed above in the **Executive Summary**, the existing Class II impoundment requires expansion to adequately accommodate a water balance (evaporation based) associated with a 100-yr type wet season and 1,000-yr storm. During the site walk and review of available topography[4], the outboard slope along southeastern perimeter of the existing impoundment was built over a drainage swale and possibly onto the neighboring property. The outboard slope is already steep at approximately 2.5H:1V. Raising the impoundment berm height to provide adequate containment requires exploration of several options to achieve the desired increase in impoundment capacity without encroaching on the eastern property line or creating berm stability issues. APTIM/NV5 will investigate options to increasing the capacity of the impoundment without encroaching on adjacent property or creating stability issues.

3.3.3 Leachate Spray System

The evaporative spray system in the Class II Impoundment is located on top of the western impoundment berm. Currently, any leakage from the system piping or spray heads can flow either into the impoundment or to the west onto adjacent soils. Options to alleviate this situation include:

- Building a bench on the berm extension on which to place the spray system such that any leakage will flow back into the impoundment and, but not limited to;

[4] RFQ 20-05 Attachment 2, Buena Vista Landfill 2018 topography, Tetra Tech, Inc.

- Installing tees and tubing so the spray heads extend into the impoundment and any leaks would fall within the limits of liner/impoundment.

As an overall design goal, APTIM will redesign the spray system to promote containment of leachate to the impoundment.

3.4 Alternative Final Cover System for the County's Consideration

3.4.1 Alterative Final Cover – RECOMMENDED OPTION

APTIM/NV5 is offering Amador County an alternative to the scope of work described in the RFQ for consideration. We have extensive experience with final cover systems in California and recognize many challenges to final cover at the Buena Vista Landfill would be remedied with alternative cover designs and materials meeting the requirements of Title 27.

One such alternative cover material consists of a purely geosynthetics system called ClosureTurf®. ClosureTurf is manufactured by Watershed Geosynthetics (WSG) in Alpharetta, Georgia. The turf component is a high-density polyethylene (HDPE) synthetic "grass" or turf tufted through a double-woven polypropylene geotextile. The turf is ballasted with an ASTM C33 type sand to prevent wind uplift and provide ultraviolet light protection of the geotextile mat beneath.

The system has been permitted in California as a "mechanically erosion-resistant layer" under Title 27 Section 21090(a)(3)(2) requirements[5]. All demonstrations required by this regulation have been made to the satisfaction of the Central Valley RWQCB at the Portola Landfill in Plumas County and to the Central Coast RWQCB at the Crazy Horse Landfill in Monterey County. Most recently, it was used as a LFG and odor control system at the Sunshine Canyon Landfill in Los Angeles County.

Beneath the turf is either a textured geomembrane (Agru America's Microspike), or a structured geomembrane (SuperGripnet) for conditions requiring higher interface shear strength such as landfill side slopes. Given its properties, use of ClosureTurf or equivalent products at BVLF should be widely accepted and permitted. The additional benefits of this product is that the existing (failed) final cover can serve as foundation layer for this system. The only earthwork required in this case would be stripping the existing vegetation from the surface and ensuring minimum slopes are achieved to promote drainage where settlement has occurred. There would be minimal concerns for LFG control since no removal of the existing cover system would be required. Any existing LFG piping protrusions of the existing cover system would need to be booted through the ClosureTurf system

[5] T27-21090(a)(3)(2): Mechanically Erosion-Resistant Layer -an erosion- and ultraviolet light-resistant layer which, by virtue of its composition and finished-and-maintained grade, resists foreseeable erosion effects by wind-scour, raindrop impact, and runoff (e.g., a 1-foot thick layer of cobbles, the interstices of which are filled with gravel).

using traditional pipe penetration methods and seals thus minimizing disruption of the LFG collection infrastructure and downtime.

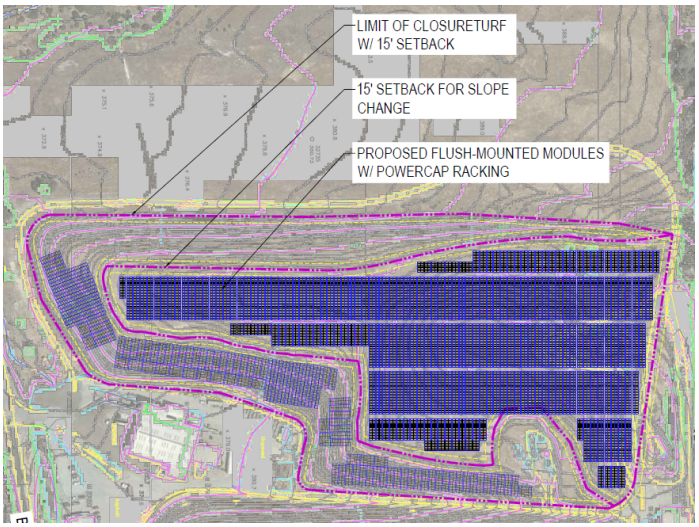
The long-term benefits of this final cover design to the project goals is longevity. Based on information from other sites using this geosynthetic final cover system across the country, it will provide Amador County a virtually maintenance free final cover system that will successfully resist wind, severe rainfall, UV degradation, landfill settlement, seismic deformation, and monitoring/inspection vehicle traffic deformation all year round.

3.4.2 Alternative Cover Post-Closure Use – OPTIONAL

In addition, the above synthetic system can be modified to include the installation of a solar photovoltaic power system on the finished ClosureTurf system. Installing solar panels on the final cover system would help Amador County offset the final cover reconstruction costs as well as provide a source of revenue long-term.

At APTIM/NV5's request, WSG performed an initial estimate of the maximum power generating potential on the Phase I surface shown on the figure below. The top deck, southern and western slopes of Phase I have sufficient area to accommodate up to a 5.8-megawatt (MW) solar array convertible to a 5 MW alternating current (AC) power supply. For example, over a nominal sun-hour period of 5 hours per day, such a system would generate up to 29 MW-hours of renewable power.

Under a public-private partnership agreement, the County could see additional incentives from Federal tax credits or take advantage of available renewable energy grants to offset the cots of installation.



APTIM and NV5 believe that a synthetic final cover system such as ClosureTurf would be beneficial to Amador County. As discussed above, an alternate ClosureTurf final cover system would be assessed by APTIM/NV5 for viability as an optional task to the RFQ proposed project approach. ClosureTurf has been permitted and built in California at the Crazy Horse Landfill in Monterey County and the Portola Landfill in Plumas County. APTIM's Project Manager, Christopher M. Richgels, P.E., is the engineer of record for the Crazy Horse final cover design and construction and designed the drainage system for the Portola final cover. Mr. Richgels can further advise Amador County on the performance advantages and cost effectiveness of this final cover system if interested.

STATEMENT OF EXPERIENCE AND QUALIFICATIONS

4.0 STATEMENT OF EXPERIENCE AND QUALIFICATIONS

4.1 APTIM Overview and Organization

APTIM is a leading global provider of comprehensive and integrated maintenance, environmental engineering and remediation, infrastructure EPC, program management, and disaster response and recovery services for public- and private-sector customers. In the area of solid waste, APTIM provides a single point of responsibility for planning, engineering, permitting, design-build construction, equipment fabrication, landfill products, and operations and maintenance for a variety of environmental control and energy recovery systems, solid waste facilities design, and landfill gas and leachate control system design and installation.

APTIM differentiates itself through a steadfast commitment to our customers, safety, and operational excellence. As of its official formation on July 1, 2017, APTIM is an independent company representing $2 billion in annual revenue and 5,000 employees, representing significant financial stability and strength. APTIM provides innovative, value driven, client-focused solutions to its clients from a network of offices throughout the U.S., shown below on **Figure 4-1**.

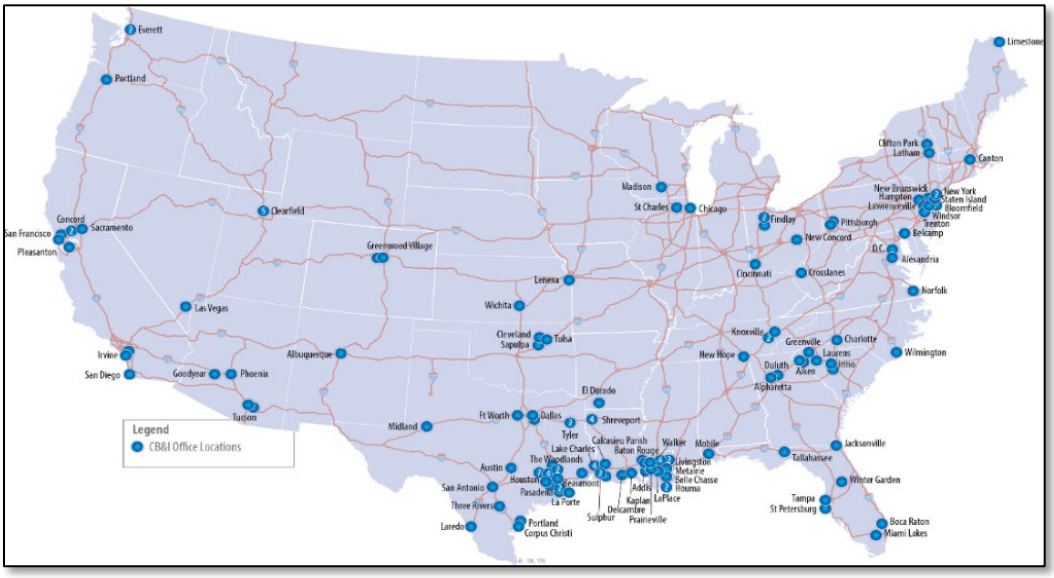


Figure 4-1- APTIM's U.S. Office Locations

4.1.1 APTIM History

APTIM began as the solid waste consulting firm EMCON in 1971. As the company has grown and our services and capabilities have expanded over our 47 years of history, we have become one of the largest providers of integrated solid waste services in the U.S. Our growth is chronicled by the following key events:

- From 1971-1997, EMCON gradually expanded to become a national firm providing customer-focused engineering, construction and operations and maintenance services for a diverse clientele in both the private and public sectors.

- Following its acquisition of Organic Waste Technologies (OWT) in 1997, EMCON grew and expanded as EMCON / OWT in the areas of landfill gas construction, products and equipment, energy recovery, developed projects, and operations and maintenance services.
- Its acquisition and integration of LFG Specialties, L.L.C. expanded its landfill gas construction and equipment capabilities, giving it a national landfill gas system equipment, drilling, construction and operations and maintenance capability not found in any other company.
- In 2002, EMCON / OWT was acquired by The Shaw Group, a Louisiana-based engineering and construction company and global service provider with more than 25,000 employees and 150 offices worldwide.
- The Shaw Group, through its subsidiary Shaw Environmental & Infrastructure, Inc (Shaw E&I), integrated the solid waste and energy resources of EMCON/OWT; Stone & Webster (S&W), a provider of EPC services to the power and energy industry based in Stoughton, Massachusetts, acquired by
- The Shaw Group in 2000; the IT Group, a leading domestic and international firm specializing in environmental remediation, commercial engineering and construction, solid waste, and environmental consulting, acquired by The Shaw Group in 2002; and Envirogen, Inc., a solid and hazardous waste firm headquartered in Lawrenceville, NJ acquired by The Shaw Group in 2003.
- In 2013, Chicago Bridge & Iron Company (CB&I), a Netherlands-based engineering, procurement and construction provider for the oil and gas industry founded in 1889, acquired The Shaw Group, resulting in a global workforce of 50,000 employees. As part of CB&I, Shaw became one of the largest providers of integrated solid waste services in the U.S., with a Solid Waste staff of more than 6,000 professionals in 28 offices with experience at hundreds of landfills across the U.S.
- In July 2017, Veritas Capital acquired CB&I's Capital Services business that included solid waste consulting, engineering, fabrication, construction; environmental engineering and remediation; infrastructure EPC services; program management; and disaster response and recovery services. Veritas Capital is a New York based private-equity firm founded in 1992, investing in companies that provide critical products and services, primarily technology and technology-enabled solutions to government and commercial customers. Veritas Capital rebranded CB&I's Capital Services to APTIM, and our solid waste services group is now operating as APTIM Environmental & Infrastructure, Inc.

4.1.2 APTIM's Solid Waste Engineering Services

APTIM is one of the largest providers of integrated solid waste services in the U.S. APTIM provides a single point of responsibility for engineering, design-build construction, equipment fabrication, landfill products, and operations and maintenance for a variety of environmental control and energy recovery systems, solid waste facilities design, and landfill gas and leachate control system design and installation.

A summary of our comprehensive solid waste services is provided below on **Table 4-1**.

Table 4-1. Comprehensive Solid Waste Services.

Planning/Siting/Permitting	Products and Equipment
Comprehensive solid waste planning	Landfill gas flare systems (enclosed, vent, utility, rental)
Waste characterization studies	Condensate destruction systems
Market research and evaluation	Control and instrumentation
Alternative evaluation and feasibility studies	Wellheads
Life-cycle cost analysis	Flex connectors
Capacity optimization	Condensate removal systems
Greenhouse gas support	Well seals and accessories
Site investigations	Fuel delivery skids
Permit applications	Compressor skids
Public participation/public hearings	Leachate evaporation systems (E-Vap)
Expert testimony	Generator sets
Procurement assistance	Pipes, pumps and valves for leachate and gas collection
Environmental Compliance	**Operations and Maintenance**
Hydrogeological investigations and assessments	LFG collection and flare systems
Air quality compliance monitoring, testing and reporting	LFG-to-energy systems
Air quality modeling and permitting	LFG well field tuning
Stack emissions testing	GCCS startup, performance testing, and operator training
Analytical LFG sampling and testing	Leachate collection and treatment systems
NSPS/EG/NESHAP compliance services	Leachate evaporator systems (E-Vap)
Compliance audits	Sampling and monitoring
Data management and reporting	Staff augmentation
Due diligence support services	O&M data management
Health and safety support services	Operational audits
Design and Construction	**Closure and Post-Closure**
Landfills, transfer stations, materials recovery, composting, convenience centers and hauling facilities	Landfill end use planning/redevelopment
Scale house and maintenance facilities	Cap design and closure documentation
Construction quality assurance (CQA) and certification	Financial assurance cost estimates for closure and post-closure care
Groundwater and LFG monitoring systems	Post-closure maintenance, monitoring and reporting
Soils and geotechnical testing/characterization	Landfill security program

4.1.3 Bottom Liner and Cover System Design

APTIM's experience with a broad array of liner design issues provides our clients with the appropriate expertise that is necessary for the siting and permitting of sites that pose unique design challenges. Further, our familiarity with regulatory agency interpretations of rules and policies make our design teams well positioned to meet a broad variety of permitting challenges that may arise.

Our projects have included a broad range of innovative liner and cover systems designs, and leachate collection system designs including alternative liner designs, alternative

final cover systems, alternative leachate collection systems, use of tire chips in the leachate drainage blankets, waste-as-ballast, and use of geofabrics to dissipate hydrostatic uplift forces, all while meeting the local, state, and federal requirements, including the CCR Rule.

4.1.4 Leachate Management System

APTIM provides leachate management system design and construction services based on site-specific needs.

APTIM designs leachate collection / conveyance systems, on-site pre-treatment systems and treatment facilities, and transmission systems to off-site treatment works. Our treatment system designs include evaporation and storage lagoons, treatment systems for clarification, biological treatment (biofilter towers), oxidation, and wetland treatment.

Transmission systems include gravity lines, pump stations and force mains, truck loadout facilities, and recirculation systems. Our designs employ a variety of leachate control measures to minimize leachate generation, combined with efficient collection and disposal methods.

APTIM provided the technical direction for an EPA 3-year demonstration project on the stabilization of refuse in a sanitary landfill in Sonoma County, California. The firm contributed to the most current leachate management in the EPA guidance manual SW-870, presenting information on methods of estimating leachate production, collection system methods, withdrawal and monitoring facilities, and recommended closure methods for lined impoundments.

Table 4-2. APTIM Project References.

Project Name (Relevant Experience)	Client Contact Name, Address, and Phone Number
Hickory Ridge Landfill Expansion - Planning, Design, & Permitting (landfill engineering, landfill master plan / phasing plan, capacity evaluations, closure / post-closure care cost estimates, solid waste landfill permitting)	Mr. Chris Coulter- Vice President Hickory Ridge Landfill, Inc. 4700 N. Sterling Ave., Peoria, IL 61615 Phone: (309) 688-0760
City of Ann Arbor - MRF Evaluation and Organics Management Plan (development of organics management plan, financial evaluation of alternatives, procurement of compost facility operations, evaluation of alternative MRF business models, procurement of transfer station operation and landfill disposal services)	Ms. Christina Gomes - Solid Waste Coordinator 301 E. Huron Street P.O. Box 8647 Ann Arbor, MI 48107-8647 Phone: (734) 794-6430 ext. 43707 Email: cgomes@a2gov.org
Peoria City/County Landfill - Planning, Design & Permitting (landfill engineering, landfill master plan / phasing plan, capacity evaluations, closure / post-closure care cost estimates for financial assurance, solid waste landfill permitting, landfill gas and leachate management services, stormwater pollution prevention plan)	Mr. Chris Coulter- Vice President Peoria City/County Landfill, Inc. 4700 N. Sterling Ave., Peoria, IL 61615 Phone: (309) 688-0760

Table 4-2. APTIM Project References.

Project Name (Relevant Experience)	Client Contact Name, Address, and Phone Number
Winnebago Landfill – Comprehensive Services (landfill engineering, landfill master plan / phasing plan, annual capacity / airspace evaluations, closure / post-closure care cost estimates for financial assurance, solid waste landfill permitting, landfill gas and leachate management services, stormwater pollution prevention plan, compliance monitoring, and construction bid plan drawings and specifications)	Mr. Thomas Hilbert Winnebago Landfill Company 5450 Wansford Way, Rockford, IL 61109 Phone: (815) 963-7516
Newton County Landfill Expansion Planning, Design, & Permitting (landfill engineering, landfill master plan / phasing plan, capacity evaluations, closure / post-closure care cost estimates for financial assurance, solid waste landfill permitting)	Michael Melan - Environmental Manager Republic Services 2266 E 500 South Road, Brook, IN 46922 Phone: (219) 224-4218 Email: mmelan@republicservices.com
Green Soils Management Compost Facility – Comprehensive Services (designed and permitted the largest landscape waste composting facility in Illinois, providing a sustainable mark solution for Chicago's organic waste stream)	Ryan Trottier - Vice President of Land Development Plote Homes, LLC. 1141 E. Main St. Suite 100 East Dundee, IL 60118 Phone: (847) 428-1000 Email: rtrottier@plotehomes.com
Morse Road Transfer Station and Eco-Station Facility (facility planning, programming, conceptual design; preliminary and detailed cost estimates; final design / construction bid specifications, and permitting services)	Albert Iosue, P.E. - Director of Planning & Programs Solid Waste Authority of Central Ohio 4239 London Groveport Road Grove City, OH 43123 Phone: (614) 801-6408
Los Alamos County - Comprehensive Planning & Implementation (solid waste management plan, financial evaluation of alternatives, eco-station design, landfill closure design, procurement of long-haul transport and disposal services, solar power development on closed landfill)	Ms. Gaylyn Meyers - Project Manager Los Alamos County Utilities Department 170 Central Park Square Los Alamos, NM 87544 Phone: (505) 662-8136 Email: Gaylyn.meyers@lacnm.us
City of Cedar Rapids / Linn County - Comprehensive Planning & Implementation (evaluation, design, and implementation of innovative site / facility improvements, the relocation of facility entrance, revised site traffic plan and secondary roadways to minimize resident / truck traffic conflicts on site, and a stormwater system design to address historical drainage issues)	Marie DeVries – Development Planner Cedar Rapids/Linn County Solid Waste Agency 1954 County Home Road, Marion, IA 52302 Phone: (319) 377-5290 Email: mdevries@solidwasteagency.org
Fresh Kills Landfill – Comprehensive Services (4.7-acre reclamation plan for beneficial reuse; landfill closure design; groundwater, leachate, landfill gas monitoring, reporting, and permitting; landfill gas collection and control system (GCCS) expansion design and permitting; GCCS operations and maintenance; prepared closure and post-closure care plans, leachate mitigation plan, and bid plan drawings and specifications for the Muldoon Avenue Corridor and Mound (MAC / MAM) final cover and closure construction)	Tanvir Ahmad - Director City of New York Department of Sanitation 44 Beaver St. 9th Floor, New York, NY 10004 Phone: (718) 356-2862

4.2 NV5 Overview and Organization

NV5 has 70 years of experience providing engineering and consulting services to both public and private sectors and has more than 100 offices worldwide with over 2,000 employees delivering solutions through five business verticals: Construction Quality Assurance, Infrastructure, Energy, Program Management and Environmental. NV5 has had a presence in California for over 50 years, with over 500 qualified professionals in offices in Chico, Nevada City, Sacramento, Long Beach, Irvine, Oceanside, San Diego, Van Nuys, Richmond, San Jose, Truckee, Fresno and Murphys California.

NV5's Sacramento office, located approximately 45 miles from the BVLF, will provide personnel to assist APTIM and the County staff with accomplishing the current planned improvements of the Phase I WMU cover and surface impoundment projects. The NV5 team has extensive landfill experience in California and has worked with the same regulatory agencies that oversee the BVLF on numerous other landfill sites with similar conditions. The NV5 project team can also draw on extensive technical resources from our other NV5 offices, subconsultants and subcontractors.

NV5 is presently listed as #34 on the Engineer News Record (ENR) Top 500 Design Firms and has more than 100 offices worldwide with more than 2,000 employees. NV5's clientele includes municipal and government agencies, school districts, universities, construction companies, architecture and engineering firms, land development firms, hospitals, industrial corporations and energy conglomerates. The trusted relationships we built with our clients is shown by the recognition from the Zweig Group as a Hot Firm (2018 and 2019) for faster growth than our peer firms. Our growth is due to our loyal return and repeat client business and long-term retention and dedication of our technical experts. NV5 was also recognized as a Zweig Group Best Firm to Work For over the last three years (2017, 2018 and 2019).

NV5 is a well-recognized environmental/engineering consulting firm in the areas of permit compliance, engineering design, environmental site assessment, remediation, hazardous materials, industrial hygiene, hazardous waste, environmental health and safety, air quality, sustainability, training, and litigation support. We are uniquely qualified to fully support APTIM, including, program management, data collection, assessment, reporting, and developing compliance strategies.

The NV5 team has been providing professional environmental consulting services in California for over 50 years, with over 500 qualified professionals in 22 offices, we can deploy engineering and environmental experts from Sacramento, Chico, Long Beach, Irvine, Anaheim, Oceanside, San Diego, and Van Nuys, California. NV5's other local Northern California branch offices are located in Fresno, Murphys, Nevada City, Richmond, San Jose, Truckee, and Yuba City. NV5's clientele includes municipal and government agencies, schools, construction companies, architecture and engineering firms, land development firms, hospitals, industrial corporations, and energy conglomerates.

NV5 expertise is evident with over 3,000 NV5 engineering and technical consulting staff in over 100 offices worldwide, focused on Energy, Construction Quality Assurance, Environmental Compliance, Program Management, and Infrastructure. The trusted relationships we built with our clients are shown by the recognition by Zweig Group as a Hot Firm (2018 and 2019) for faster growth than our peer firms. We were also recognized as a Zweig Group Best Firm to Work For over the last three years (2017, 2018 and 2019).

Table 4-3. NV5 Project References.

Project Name (Relevant Experience)	Client Contact Name, Address, and Phone Number
WEAVERVILLE LANDFILL PHASE II FINAL CLOSURE CQA 2017 Landfill prescriptive (24-inch foundation layer, 12" compacted clay liner, 12" vegetative layer, drainage infrastructure, hydroseed) final cover CQA	Diane Rader, Trinity County Solid Waste Manager Trinity County Solid Waste Department 173 Tom Bell Road, Weaverville CA 96093. Phone: (530) 623-1326
NEAL ROAD LANDFILL MODULE 5 PHASE A BASE LINER CQA, 2017 This project consisted of construction of an approximately 9-acre base liner system in 2017. The CQA engineering services commenced in June and were completed in October of 2017 and entailed constructing general earth fills and a base liner system	Eric Miller, PE and Bill Mannel Butte County Waste Management Division 1023 Neal Road, Paradise, CA 95969 Phone: (530) 879-2350
NEAL ROAD LANDFILL MODULE 4 PHASE F BASE LINER CQA, 2016 This project consisted of construction of an approximately 4-acre base liner system in 2016. The CQA engineering services commenced in April and were completed in July of 2016 and entailed constructing general earth fills and a base liner system	Eric Miller, PE and Bill Mannel Butte County Waste Management Division 1023 Neal Road, Paradise, CA 95969 Phone: (530) 879-2350
CLOSED LINCOLN LANDFILL, 2016 NV5 designed and oversaw the construction of a unique landfill dewatering system to mitigate groundwater contamination and satisfy regulatory corrective action requirements. NV5 continues to provide post-closure services, including operation and maintenance (O&M), telemetry monitoring, groundwater sampling and analysis, and compliance reporting.	Ray Leftwich, PE, City Engineer for the City of Lincoln City of Lincoln 600 6th Street, Lincoln, CA 95648 Phone: (916) 434-3233
NEAL ROAD LANDFILL PHASE 2 FINAL CLOSURE OF MODULES 1 AND 3, 2007 The Phase 2 Final Closure of Modules 1 and 3 involved constructing a final cover system over an area of approximately 21 acres, a landfill gas extraction and monitoring system, and a drainage control system. CQA Engineering services.	Eric Miller, PE and Eric Dugger Butte County Waste Management Division 1023 Neal Road, Paradise, CA 95969 Phone: (530) 879-2350
NEAL ROAD LANDFILL FINAL PARTIAL CLOSURE OF MODULES 1, 2 AND 3, 2004 final cover system over an approximately 30-acre area, a landfill gas extraction and monitoring systems, and drainage controls. CQA Engineering services	Eric Miller, PE and Eric Dugger Butte County Waste Management Division 1023 Neal Road, Paradise, CA 95969 Phone: (530) 879-2350
NEAL ROAD LANDFILL LEACHATE POND BASE LINER 2004 CQA services for construction of the Class II Leachate Surface Impoundment base liner system during the summer and fall of 2004	Eric Miller, PE and Eric Dugger Butte County Waste Management Division 1023 Neal Road, Paradise, CA 95969 Phone: (530) 879-2350

DESIRABLE QUALIFICATIONS

5.0 DESIRABLE QUALIFICATIONS

5.1 Project List

APTIM and NV5's project experience specific and relevant to the Buena Vista Landfill project are listed below. NV5 has had significant experience maintaining permit compliance at the Buena Vista Landfill and has extensive knowledge of the issues with the existing Phase I final cover. These represent a variety of landfill closure and remediation projects that would have applicable parts to the Phase I final cover issues. Additional California-specific final cover experience can be found under our proposed project manager's (Christopher Richgels, PE) resume.

Buena Vista Landfill, Phase 1 Cover Repair Investigation, 2019, Ione, California (NV5)

Duration: *July -2019 to October 2019*
Client Contact Information:
Jeff Gardner, Jim McHargue
Telephone: (209) 223-6429, (209)257-0112
NV5 Personnel: Patrick Dunn and Don Olsen

NV5 performed an investigation of the existing Phase 1 final cover to determine its integrity to serve as an effective seal for the purpose of minimizing infiltration of winter storm water from entering the underlying waste materials. The California Regional Water Quality Control Board approved the proposed cover investigation Work Plan prepared by NV5. The investigation entailed a surface reconnaissance to identify deep desiccation cracks and animal borrows that have damaged the existing final cover and a subsurface investigation with a backhoe to excavate 10 exploratory trenches to observe the depth of representative desiccation cracks and animal borrows and to collect representative samples of the low-permeability soil layer for laboratory testing. NV5 used the field and laboratory data to prepare recommendations for temporary repair measures to be implemented during the 2019-20 summer construction season and permanent repair measures to be implement during the 2020-21 summer construction season.

Buena Vista Landfill, Phase 1 Temporary Cover Repair CQA, 2019, Ione, California (NV5)

Duration: *October 28 to 31, 2019*
Client Contact Information:
Jeff Gardner, Jim McHargue
Telephone: (209) 223-6429, (209)257-0112
NV5 Personnel: Patrick Dunn and Don Olsen

NV5 provided construction quality assurance (CQA) engineering services to document the temporary repairs of the existing Phase 1 final cover from October 28 through 31, 2019. The final cover repairs were completed consistent with the November 1, 2019 California Regional Water Quality Control Board requirements for the temporary repair of the final cover prior to the 2019-20 wet winter season. The identified desiccation cracks and animal borrows areas were repaired by stripping the vegetation, ripping the exposed soil to a minimum depth of 18 -inches below the existing ground surface with a backhoe equipped with a steel shank, moisture conditioned and then compacted with a kneading foot roller wheel to achieve a minimum relative compaction of 90 percent of the American Society for Testing and Materials (ASTM) D1557 maximum dry density with a moisture content between 3 and 5 percentage points greater than the D1557 optimum moisture content. Finally, a vegetative mulch layer was placed over the disturbed areas to minimize soil erosion during the 2019-20 wet winter season, as well as, implementing best management practices (BMP) to minimize soil erosion consistent with the approved site Storm Water Pollution and Prevention Plan (SWPPP).

Coalinga Disposal Site, Landfill Closure Design and CQA, Fresno, California (APTIM)

Duration: 2010 - 2011
Client Contact Information:
Curtis Larkin
Telephone: (559) 600-4259
APTIM Personnel: Darrell Thompson, J.C. Isham

APTIM prepared design plans, construction documents and performed CQA for the installation of an ET final cover system at the Coalinga Disposal Site in Coalinga, CA. The Coalinga Disposal Site (CDS) is operated by Fresno County (County) on land that the County leases from Chevron USA Inc. The CDS is permitted as a Class III landfill. The CDS operated from 1956 to November 10, 2009. The operation of the CDS was stopped prior to reaching full capacity due to diminishing disposal tonnage and resulting economic deficiencies. The CDS is roughly at 48 percent of its ultimate design capacity. The permitted disposal area covers 52 acres and is comprised of separate unlined 14 acre and unlined 38-acre units. Both units currently had interim cover soils covering the waste.

APTIM's scope of work included:

- Site grading and drainage designs
- Preparation of Final Closure and Postclosure Plan revisions
- Preparation of construction plans and specifications
- Prepared Construction Quality Assurance Plan
- Performed Construction Quality Assurance which consisted of the monitoring and inspection of the excavation, testing, and placement of 180,000 CY of ET Cover, and 209,000 CY of general fill. All excavated materials were classified using the USCS, grain size analysis, moisture-density curves, Atterberg Limits, and for hydraulic conductivity for compliance with either the ET Cover specification or the General Fill Specification. 5,000-CY stockpile were set aside for testing. Upon receipt of test results, stockpiles were released for use as ET Cover or General Fill. Following placement of these materials, APTIM conducted nuclear density testing.
- Attended weekly meetings
- Conducted personal air monitoring
- Verified that construction was conducted in accordance with plans and specifications.
- Documented and photographed construction activities
- Reviewed Contractor Change Order Requests
- Prepared the construction completion report

Landfill Closure Design Services at Zanker Landfill, San Jose, California (APTIM)

Duration: 1994 - Present
Client Contact Information:
Paul Lineberry, PE, Site Manager
Telephone: (408) 263-2385
APTIM Personnel: Darrell Thompson, J.C. Isham

APTIM prepared the Final Closure and Post-Closure Maintenance Plan for the Zanker Road Resource Recovery Operation and Landfill Facility. APTIM developed a dual closure plan scenario for the landfill following Title 27 standards using existing soil as low permeability layer as an alternative to Title 27 by employing an evapotranspiration (ET) cover.

As part of the plan, we:

- Assessed the engineering properties of the existing interim soil cover on the landfill to provide slope stability analysis
- Conducted a soil investigation for the side slopes of the landfill
- Prepared a report describing how the existing interim soil cover could be compacted to meet the Title 27 permeability standards
- Developed specialized soil-water characteristic curve (SWCC) testing of the existing interim soil cover
- Performed an engineering analysis of the SWCC data to assess the ET cover properties of the existing interim soil cover
- Prepared a Final Closure Planning Report describing that the existing interim soil cover meets the standards for an ET cover
- Assisted the landfill with closure negotiations with the Regional Water Quality Control Board

Jamestown Waste Management Unit, Jamestown, California (APTIM)

Duration: 2006 - Present
Client Contact Information:
Mark Adams
Telephone: (510) 237-1782
APTIM Personnel: J.C. Isham

The Jamestown Trust is a unique monitoring and reporting project for the following reasons:

- The Jamestown Trust was formed by the RWQCB and the Attorney General's Office to oversee the State's water quality responsibilities at the site. APTIM was selected by the State as the best qualified provider of environmental, landfill closure design and construction, and Operation and Maintenance (O&M) services for this site.
- APTIM signed a 10-year lump sum contract with the Trust to perform a wide variety of environmental activities including groundwater monitoring and reporting.
- APTIM is responsible for a 10-year period of performance of the Closure O&M of a 140-acre Class III waste unit. APTIM self-performed all closure design, construction, and O&M services for a lump sum value. Onsite claystone was processed and placed as final cover over the waste unit.
- APTIM is also named on the regulatory orders for the site. Our consulting expenses are approved by the staff of the RWQCB.
- We work closely with the Trustee and representatives of the RWQCB to help assure that the extensive groundwater plume that has migrated from the landfill does not affect water quality downgradient of the site.

Services also include:

- Sampling 11 monitoring wells semiannually
- Sampling 2 surface water points semiannually
- Maintaining the operation of 11 spray evaporators in the Harvard Pit
- Sampling leachate collection system semiannually
- Contracting with analytical laboratory to perform necessary analysis
- Preparing semi-annual monitoring reports
- Groundwater monitoring and reporting for this landfill since 2006
- All landfill engineering services

Foothill Sanitary Landfill – Engineering, Design and Permitting Services, San Joaquin County, California (APTIM)

Duration: 2017 - 2018
Client Contact Information:
Juan Acevedo, PE - Sr Civil Engineer
Telephone: (209) 468-3066
APTIM Personnel: Darrell Thompson, J.C. Isham

APTIM prepared the design report, construction plans, and Construction Quality Assurance (CQA) Plan for Module 1, the initial 40-acre base liner system for the Foothill Sanitary Landfill (Foothill).

The documents included leachate storage facilities. These documents were prepared concurrently with documents for North County Sanitary Landfill (NCSL) Module 4, for County bid and award of one major construction contact.

An engineering evaluation was prepared to document the feasibility of excavating, crushing and processing on-site cobbles for use as a lower cost source of leachate drainage rock for future base liner systems at both Foothill Sanitary Landfill and North County Sanitary Landfill.

APTIM was selected to assist the County in preparing an amendment to the Joint Technical Document (JTD) for permit renewal of this 674-acre Class III landfill in 2011. Our services included the preparation of the required Preliminary Closure and Post-Closure Maintenance Plan (PCPMP) for the site. The PCPMP for Foothill provided modified final grades, base liner details, seismic and slope stability evaluations, permit level design calculations, drawings, technical specifications and an updated CQA plan. Preliminary features for a perimeter service road, toe berm, and drainage channel within the setback area from the property boundary were also developed.

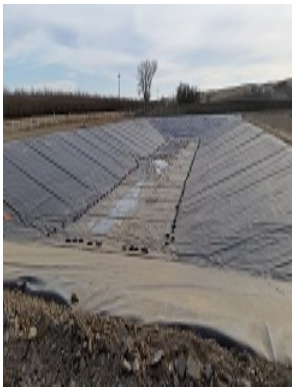
APTIM prepared a comprehensive permit renewal application for a regional landfill, inclusive of design modifications and updated financial evaluations; and preparation of construction bid plan drawings and specifications.

Northern Recycling Compost Facility, Zamora, California (APTIM)

Duration: 2017 - Current
Client Contact Information:
Greg Kelly
Telephone: (707) 255-5200
APTIM Personnel: J.C. Isham, Darrell Thompson, Chris Richgels

APTIM was contracted to design and oversee the installation of two (2) composite lined wastewater Ponds at the Northern Recycling Compost Facility in Zamora, CA in accordance with the State Water Resources Control Board's General Discharge Requirements for Compost Operations. Pond A and Pond B were designed and constructed to contain all run-off from the 25-year, 24-hour design storm. The capacity of Pond A is roughly 6.7 acre-feet and the capacity of Pond B is roughly 8.5 acre-feet. Both ponds prismoidal in shape with two (2) feet of freeboard over the volume required to hold the design storm. Extensive modeling was conducted to calculate the contributory flows from around the facility to these basins and included modeling upgradient stormwater and diverting it off site.

Each pond has a 4:1 side slope to provide for maximum slope stability. The liner system consists of an untextured 60-mil high-density polyethylene (HDPE) geomembrane underlain by a geosynthetic clay liner (GCL) installed over a prepared subgrade. Liners are anchored around the perimeter of each pond in a 3-foot deep anchor trench.



Each pond is sloped at 0.5% along the base to allow for pan lysimeters to be installed at the lowest points to provide leak detection. Lysimeters are 12-foot by 12-foot and 1-foot deep and are constructed of 60 mil HDPE geomembrane welded to the pond liner. Each lysimeter is equipped with four (4) moisture probes set in slotted HDPE pipe laid on the base of the liner. During the course of the engineering and permitting, APTIM worked closely with Yolo County and obtained a grading permit from the Building Department.

Following the preparation of construction level drawings, APTIM assisted Napa Recycling & Waste Services with obtaining construction bids, reviewing bids, and recommending award. During construction, APTIM provided Construction Quality Assurance services, which included onsite inspection, materials testing, overseeing installation methods, documenting construction, updating the RWQCB, and preparing a Construction Completion Report.

Glenn County Landfill, Final Closure, 2019-Present. Artois, Glenn County, California (NV5)

Client Contact Information:
Cole Grube
Telephone: (530) 934-6530

The Final Closure of the Glenn County Landfill (GCLF) Waste Management Unit involves constructing a final cover system over an area of approximately 78.8.3-acres using a double liner geomembrane and geocomposite cover. NV5 provided periodic onsite materials testing services beginning in July 2019 testing compaction of the foundation layer using the onsite borrow are source. The project is estimated to be completed by October 2020. Materials testing includes conformance testing of the geosynthetic materials which include 3,456,000 square feet of 40-mil HDPE textured geomembrane, 613,000 square feet of geocomposite drainage layer, 2,901,000 square feet of geotextile. The earthwork components of the closure construction entails placing and compacting approximately 168,000 cubic yards (cy) of foundation layer, and 192,000 cy of vegetation soil over a 78-acre area, and associated rock lined drainage ditches, culverts, and diversion berms. The completion of the final gas collection system will include 6,400 linear feet of a gas-extraction system using gas-relief trenches.

Red Bluff Landfill, Phase I Final Closure, 2017-2018. Red Bluff, Tehama County, California (NV)

Client Contact Information:
Rachel Ross, Agency Manager
Telephone: (530) 528-1103

The Final Closure of Phase I Waste Management Unit involved constructing a final cover system over an area of approximately 32.3-acres. NV5 provided periodic onsite CQA engineering services beginning on May 11, 2017 and ending on June 5, 2018. The closure construction included entailed placing and compacting approximately 55,000 cy of low-permeability soil and approximately 60,500 cy of vegetation soil over a 32.3-acre area. The CQA services for completion of the final gas collection system included: Observation of extending existing gas-extraction well casing; extended existing polyvinyl chloride (PVC) and HDPE Horizontal Collector to account for the new finished surface grades of the closure cover; observation during fusion welding of approximately 2,400 linear feet of new, 8-inch HDPE standard dimension ratio (SDR) 17 header pipe; and approximately 1,300 linear feet of new 4-inch HDPE SDR 11 lateral pipe; observational of well head installations; testing and observations of trench backfill of HDPE pipes crossing access roads/benches; and photo documentation of the construction activities.

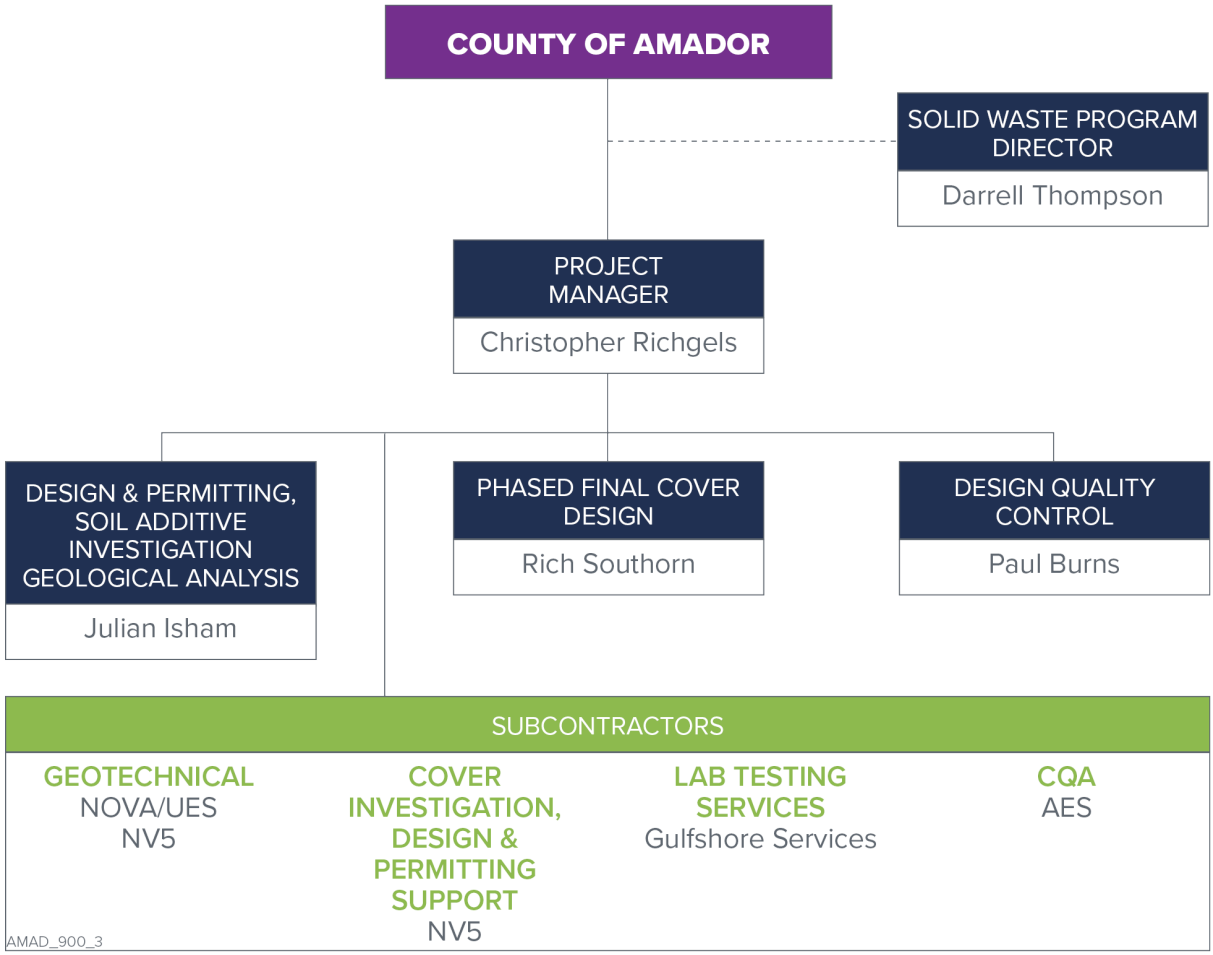
STAFFING

6.0 STAFFING

6.1 Staffing Plan

APTIM/NV5 is prepared to utilize a combination of in-house topic experts along with an array of specialized sub-consultants to provide timely application of all and any necessary expertise for successful project outcome. For preparation of a final scope of work, if APTIM/NV5 is selected from this RFQ process, we will draw from the resources shown in the organization chart and resumes provided below.

6.2 Organizational Chart



6.3 Availability

APTIM/NV5 are prepared to commit all staff and resources required for successful project completion. We can begin this work upon execution of the contract.

Our Project Manager is **Chris Richgels, PE**, a registered engineer in California. Mr. Richgels will the primary point of contact to the County. He will be responsible for overseeing the successful preparation of the reconstructed final cover design and associated plans and specifications. He will direct all investigation and

design effort necessary to confirm the project will meet the county's goals to restore the Phase I final cover function.

Our final cover design will be led by **Rich Southern, PE**. His objective will be to design a phased reconstruction plan for the final cover such that LFG control will be maintained to reduce the county's fugitive LFG emission liability to the environment and human health.

Julian "J.C." Isham will lead investigations into possible vegetative cover amendments that would lead to greater protection of the proposed reconstructed final cover compacted clay liner.

Any stability analyses required for the redesigned/reconstructed final cover will be led by **Dean Stanphill, PE,** with NOVA Geotechnical/UES. APTIM has had a long working relationship with Mr. Stanphill and relies on his expertise for geotechnical work throughout California. NV5 also has geotechnical capacity, thus our proposed team has additional resources to draw from for this specific task if required.

For geotechnical laboratory testing, APTIM has developed working relationships with several testing facilities throughout California. Gulfshore Services (Based out of Baton Rouge, LA) has a laboratory in Rancho Cordova, California thus is in close proximity to site activities for timely sample collection and testing.

While not part of the requested services in the RFQ, APTIM has had a long working relationship with Advanced Earth Sciences, Inc. (AES) in coordinating CQA services for landfill lining and final cover systems. These services can also be provided by NV5 and Gulfshore, so we would have a broad range of staffing availability to commit to the reconstruction of the Phase I final cover system at the Buena Vista Landfill. NV5 also has geotechnical capacity, thus our proposed team has additional resources to draw from for this specific task if required.NV5

6.4 County Staff Requirements

APTIM anticipates the highest need for county staff involvement at the beginning of the project for data collection, such as LFG annual flow patterns, leachate discharge to the Class II impoundment, utility locations and other exploratory phase items discussed in the first two tasks of the proposed workplan presented in **Section 3.3**. We estimate 20-30 hours of staff time to locate these pieces of existing site information. After that, perhaps up to 5 hours of staff time per week for project communication. County management presence at meetings with the RWQCB would also be required. We would anticipate up to two meetings with RWQCB regulatory staff to review and finalize project approvals. However, due to the state response to COVID-19, these meetings may be via video conferencing which APTIM can arrange.

6.5 Resumes

Resumes for key personnel can be found on the following pages.

DARRELL THOMPSON

SOLID WASTE PROGRAM DIRECTOR / **APTIM**

Resume #1

PROFESSIONAL QUALIFICATIONS

Mr. Thompson has over 25 years of combined experience in landfill gas control, gas and leachate systems operations and maintenance, New Source Performance Standards (NSPS) compliance, landfill closure design, landfill redevelopment, construction management and inspection, stormwater and erosion control, waste soils management, and site investigations. Mr. Thompson is APTIM's Western Regional Manager for Solid Waste Engineering and O&M Services. He manages engineering and O&M services for landfill development, closure, gas collection and control system (GCCS) projects, groundwater monitoring, and air quality compliance.

RELEVANT EXPERIENCE

DIRECTOR AND CLIENT PROGRAM MANAGER, APTIM ENVIRONMENTAL & INFRASTRUCTURE, LLC (FORMERLY CB&I ENVIRONMENTAL & INFRASTRUCTURE, INC., DECEMBER 2011 – PRESENT

Project Director, LFG Operations and Maintenance, Ostrom Road Landfill, Wheatland, California

Managed a team of LFG O&M and Reporting personnel, reviewing LFG data, reviewing monthly operating report and semi-annual NSPS reports, recommending LFG system upgrades, coordinating with an on onsite LFG-to-Energy power plant, and ensuring that all contract requirements are met on time and in budget.

Project Manager, LFG Construction CQA Services, Olinda Alpha Landfill, Brea, California

Responsibilities included schedule CQA personnel, attending periodic progress meetings, reviewing CQA daily logs and documentation, communicating construction issues and practices to project personnel and preparing a CQA completion report. The project involved the construction of over 64,000 feet of HDPE piping and associated fitting, valves, and well heads over two construction phases.

27 YEARS

EXPERIENCE

EDUCATION

BS, Civil Engineering, University of Massachusetts, Lowell

REGISTRATIONS/ CERTIFICATIONS

Engineer in Training, No. 114110

TRAINING

OSHA Hazardous Waste Site Health and Safety Training (CFR 1910.120)

OSHA Hazardous Waste Site Supervisor Training (CFR 1910.120)

OSHA Confined Space Entry (CFR 1910.120)

Caltrans 24-Hour SWPPP Support

Project Manager, Enclosed Flare Station, Marsh Road Landfill, Menlo Park, California
Designed and permitted a new enclosed 1,500 scfm enclosed flare station, overseeing construction, and coordinating the initial performance test.

Project Manager, Engineering Services and CQA, Avenal Landfill, Avenal, California
Mr. Thompson managed the design, permitting, bidding and CQA of a new GCCS and enclosed flare station at the Avenal Landfill. Responsibilities include the design and permitting of a 1,500 scfm flare, 25 landfill gas extraction wells, and various header and landfill gas piping, preparing an NSPS GCCS Design Plan, and amending the landfill's Title V permit. Mr. Thompson assisted with obtaining and reviewing construction bids and managing CQA during construction of the GCCS.

Project Manager, Design & Installation of GCCS, Shasta County West Central Landfill, Igo, California
Mr. Thompson's responsibilities included designing the GCCS piping network, perimeter condensate sumps, vertical LFG collection wells, and an enclosed flare station with condensate injection. Mr. Thompson supervised the preparation of an NSPS Design Plan, Startup, Shutdown, and Malfunction (SSM) Plan, Green House Gas (GHG) Monitoring Plan, and preparation of an Operations and Maintenance (O&M) training program for County personnel. He supervised the preparation of an O&M Manual for the GCCS and flare station and the as-built report.

Project Manager, Design & Installation of GCCS, Washington County Landfill, Washington, Utah
Mr. Thompson's responsibilities included designing the GCCS piping network, condensate sump, vertical LFG collection wells, and an open (utility) flare station. Work included oversight of the preparation of a Startup, Shutdown, and Malfunction Plan, Surface Emissions Monitoring Plan, Hydrogen Sulfide Monitoring protocol, and implementation of a GHG Monitoring Plan. He supervised the preparation of an O&M Manual for the GCCS and flare station and the as-built report.

Project Manager, Performance Evaluation, Central Landfill, Sonoma County, California
Evaluated nearly 200 wells at the Central Landfill in Sonoma County, CA and inspecting the layout of headers, sumps, and reviewing power plant operations to assess where improvements in landfill gas recovery could be made to increase energy production and decrease landfill emissions.

Project Manager, Engineering Services, Design of Reinforced Fiberglass Leachate Storage Tanks, American Canyon Landfill, Napa Vallejo Waste Management Authority
Managed the design of four 27,500-gallon fiberglass reinforced leachate storage tanks and distribution piping for the American Canyon Landfill.

Project Manager, Groundwater, Stormwater, and Leachate Monitoring, Waste Management of Hawaii Landfills, Hawaii
Managed groundwater, stormwater, and leachate monitoring services provided at three (3) landfills operated by Waste Management of Hawaii.

Project Manager, GCCS Improvements, Sunshine Canyon Landfill, Sylmar, California
Prepared an updated NSPS Design Plan, design of over 150 vertical and horizontal landfill gas collection wells, final header improvements, improvements, lateral piping, and assisted with the preparation of a landfill gas Master Plan.

Project Manager, GCCS Improvements, Coffin Butte Landfill, Corvallis, Oregon
Designed vertical and horizontal gas extraction wells, collector piping, down-hole pumps, air and condensate force main, and a new compressor station.

Project Manager, Enclosed Flare Station Design, West Contra Costa County Landfill, Richmond, California
Designed a new enclosed flare station to process landfill gas from Class 1 and Class 2 landfill gas well fields and to route Class 2 landfill gas to an onsite power plant. Challenges included separating Class 1 LFG from Class 2 landfill gas and designing instrumentation and valving to divert LFG based on power plant demand.

Project Manager, GCCS Improvements, Waste Management Inc., Various Landfills, California and Washington
Landfills include:

- Kirby Canyon Recycling and Disposal Facility
- Guadalupe Rubbish Disposal Facility
- Altamont Landfill Resource Recovery Facility
- Redwood Landfill
- Tri Cities Recycling and Disposal Facility
- Anderson Landfill
- Olympic View Landfill
- Wenatchee Regional Landfill

Responsibilities included the design of gas extraction wells, collector piping, condensate management systems, and enclosed flare stations or improvements. Assisted with the bidding and construction oversight of all projects and prepared CQA Reports.

Project Manager, O&M of GCCS, Western Regional Sanitary Landfill (WRSL), Lincoln, California
Responsibilities included supervising field technicians performing maintenance of the GCCS, troubleshooting flare station operations, coordinating regular source testing of the WPWMA flare, designing improvements to landfill gas collection, preparing monthly and quarterly reports in compliance with the NSPS and local air district regulations. Ensured compliant operation of the GCCS and providing landfill gas to an onsite power plant. Supervised the preparation of an updated NSPS Design Plan and SEM Plan for WRSL.

Project Manager, O&M of GCCS, Azusa Land Reclamation Company Landfill, Republic Services Group, Inc., Azusa, California
Responsibilities included supervising field technicians performing well field monitoring, operating the condensate treatment system and leachate pumps, and preparing compliance reports.

Project Manager, O&M of GCCS, Bradley Landfill and Recycling Center, Waste Management, Inc., Sun Valley, California
Responsibilities included managing the operations and compliance of a 200-acre well field, three enclosed flares, a landfill gas compression plant, and providing landfill gas to two power plants.

Project Engineer and O&M Support, Los Angeles Department of Water and Power (LADWP) Microturbine Facility, Lopez Canyon Landfill, Lakeview Terrace, California
Responsibilities included assisting in the engineering evaluation and inspection of LADWP's gas processing equipment installation and provided O&M training of the gas processing equipment to LADWP personnel. Responsible for preparing training aids and an O&M manual for the gas processing equipment, and for overseeing the preparation of system as-built drawings.

CHRISTOPHER RICHGELS PE

PROJECT MANAGER / **APTIM**

Resume #2

PROFESSIONAL QUALIFICATIONS

Christopher M. Richgels is a civil engineer with over30 years of experience in civil design and construction. He has managed design and construction of landfill gas to energy power plants, construction plans and specifications, contract and construction management, landfill gas monitoring, solid waste landfill operations, solid waste transfer station operations, solid waste system vertical integration analysis, regulatory compliance, asset management, subsurface barrier wall installations, Class I landfill containment and closure, Municipal Solid Waste Landfill Closure and Post-Closure Plan preparation, Joint Technical Document preparation and review, EIR preparation and California Environmental Quality Act compliance, monitoring well installations, subsurface remediation, assessment and remediation of landfills, risk assessment and environmental due diligence.

RELEVANT EXPERIENCE

Crazy Horse Landfill Closure, Salinas Valley Solid Waste Authority, California

Mr. Richgels prepared the Final Closure Plan and Post-Closure Maintenance Plan, construction documents, and LFG system improvement plans and for the Crazy Horse Landfill in Monterey County, California. His design used a new synthetic final cover system (ClosureTurf) – the first application in California – and had it successfully permitted by state regulatory agencies. This design replaced most of the standard drainage and access road infrastructure with specially designed applications of the synthetic final cover system. The site is at the top of the Crazy Horse Canyon Road, hence access roads on the closed surface were designed to support local fire department equipment which wished to use the site as an Incident Command Post in the during local wildfire events.

Typical drainage infrastructure such as overside drainage culverts and concrete ditches were replaced with a hybrid of the ClosureTurf system utilizing a sand-cement infill that would resist concentrated water flow velocities as high as 40 ft/sec. Mr. Richgels designed over side drainage channels to replace the typical culverts and concrete lined ditches to allow for an integrated use of the ClosureTurf system with no additional seaming of geosynthetics.

33 YEARS

EXPERIENCE

EDUCATION

BE, Civil, San Jose State University, 1987

REGISTRATIONS/ CERTIFICATIONS

Professional Engineer, Civil, California License No. 477657, Active

Portola Landfill Closure, Portola, California

Mr. Richgels conducted a drainage analysis for a ClosureTurf final cover at the 8.5-acre Portola Landfill in Plumas County. This site is located at approximately 5,000 ft MSL so subject to snowfall unlike the Crazy Horse site in Monterey County. Drainage analysis and design recommendations were prepared using 100-yr peak storm conditions for the Portola location. These were done for the City of Portola in preparation for final cover construction. The design involved a series of diversion berms draining to overside drainage channels Mr. Richgels first conceived of for the Crazy Horse final cover system. These overside channel designs utilize a sand-cement infill similar to mortar to stabilize the channel base.

Kiefer Landfill Alternative Cover Assessment Program, Sacramento County, California

Mr. Richgels coordinated with the US Federal Environmental Protection Agency (USEPA) to evaluate use of an evapotranspirative cover system using onsite soils under the USEPA's Alternative Cover Assessment Program (ACAP). He developed project goals for the for the Quality Assurance Project Plan for maximum acceptable infiltration rates through the proposed ET cover system at the Kiefer Landfill. He managed construction of the ACAP test facility using onsite soils and evaluation of the test results for Sacramento County. This led to an ACAP final cover design for the site. The design utilizes onsite soils and local, naturally occurring plant communities to provide adequate soil water storage and thriving plant communities to absorb the stored water.

El Portal Landfill Closure, National Park Service, Yosemite National Park, California

Mr. Richgels was on the design team and served as the CQA Officer for the El Portal Landfill closure. The El Portal Landfill was an unregulated site that served as the NPS's dumpsite for Yosemite National Park campground waste – mostly ash and tree stumps – along the Merced River outside the park. The site was originally 3.1 acres in size. The NPS wished to utilize the site as a park administrative office park and corporation yard. This required 0.9 acres of the dump site waste to be relocated into the center to provide proper site grading in accordance with subtitle D. After placement of a foundation layer harvested from local soil sources, a geomembrane liner was installed followed by a geotextile separation layer, aggregate base and asphalt paving.

Elk Grove Landfill Closure, Sacramento County, California

The Elk Grove Landfill was a 30-ac area fill landfill that operated until 1980. It served as an equestrian riding area until closure preparation began in the 1990s. During the summer of 1991, the site was closed with a prescriptive soil based final cover consisting of 2 feet of foundation layer soil, a 1-foot thick compacted clay liner (CCL), a 20-mil PVC vapor barrier, and a 1-foot vegetative layer. The vapor barrier was intended to minimize desiccation of the CCL. It was placed with 1-foot gaps on either side of the sheets to allow landfill gas venting. Mr. Richgels was the lead engineer on the project in preparing construction plans and specifications. Soil quantity control was conducted by use of 100-ft grid "boot" staking. The boot staking was used to control soil layer thickness rather than finished grade due to the soft nature of the subgrade materials (solid waste).

The foundation layer was built with onsite soils and some import from the county's Kiefer Landfill facility. The CCL was constructed using low permeability Ione clay. This clay posed some problems during construction with desiccation cracking, so construction had to be phased allowing placement of CCL soil,

relative compaction testing, permeability testing sample collection, and acceptance, before the overlying vapor barrier and imported vegetative soil layer was placed.

Subsequent to closure activities, the sealing action of the final cover increased LFG migration in the surrounding soils significantly such that an emergency flare and targeted LFG extraction wells had to be installed to protect the nearest residence.

Approximately 10 years after closure, Mr. Richgels designed a parking lot and equestrian trail for beneficial use of the site. To date, the final cover and equestrian site are functional.

Kiefer Landfill Module 1 South Slope Closure, Sacramento County, California

Mr. Richgels was on the design team and served as the CQA inspector for a 30-ac final cover installation at the county's Kiefer Landfill. The project utilized onsite soils for the 2-foot foundation layer, compacted clay liner and vegetation layer. This was the initial final cover installation at the site.

ENGINEERING AND FACILITIES MANAGER, SACRAMENTO COUNTY, CALIFORNIA

Mr. Richgels managed design and operations of Sacramento County's Kiefer Landfill and waste transfer operations for 13 years. During that time, he managed the 428-ac expansion of the site through California Environmental Quality Act (CEQA) and state permitting processes. Kiefer Landfill is now 660 acres in permitted size and received an average of 2,800 tons/day of refuse during the week, peaking close to 3,500 tons at the time. Duties included; infrastructure design, preparation of landfill gas to energy power plant construction plans and specifications, execution of public construction contract process, review of all other construction plans for landfill improvements, solicitation and procurement of professional service agreements, management of facility operations including disposal operation, transfer operation, and recycled commodities, developing overall fill sequencing and module design for the landfill, , groundwater monitoring and remediation, landfill gas management and recovery, personal management (staff of seven professional and sub-professional employees, 70 heavy equipment operators and site supervisors), capital and operational budget development and management, and facility business development.

In 1995, landfill gas control was installed in the 165-acre unlined module under Mr. Richgels' supervision. The system included 73 interior wells to control internal gas pressures and 32 perimeter wells along a 3,000 foot road frontage to control subsurface migration. A pneumatically driven condensate collection system was also installed to discharge collected condensate to a holding tank before injecting into the onsite 5,000 cfm flare for destruction. Gas from the wells was initially conveyed to the flare. Two landfill gas to energy power plants with 5 internal combustion engines were built onsite to generate electrical power. The power plants produce net salable power of 13.7 mW to the Sacramento Municipal Utility District.

Operation of the plants required coordination with SMUD power service operations, the landfill gas collection system operator, and permit compliance efforts with the Sacramento Metropolitan Air Quality Management District.

JULIAN "J.C." ISHAM PG, CEG, CHG

Resume #3

DESIGN & PERMITTING, SOIL ADDITIVE INVESTIGATION, GEOLOGICAL ANALYSIS / **APTIM**

PROFESSIONAL QUALIFICATIONS

Mr. Isham has over 40 years of experience in hydrogeologic investigations, surface water and groundwater resource development, storm water and wastewater compliance, water quality studies, engineering and environmental geology, CEQA studies and remedial action program development. Mr. Isham is also responsible for maintaining client and regulatory liaison, providing operation guidance to industrial, solid waste, and public agency managers, and providing compliance with state and federal regulations. In addition, Mr. Isham provides expert witness testimony on groundwater and surface water issues.

As a Member of the Central Valley Regional Water Quality Control Board he was instrumental in the approval of the mercury TMDL for the Sacramento River Basin. He also was instrumental in the approval for the wastewater discharge permit for the Sacramento Regional Wastewater Treatment Plant. While a Board Member, he received specialized training from one the chief attorneys of the State Water Resources Control Board on the execution of Orders issued by the RWQCB. This training is only available to Board Members. He has been elected and appointed by his professional peers to many positions of responsibility including: past Sacramento section Chairman of the Association of Engineering and Environmental Geologists, past Chairman of the Architects and Engineers Conference Committee of California, past Sacramento and San Francisco section Vice-President of Groundwater Resources Association of California. As such, Mr. Isham has received several professional service awards. He is currently a member of a panel of experts on the CVRWQCB's Groundwater Monitoring Advisory Workgroup, which provides water quality guidance on surface water, storm water, and groundwater.

RELEVANT EXPERIENCE

VARIOUS SOLID WASTE LINER DESIGN PROJECTS

- Mr. Isham managed the permitting and design of many composite base liner and final cover systems at landfills in northern California including those is San Joaquin, Sacramento, Stanislaus, Calaveras, Solano, Yuba, Fresno, Tulare, Placer, Napa, Kern, Sonoma,

40 YEARS

EXPERIENCE

EDUCATION

Master of Science, Geology, Michigan State University, East Lansing, Michigan, 1973

Bachelor of Science, Geology, University of Wisconsin, Oshkosh, Wisconsin, 1972

REGISTRATIONS/ CERTIFICATIONS

Licensed Engineering Geologist, 1986, 1321, Active, California, 06/2013

Professional Geologist, 1984, 3893, Active, California, 06/2013

Professional Hydrogeologist, 1995, 007, Active, California, 06/2013

PROFESSIONAL AFFILIATIONS

Association of Engineering & Environmental Geologists, past section Chairman

Association of Ground Water Scientists & Engineers

Groundwater Resources Association, past section Vice President

California Board of Registration of Geology & Geophysicists, past Committee Chairman

Engineers & Architects Conference Committee of California, past Chairman

Monterey, Glenn, Mendocino, Santa Clara, and Colusa counties. In San Joaquin County, he was involved with the base liner design at the North County and Foothill Landfills. In Tulare County, he prepared a special report to the Water Board that allowed the County to lower the base and increase the fill capacity at the Woodville Landfill.

- Mr. Isham managed the construction quality assurance programs for over a dozen composite base liner systems and several final cover systems at landfills in northern California; including the American Canyon Landfill in Napa County, the YSDI, Ostrom Road, and Ponderosa Landfills in Yuba County, the Hay Road Landfill in Solano County, the Willits Landfill in Mendocino County, and the Eastern Regional and Western Regional Landfills in Placer County. He managed the design and construction of a special slurry wall at the toe of the York Ranch Landfill in Mendocino County.
- Mr. Isham managed the Liner Performance Demonstration Report and the hydrogeologic modeling to support the expansion of several landfills in the Central Valley of California including San Joaquin, Fresno, Sacramento, Stanislaus, and Glenn counties. In San Joaquin County, he prepared the VLEACH monitoring reports at the North County and Foothill Landfills. He managed the Evaluation Monitoring Program and the design, permitting and construction of the final cover on the mine waste cell at the Jamestown Mine under contract to the Central Valley Water Board and the Attorney General's Office.
- He managed reclamation feasibility study for the South Coast Landfill in Mendocino County, which is situated on the San Andreas Fault. Mr. Isham performed geologic and engineering investigations and closure of a Class I hazardous waste management unit at the John Smith Landfill in Hollister, California.

VARIOUS WASTEWATER QUALITY PROGRAMS

- Mr. Isham managed the compliance with California Title 27 monitoring requirements at dozens landfills in San Joaquin, Sacramento, Solano, Napa, Yuba, Mendocino, Shasta, Kern, Sonoma, Monterey, Glenn, San Francisco, San Mateo, Alameda, Santa Clara, Stanislaus, Colusa, Calaveras, and Contra Costa counties. In San Joaquin County, he manages the water quality programs at the North County, Foothill, Harney Lane, and Corral Hollow Landfills.
- He coordinated hydrogeologic investigation; aquifer testing; and design, installation, operation, and maintenance of remediation systems at the Altamont Landfill in Alameda County, the Austin Road Landfill in San Joaquin County, the Sonoma Central Landfill in Sonoma County, American Canyon Landfill in Napa County, and the Geer Road landfill in Stanislaus County.

RICH SOUTHORN PE, PG

PHASED FINAL COVER DESIGNER/ **APTIM**

Resume #4

PROFESSIONAL QUALIFICATIONS

Mr. Southorn is a lead engineering manager that works with numerous project managers in APTIM's Solid Waste Services group. Mr. Southorn oversees facility design, siting, and environmental permitting of solid waste and coal combustion residual (CCR) facilities, including landfills, impoundments, transfer stations, household hazardous waste facilities, and compost facilities. Siting and permitting activities include facility design and analyses, preparation of operating, contingency, and closure plans, and interaction with permitting agencies, elected officials and members of the public. Mr. Southorn's project management responsibilities include coordination and supervision of the project team consisting of engineers, technicians, geologists, planners, and CAD drafters. Mr. Southorn has previously served as a Radiation Safety Officer.

Engineering design: Mr. Southorn is experienced in developing site layouts and analyzing designs for multiple facilities. This has included infrastructure, base and final cover liner systems, leachate extraction and cleanout systems, and landfill gas control systems, and stormwater management controls. Mr. Southorn oversees geotechnical stability evaluations, stormwater modeling, leachate collection system evaluations, landfill gas collection system design, and road design/queuing analyses for these facilities. Mr. Southorn is a Certified Professional in Stormwater Quality and is well versed in hydraulic and hydrologic modeling with SWMM, TR-20/55, and RAS approaches.

Design investigations and location studies: Mr. Southorn has overseen and participated in numerous hydrogeologic investigations that characterize subsurface stratigraphy, hydrology/hydrogeology, and groundwater flow for the purpose of site development. Mr. Southorn personally logged over 1 mile of soil for hydrogeologic investigations.

RELEVANT EXPERIENCE

LANDFILL DESIGN AND PERMITTING

Hickory Ridge Landfill – Horizontal and Vertical Expansion

Managed the successful siting of a horizontal and vertical expansion of the Hickory Ridge Landfill, achieving unanimous siting approval.

20 YEARS

EXPERIENCE

EDUCATION

BS, Geological Engineering and , Geology/Geophysics (double major), University of Wisconsin-Madison

REGISTRATIONS/ CERTIFICATIONS

Professional Engineer – Alabama, Delaware, Georgia, Hawaii, Illinois, Indiana, Kansas, Maryland, Michigan, New York, Ohio, Pennsylvania, South Carolina, Tennessee, Virginia

Professional Geologist – Illinois

TRAINING

SWANA Groundwater Monitoring

Nuclear Gauge Safety Training Program

SWANA Managing Landfill Gas at MSW Landfills

DOT Hazardous Materials

Developed Illinois EPA Permit Application that is currently under review. Design was developed in conjunction with challenging topographic relief and a network of jurisdictional waters and included all geotechnical, stormwater, leachate analyses and development of all operation and construction plans. Oversaw the facility layouts and designs, coordinated sub-consultants, and provided oversight for all field and office activities.

Peoria City/County Landfill – Site 3 Expansion

Managed the successful siting and permitting of a 10-million-ton landfill expansion that involved extensive community input and feedback from the Heart of Illinois Chapter of the Sierra Club. The project involved complete development of both stand-alone and layover design options. Both options were presented in public meetings on behalf of the City and County of Peoria, the owners of the facility. The stand-alone design was ultimately selected to be included within the Siting Application. Oversaw the facility layouts and designs, coordinated sub-consultants, and provided oversight for all field and office activities.

Indian Creek Landfill No. 2 Expansion

Assisted in developing of an local siting application for a landfill expansion of approximately 16.25 million ascy at a municipal landfill within Tazewell County, Illinois. Developed the facility layout and design that emphasized hummocky topography and stormwater detention basins that are naturally occurring in appearance. Wrote the CQA manual and performed all stormwater analyses.

Environtech Landfill – Phase III Expansion

Managed the engineering and design aspects of 14-million ascy landfill expansion in Morris, Illinois. Developed the facility layout and design and am coordinated geotechnical, stormwater, and leachate design calculations.

Newton County Landfill Expansion

Coordinated agency review and approval of a horizontal and vertical expansion permit. The permit application included geotechnical analyses, stormwater analyses, pipe crushing analyses, and a landfill development plan.

Orchard Hills Landfill Expansion

Managing the engineering and design aspects of 13-million ascy landfill expansion in Rockford, Illinois. Developed the facility layout and design and am coordinating geotechnical, stormwater, and leachate design calculations.

Veolia E.S. Zion Landfill - Site 2 East Expansion

Managed the development of a local siting application for a 26.45 million ascy landfill expansion in Zion, Illinois. Developed the facility layout and design, coordinated sub-consultants, and provided oversight for all field and office activities.

Pescadito Landfill Greenfield Development

Coordinated engineering design services for a greenfield landfill development near Loredo, Texas. Developed the facility layout and design and am coordinated geotechnical, stormwater, and leachate design calculations.

PAUL BURNS PE

DESIGN QUALITY CONTROL / **APTIM**

Resume #5

PROFESSIONAL QUALIFICATIONS

Experienced leader with over 30 years technical and operational expertise with a track record of effective leadership to help businesses, government entities and communities address complex solid waste challenges in ways that are safe, sustainable and cost-effective. Experienced working at all levels in organizations, managing teams of engineers, scientists and environmental managers, and advancing strategic objectives with public agencies and elected officials. Highly skilled in public meeting management, contract negotiations and technical writing.

RELEVANT EXPERIENCE

SENIOR CLIENT PROGRAM MANAGER, APTIM, SCOTTSDALE, ARIZONA

Responsibilities include providing support to client projects and office staff as a senior technical consultant. Also responsible for business development, preparing technical portions of major construction and design engineering proposals.

Recent assignments have included:

- The redesign of a main entrance for a large Materials Recovery Facility in Northern California with the goal of improving traffic flow in and out of the facility, reduce stacking of waste hauling vehicles on the public road and improving overall safety of the facility entrance.
- Design and construction of a mine dewatering system for a closed gold mine in Northern California. The system will manage over 350 million gallons per tear in order to maintain water levels within permit requirements;
- Preparation of construction documents for a solid waste landfill disposal cell and associated infrastructure in Northern California.

PRINCIPAL, CIVIL & ENVIRONMENTAL CONSULTANTS, INC., PHOENIX, ARIZONA

Responsible for business development activities, management of staff to accomplish company goals and objectives to provide top-level consulting services to Solid Waste clients throughout the US. Projects include planning and design for landfills, transfer station and

30 YEARS

EXPERIENCE

EDUCATION

BS, Civil Engineering, University of Maine at Orono, Orono, Maine, 1986

REGISTRATIONS/ CERTIFICATIONS

Professional Engineer, Civil, 1991, 7215, Inactive, Maine, 12/2008

Professional Engineer, 1989, 7646, Inactive, New Hampshire, 12/2008

AFFILIATIONS

American Society of Civil Engineers, Member, 1988

maintenance facilities as well as financial models to provide clients with the tools to make solid decisions regarding capital and acquisition expenditures.

DIRECTOR OF OPERATIONS, WASTE MANAGEMENT, PORTLAND, OREGON

Responsible for P&L and all other aspects of the Post Collections Group, including management of operations, compliance, engineering/construction and landfill gas management at seven landfills (six Subtitle D, one Subtitle C) and 15 transfer stations. Post Collections Group included 270 employees (managers, hourly personnel, engineers, environmental protection managers, landfill gas operations personnel, fleet managers/techs and safety).

Worked closely with Finance group to identify, model and secure growth projects and major business development opportunities to ensure adequate return. Provided leadership to achieve improved revenue and margin significantly (>25% between 2010 and 2017) while maintaining compliance and safety goals. Annual Post Collections Group revenue of $250M with an annual capital budget of $16M.

Directed multifaceted landfill expansion process that has involved controversial land use changes, multi-stage approvals and permitting from county and state regulators, 20 public meetings and legal challenges to the state supreme court as well as 50 front-page news stories. Key to leadership success has been the ability to achieve team alignment with layered work plans and messaging for customers, elected officials, community stakeholders, facility neighbors and media.

SENIOR PROJECT MANAGER, WHEELABRATOR TECHNOLOGIES, HAMPTON, NEW HAMPSHIRE

Management of design, construction and operations projects. Assisted operations and engineering with Waste to Energy plant shutdowns - from scheduling to vendor quotes/work completion (typically ranged from $2M to $20M events). Provided technical support for Wheelabrator permitting, business development, acquisitions and plant operations.

Acted as Wheelabrator liaison for evaluation of new technologies such as plasma gasification, anaerobic digestion and biomass. Met with owners/developers of the new technologies, venture capitalists and regulatory agencies as well as visiting the pilot plants and small-scale plants.

Worked with the Business Development Team on a 125 tpd/$250M Waste to Energy plant on the Big Island of Hawaii. Conducted County Council briefings and public information meetings across the island.

DIRECTOR OF OPERATIONS, WASTE MANAGEMENT OF HAWAII, KAPOLEI, HAWAII

Responsible for the overall operation of Waste Management's three contracted disposal facilities - Oahu, Hawaii and Kauai. For Oahu, responsible for all aspects of the operation. For the Hawaii and Kauai contracts, responsible for design and construction, landfill operations and site supervision.

Responsible for the P&L, personnel management, safety, engineering and compliance. Also responsible for contract maintenance for the three operating contracts, contracting general and specialty contractors for construction, managing consultants for environmental monitoring, public meetings, hearings and County Council briefings for all three facilities.

GROUP ENGINEER, WASTE MANAGEMENT, PLACERVILLE, CALIFORNIA

Responsible for management of design, permitting, construction and compliance activities for operating landfills, closed landfills, recycling facilities and transfer stations. Coordinated preparation of annual landfill rate packages for the 43 West Group landfills. Managed annual aerial mapping activities for the West Group landfills - $325,000 annual agreement, provided engineering support for six landfills (two in CA, three in NM, one in NV), nine transfer stations and multiple hauling locations. Managed $70M in capital projects (approx. $9M for 2004), ranging in size from a few thousand dollars to $6 million. Managed design and construction of a new, three mile long access road for a 5,000 tpd site in NV ($2.9M project cost). Managed the preparation of solid waste facility applications for two landfills in New Mexico (22 Mbcy and 62 Mbcy).

DIVISION ENGINEER, WASTE MANAGEMENT, NORRIDGEWOCK, MAINE

Obtained all permits from the Town, State and Army Corps of Engineers for a thirty-six-acre secure solid waste landfill in Maine, including an 11-acre wetland mitigation project. The permits extended the active life of the facility by approximately 10 years. Regulatory permitting and compliance activities for Maine divisions including four secure landfill units, two closed landfill units and eight solid waste transfer stations. Prepared annual engineering, consulting and construction budgets for the assigned facilities.

PAT DUNN PG, CHG

HYDROGEOLOGIST / **NV5**

Resume #6

PROFESSIONAL QUALIFICATIONS

Pat has more than 30 years of hydrogeology and environmental permitting experience. His responsibilities include project management; preparation of hydrogeologic and environmental assessments for water resource projects, wastewater and hazardous/solid waste sites, and agricultural and food processing facilities throughout California. Pat is familiar with and has a working knowledge of federal and state environmental and drinking water regulations. He has been a project manager for several large environmental, water supply, and landfill projects located in the counties of Amador, El Dorado, Inyo, Merced, Sacramento, San Joaquin, Yuba, and Yolo. Pat has managed more than 15 monitoring projects regulated by Title 27 with the same scopes of work and negotiated many facility regulatory permits and compliance agreements. He has extensive experience with wastewater land application, solid and hazardous waste facilities, including siting and remedial investigations/feasibility studies and closure evaluations.

RELEVANT EXPERIENCE

Buena Vista Landfill, County of Amador, California

Pat has been working at BVL for over seventeen years assisting the County with compliance monitoring related to storm water, surface water and groundwater. He worked on the revision of the WDRs, the storm water plan updates and providing ongoing monitoring and corrective action projects. Work efforts include extensive groundwater evaluations and installation of remediation system to address surface water and groundwater impacts from leachate and landfill gas impacts. The extensive monitoring system composed of 32 sample locations are reported semiannually.

Closed Elk Grove Landfill, County of Sacramento Department of Waste Management and Recycling:

This site has had groundwater VOC impacts from landfill gas. Work activities included the delineation of a contaminant plume and the installation of groundwater remediation system. The groundwater remediation system was successful in eliminating impacts to existing beneficial uses.

30 YEARS

EXPERIENCE

EDUCATION

MS Hydrogeology - University of Birmingham - United Kingdom (1990)

BS Geology - University of Iowa (1984)

REGISTRATIONS/ CERTIFICATIONS

Professional Geologist - CA #7001

Certified Hydrogeologist - CA #900

Professional Geologist - NE #G009

AFFILIATIONS

Association of Environmental and Engineering Geologists,

Groundwater Resources Association

Florin Perkins and Jackson Road Landfills, Nancy Cleavinger:
Developed and implemented an Evaluation Monitoring Work Plan in response to a Regional Water Quality Control Board – Region 5, Order for Technical Reports and Local Enforcement Agency Landfill Gas Investigation and Monitoring Directive. Field activities included surface geophysical survey, cone penetrometer testing, in-waste trenching and drilling, installing five additional groundwater wells, and nineteen depth discrete landfill gas probes. Investigation finding and proposed corrective actions were presented in an Evaluation Monitoring Plan Report, Engineering Feasibility Study/Corrective Action Plan and Closure, and Post Closure Maintenance Plan. Completed routine landfill gas and groundwater monitoring toward regulatory compliance.

Meyer's Landfill, County of El Dorado:
Developed and implemented an Evaluation Monitoring Work Plan for landfill gas in response to a State and Federal Requirements. Ongoing landfill gas monitoring has been used to assess compliance.

Steele Canyon Landfill, Berryessa Garbage Services, Napa County, CA:
Monitoring network consists of four groundwater wells and six surface water locations. Work efforts include sampling from 4-inch monitoring wells with method verification sampling to macropurge sampling technique. Sampling is performed on a semi-annual schedule with reporting on a semi-annual and annual schedule. Groundwater quality is evaluated through statistical and non- statistical assessment.

Closed Halehaka Landfill:
Performed closure evaluation that included the redevelopment of the landfill as a golf course near the town of Lihue.

Large Regional Landfill Facility, Waste Management, Inc., Douglas County, NE:
Work activities included the hydrogeologic assessment efforts toward the permitting of this Waste Management Inc. regional landfill.

Northwest New Mexico Solid Waste Authority Landfill, Gallup, NM:
Work included siting investigations and hydrogeologic assessment in support of the landfill permit application.

DON OLSEN PE, PG, CEG, CHG

ASSOCIATE ENGINEER / **NV5**

Resume #7

PROFESSIONAL QUALIFICATIONS

Don Olsen, PE, PG, CEG, CHG, is an Associate Engineer and former principal of Holdrege & Kull. He has been in the industry for 43 years, the last 22 of which have been with NV5. His experience includes geotechnical engineering, civil engineering, engineering geology, hydrogeology, and construction management. He is a Subject Matter Expert with the California Board for Professional Engineers, Geologists and Land Surveyors and assists with preparation and grading of registration exam questions.

RELEVANT EXPERIENCE

Buena Vista Landfill Phase 1 Final Cover Investigation, Amador County, California

NV5 performed an investigation of the existing Phase 1 final cover to determine its integrity to serve as an effective seal for the purpose of minimizing infiltration of winter storm water from entering the underlying waste materials. The California Regional Water Quality Control Board approved the proposed cover investigation Work Plan prepared by NV5. The investigation entailed a surface reconnaissance to identify deep desiccation cracks and animal borrows that have damaged the existing final cover and a subsurface investigation with a backhoe to excavate 10 exploratory trenches to observe the depth of representative desiccation cracks and animal borrows and to collect representative samples of the low-permeability soil layer for laboratory testing. NV5 used the field and laboratory data to prepare recommendations for temporary repair measures to be implemented during the 2019-20 summer construction season and permanent repair measures to be implement during the 2020-21 summer construction season.

Buena Vista Landfill Phase 1 Final Temporary Cover Repair CQA, Amador County, California

NV5 provided construction quality assurance (CQA) engineering services to document the temporary repairs of the existing Phase 1 final cover from October 28 through 31, 2019. The final cover repairs were completed consistent with the November 1, 2019 California Regional Water Quality Control Board requirements for the temporary repair of the final cover prior to the 2019-20 wet winter season. The identified

43 YEARS

EXPERIENCE

EDUCATION

MS in Geology, Civil Engineering (geotechnical emphasis), San Jose State University

BS in Engineering Geology, San Diego State University

REGISTRATIONS/ CERTIFICATIONS

Professional Engineer, CA No. 49514

Professional Geologist, CA No. 5329

Certified Engineering Geologist, CA No. 1853

Certified Hydrogeologist, CA No. 271

desiccation cracks and animal borrows areas were repaired by stripping the vegetation, ripping the exposed soil to a minimum depth of 18-inches below the existing ground surface with a backhoe equipped with a steel shank, moisture conditioned and then compacted with a kneading foot roller wheel to achieve a minimum relative compaction of 90 percent of the American Society for Testing and Materials (ASTM) D1557 maximum dry density with a moisture content between 3 and 5 percentage points greater than the D1557 optimum moisture content. Finally, a vegetative mulch layer was placed over the disturbed areas to minimize soil erosion during the 2019-20 wet winter season, as well as, implementing best management practices (BMP) to minimize soil erosion consistent with the approved site Storm Water Pollution and Prevention Plan (SWPPP).

Neal Road Landfill Modules 5 Phase A Base Liner CQA, Butte County, California

This project consisted of construction of an approximately 6-acre base Module 5 Phase A base liner system in 2017. The CQA engineering services commenced in June and were completed in October of 2017 and entailed constructing general earth fills and a containment base liner system. The base liner consisted of layers described from bottom to top: 3-inch-thick protective soil slope veneer, 24 inch thick compacted clay liner, geosynthentic clay liner (GCL), 60-mil-thick high-density polyethylene (HDPE) geomembrane, geocomposite drain-net, 24-inch-thick protective operations soil layer, and a temporary protective geotextile cover with sandbag anchors.

Neal Road Landfill Modules 4 Phase F Base Liner CQA, Butte County, California

This project consisted of construction of an approximately 2-acre base Module 4 Phase F base liner system in 2016. The CQA engineering services commenced in April and were completed in July of 2016 and entailed constructing general earth fills and constructing a containment base liner system. The base liner consisted of the following layers described from bottom to top: 3-inch-thick protective soil slope veneer, geosynthentic clay liner (GCL), 60-mil-thick high-density polyethylene (HDPE) geomembrane, geocomposite drain-net, 24-inch-thick protective operations soil layer, and a temporary protective geotextile cover with sandbag anchors.

Neal Road Landfill Phase 2 Final Closure Modules 1 And 3 CQA, Butte County, California

CQA engineer for construction of the approximately 21-acre final cover systems in 2007. The project entailed earthwork grading to prepare the existing landfill intermediate cover surface for placement and compaction of the final cover system materials. The final cover system consisted of the following layers described from bottom to top: 12-inch-thick foundation soil layer, 12-inch-thick compacted clay liner with a maximum permeability of 1.0E-5 centimeters per second, 40-mil-thick high-density polyethylene (HDPE) geomembrane, geocomposite drain-net on slopes greater than 3H:1V (horizontal to vertical slope ratio), and 12-inch-thick vegetative soil layer with hydroseed applied to the finished surface. The final cover system also included installation of concrete lined surface water drainage control ditches and a landfill gas (LFG) extraction and monitoring system. The landfill gas (LFG) extraction and monitoring system included extraction wells, condensate sumps and pumps, associated conveyance piping, and LFG vadose zone monitoring wells. Site gravel surfaced access roads with an underlying woven geotextile as a separation and reinforcing layer. The final CQA report prepared and submitted to the California Regional Water Quality Control Board within two weeks of substantial completion of the site work and was approved with no modifications required.

Neal Road Landfill Leachate Pond Base Liner CQA, Butte County, California

CQA engineer for construction of the approximately 3.7-acre base liner system of a liquid waste impoundment in 2005. The project entailed excavating and stockpiling for use as daily cover with

approximately 99,000 cubic yards of soil and rock materials, constructing general earth fills, and constructing a double containment base liner system (DCBLS). The DCBLS consisted of the following layers described from bottom to top: secondary and primary leak detection sump structures, secondary 12-inch-thick compacted clay liner with a maximum permeability of 1.0E-6 centimeters per second, geosynthetic clay liner (GCL), secondary 60-mil-thick high-density polyethylene (HDPE) geomembrane, primary geocomposite drain-net, and primary 60-mil-thick HDPE geomembrane. HDPE sand filled ballast weight tubes were placed on top of the primary geomembrane layer. The final CQA report prepared and submitted to the California Regional Water Quality Control Board within two weeks of substantial completion of the site work and was approved with no modifications required.

Neal Road Landfill Modules 1, 2, And 3 Final Partial Closure CQA, Butte County, California

This project consisted of construction of the approximately 30-acre final cover systems in 2004. The services entailed earthwork grading for construction of a final cover system which consisted of layers described from bottom to top: 12-inch-thick foundation soil layer, 12-inch- thick compacted clay liner with a maximum permeability of 1.0E-5 centimeters per second, 40-mil-thick high-density polyethylene (HDPE) geomembrane, geocomposite drain-net on slopes greater than 3H:1V (horizontal to vertical slope ratio), and 12-inch-thick vegetative soil layer with hydroseed applied to the finished surface.

White Rock Road Landfill Closure Final Cover CQA, Sacramento County, California

CQA engineer for services of an approximately 7.95-acre final cover system in 2014. The project entailed constructing general earth fills and a final cover system consisting of the following layers described from bottom to top: 36-inch-thick foundation soil layer, 8-ounce-per-square-yard non-woven geotextile and a 12 inch thick vegetative soil layer. The final CQA report prepared and submitted to the California Regional Water Quality Control Board within two weeks of substantial completion of the site work and was approved with no modifications required.

Humboldt Road Landfill Closure Final Cover CQA, Butte County, California

CQA engineer for services of an approximately 7.95-acre final cover system in 2006. The project entailed constructing general earth fills and a final cover system consisting of the following layers described from bottom to top: 40-mil-thick low low density polyethylene (LLDPE) geomembrane, geocomposite drain-net, 8-ounce per-square-yard non-woven geotextile cushion layer, geocell layer, and 12-inch-thick vegetative soil layer with hydroseed applied to the finished surface. The final CQA report prepared and submitted to the California Regional Water Quality Control Board within two weeks of substantial completion of the site work and was approved with no modifications required.

Various Landfill Projects, California

The following is a partial list of California sanitary landfills that Mr. Olsen has provided base liner and final cover designs and/or construction quality assurance and management engineering services to:

- Cummings Road Landfill
- Ox Mountain Landfill
- Forward Landfill
- Yuba Sutter Landfill
- White Rock Road Landfill
- Forrest Hills Landfill
- Potrero Hills Landfill
- Richmond Landfill
- Marsh Road Landfill
- North County Landfill
- L&D Landfill
- Western Regional Sanitary Landfill
- Meadow Vista Landfill
- Hay Road Landfill
- Keller Canyon Landfill
- Fink Road Landfill
- Ostrom Road Landfill
- Kiefer Road Landfill
- Lincoln Landfill
- McCourtney Road Landfill
- South Coast Landfill

- Willits Landfill
- Redwood Landfill
- Kirby Canyon Landfill
- Buena Vista Landfill
- Lompoc Landfill
- Simi Valley Landfill
- Vasco Road Landfill
- Eastlake Landfill
- Newby Island Landfill
- Hellyar Landfill
- Hollister Landfill
- American Avenue Landfill
- Kettleman Hills Landfill
- Altamont Landfill
- American Canyon Landfill
- Guadalupe Landfill
- Santa Clara Landfill
- Casmalia Landfill
- Fresno County Landfill
- Shafter-Wasco Landfill

City of Lincoln Closed Landfill (Award Winning Project), Lincoln, California

Project engineering for development of a conceptual site model (CSM) to assess the sources and extent of a contaminant plume emanating from the approximately 6-acre burn dump landfill property owned by the City of Lincoln. The California Regional Water Quality Control Board (CRWQCB) issued a Cleanup and Abatement Order (CAO) because the landfill waste materials were partially submerged by the local groundwater table and a contamination plume was moving offsite. The CAO required a minimum vertical separation distance of 5 feet be maintained between the bottom of waste and the underlying groundwater table and that the offsite plume be remediated. Using the results of the CMS, a perimeter dewatering trench was designed to lower the groundwater table a minimum vertical separation distance of 10 feet below the bottom of waste while removing the contamination plume. The trenches ranged in depth from 25 to 45 feet with sump wells installed at each of the four corners of the intersecting dewatering trenches. Compliance with the CAO was estimated to take approximately three years; however, the site was in compliance within 9 months after completion of construction and startup of the dewatering pumps. The CRWQCB rescinded the CAO and issued a letter recognizing that the site was in substantial compliance with the CRWQCB site requirements. AWARDS: This project received the 2016 17 outstanding environmental engineering project awards from the following professional engineering organizations: American Public Works Association (APWA) Sacramento Chapter, American Council of Engineering Companies (ACEC) California Chapter with Honors, National ACEC and California Geotechnical Engineering Association (CalGeo).

DEAN STANPHILL PE, GE, CEM

GEOTECHNICAL ENGINEER / **NOVA/UES**

Resume #8

PROFESSIONAL QUALIFICATIONS

Mr. Stanphill has 35 years of applicable experience on geotechnical and environmental engineering for landfill projects throughout the United States. His experience includes providing forensic engineering, expert witness, permitting, surveying, regulatory compliance, CQA, and design level services for landfills throughout the United States and internationally. His clients have included both municipalities and private entities and have included a wide range of projects. In addition to the engineering and environmental components of landfills, Mr. Stanphill has also worked extensively on evaluating the beneficial re-use of landfills as well as looking at landfill gas to energy systems and associates gas conditioning technology.

RELEVANT EXPERIENCE

Zanker Avenue Landfill-San Jose, California

Dean Stanphill provided geotechnical engineering and environmental evaluations for many aspects of the landfill, including the Non-water Release Corrective Action Plan, Final Cover Slope Stability (static and seismic), and Drainage Impoundments.

Douglas County Landfill, Gardnerville, Nevada

Mr. Stanphill provided the evaluation of the settlement of the closed landfill and provided the mitigation design. He also managed the construction, which consisted of the placement and compaction of select fill and the placement of geosynthetics.

Monterey County Closed Landfills, Monterey County, California

Mr. Stanphill was responsible for all environmental monitoring, including stormwater and groundwater, for three closed Monterey County Landfills. One scope of work was to perform an evaluation of the failed landfill cap and to make recommendations for reconstruction. He then was the engineer-of-record for all repair activities.

Rio Rico Landfill, Rio Rico, Arizona

Mr. Stanphill was the geotechnical engineer of record for the reconstruction of the landfill slope face and the lateral expansion of the landfill, including all related drainage devices. He oversaw the relocation of approximately 200,000 cubic yards of refuse. Significant efforts were

35 YEARS

EXPERIENCE

EDUCATION

MBA, California State University San Bernardino, 1990

BS, Civil Engineering, San Diego State University, 1983

REGISTRATIONS/ CERTIFICATIONS

Registered Professional Civil Engineer – NV #13546, CA #43612, NM #16190, AZ #39163, CO #37454, PA #070975, OR #89124PE, NC #040447, FL #82927, GA #041905

Registered Professional Geotechnical Engineer – CA #2271, OR #89124PE

Certified Environmental Manager & Assessor – CA #2410, NV #2410

NDOT Water Pollution Control Manager

ICC Certified Special Inspector

Structural Masonry No. 5003405

Structural Steel & Bolting -No. 5003405

Fireproofing -No. 5003405

QSP/QSD/QISP

TRAINING

40-Hour OSHA Training

made in compacting the waste during reconstruction as well as the eventual final cover.

Highway 59 Landfill Phase 1-4 Closure, Merced, California

Mr. Stanphill was the engineer of record for the placement of low permeable soil cover and installation of a landfill gas extraction and flaring system for the 89-acre landfill. He was responsible for providing the field moisture density testing and soils laboratory testing.

Apex Landfill, Las Vegas Nevada

Mr. Stanphill provided oversight on all construction management operations and on-going monitoring for the Apex landfill. He was awarded the landfill master plan design and engineering phase. Services included on-going technical assistance, landfill gas and perimeter monitoring, methane recovery, landfill gas design, property survey of all appurtenances on or around the landfill, NSPS LGP design plan update, groundwater statistical data evaluation, hydrologic site draining assess, leachate data compilation and review, well replacement evaluation, and developing a Master Plan for expansion and tie-ins for the landfill in the future.

Lander County Battle Mountain Landfill, Battle Mountain, Nevada

Mr. Stanphill has provided environmental compliance consisting of landfill gas and leachate monitoring for the landfill for the past 3 years. Included his scope of work is training of scale-house personnel on the proper screening of incoming waste and identification of hazardous materials.

Anderson Landfill, Anderson, California

Mr. Stanphill was in charge of construction management and CQA services at the Anderson Landfill near Redding, California. Projects included a new access road, 7+-acre leachate pond and the South Canyon cell expansion. Areas of expertise included soils, HDPE, GCL, and Geocomposite.

El Sobrante Landfill, Corona, California

Mr. Stanphill was the principal-in-charge of CQA services for the landfill in Corona, California. Work consisted of fill placement and liner installation on a 28-acre cell expansion which is comprised of compacted clay liner, 40-mil HDPE double-side textured geomembrane, geosynthetic clay liner (GCL), 60-mil double sided textured HDPE geomembrane, 1’ gravel drainage layer, filter geotextile, and a 2-foot operations layer.

Kernville Landfill, Kernville, California

Mr. Stanphill worked with the Kern County Waste Management staff to develop an alternate soil cover for the landfill closure. The landfill was in a mountainous area of Kern County where liner quality soils were not available. An analysis was performed to design a cover depth with granular soils that would prevent the minimal rainfall from impacting the debris and causing environmental damage or leachate migration.

Kern County Landfill, Bakersfield, California

Mr. Stanphill was instrumental in obtaining an on-call services agreement with the Kern County Waste Management Department. Mr. Stanphill performed numerous environmental studies for the Kern County Landfill. Most of these investigations involved assessing concentrations of various contaminants that were inadvertently spilled at the landfill. Sampling was performed with a hollow-stem auger drill rig using strict environmental sampling protocol. Samples were then transported under strict chain-of-custody to an analytical laboratory for analysis.

EXECUTION OF SAMPLE AGREEMENT

7.0 EXECUTION OF SAMPLE AGREEMENT

The Sample Agreement provided in RFQ No. 20-06 has been reviewed by an officer of the company and APTIM respectfully submits the following exceptions for negotiation. The text of the RFQ is provided below with suggested changes shown as Track Changes.

1.3 Consultant is authorized to proceed immediately following full execution of this Agreement and delivery and approval of required insurance documents as required by Section 11. Performance of the Work shall be completed within the time required herein or prescribed for an individual task by County; provided, however, that if performance is delayed by earthquake, flood, high water or other act of God, or by strike, lockout, epidemic, or pandemic or infectious disease outbreak (e.g., COVID-19) or quarantine, government actions (both civil and/or military authority) in response to an epidemic or pandemic or infectious disease outbreak or quarantine, or similar labor disturbances, the time for Consultant's performance of this Agreement shall be extended by the number of days equal to the number of days of delay.

4. TERM; TERMINATION OF AGREEMENT. This Agreement shall commence on the date of execution by County and shall terminate upon the earlier of the successful completion of the Work or, no later than December 31, 2021, following the date of execution, unless extended in writing by mutual agreement of the parties. Each party ~~County~~ reserves the right to terminate this Agreement with or without cause on thirty (30) days written notice to the other party ~~Consultant~~. In the case of such early termination, Consultant shall be paid for all services satisfactorily rendered up to the effective date of termination, up to the maximum fee prescribed for any task.

5.4 Progress payments will be made monthly in arrears based on services provided. A pro rata portion of the Consultant's time & material ~~fixed fee~~ costs will be included in the monthly progress payments. If Consultant fails to submit the required deliverable items according to the schedule set forth in the Scope of Work, Attachment A, without an excusable delay, the County shall have the right to delay payment and/or terminate this Agreement in accordance with the provisions of Section 4 of this Agreement. Consultant shall submit monthly a Progress Report containing a detailed statement of all services performed and all work accomplished under this Agreement since Consultant's last monthly Progress Report. Final invoices must contain the final cost and all credits due the County. The final invoice should be submitted within 30-calendar days after completion of the Consultant's work

5.7 In the event Consultant claims or received payment from County for a service for which reimbursement is later disallowed by County, state or federal agencies, Consultant shall promptly refund the disallowed amount to County upon request ~~or,~~

~~at County's option, County may offset the amount disallowed from any payment that is due or becomes due to Consultant under this Agreement or any other agreement.~~

6.2 Consultant shall assign only competent personnel to perform any portion of the Work. If at any time County, in its ~~sole~~ reasonable discretion, desires the removal of any person or persons assigned by Consultant to perform the Work, Consultant shall remove such person or persons immediately upon receiving written notice from County. If any person is identified in this Agreement (or any attachment hereto), Consultant shall not remove, replace, substitute, or otherwise change any key personnel without the prior written consent of County.

11.1 Minimum Scope and Limit of Insurance: Coverage shall be at least as broad as:

11.1.1 Commercial General Liability (CGL): Insurance Services Office Form CG 00 01 covering CGL on an "occurrence" basis, including products and completed operations, property damage, bodily injury and personal & advertising injury with limits of ~~no less~~ than $1,000,000 per occurrence. If a general aggregate limit applies, either the general aggregate limit shall apply separately to this project/location (ISO CG 25 03 or 25 04) or the general aggregate limit shall be twice the required occurrence limit.

11.1.2 Automobile Liability: Insurance Services Office Form Number CA 0001 covering, Code 1 (any auto), or if Consultant has no owned autos, Code 8 (hired) and 9 (non-owned), with limit of ~~no less~~ than $1,000,000 per accident for bodily injury and property damage.

11.1.3 Workers' Compensation insurance as required by the State of California, with Statutory Limits, and Employer's Liability Insurance with limit of no

less than $1,000,000 per accident for bodily injury or disease.

(If Consultant has no employees a Certificate of Exemption from Worker's Compensation Laws must be completed using the County's form and submitted with all other insurance documents).

11.1.4 Professional Liability (Errors and Omissions) Insurance appropriate to the Consultant's profession, with limit of ~~no less~~ than $21,000,000 per occurrence or claim, $2,000,000 aggregate.

~~Broader Coverage/Higher Limits: If the Consultant maintains broader coverage and/or higher limits than the minimums shown above, the County requires and shall be entitled to the broader coverage and/or higher limits maintained by the Consultant. Any available~~

~~insurance proceeds in excess of the specified minimum limits of insurance and coverage shall be available to the County.~~

13. INDEMNIFICATION. Consultant agrees to indemnify, defend (upon request of County) and hold harmless County and County's ~~agents,~~ board members, elected and appointed officials and officers, employees, and volunteers ~~and authorized representatives~~ from any and all losses, liabilities, charges, damages, claims, liens, causes of action, awards, judgments, costs, and expenses (including, but not limited to, reasonable attorney's fees of County Counsel and counsel retained by County, expert fees, costs and ~~staff time, and~~ investigation costs) of whatever kind or nature (collectively "Claims"), to the extent that the same that arise out of caused by ~~or are in any way connected with any~~ the negligence ~~error, act or omission~~ or willful misconduct of Consultant or Consultant's officers, agents, employees, independent consultants, or subconsultants, ~~or authorized representatives~~, unless resulting from the sole negligence, active negligence, or willful misconduct of an indemnified party. Without limiting the generality of the foregoing, the same shall include injury or death to any person or persons; damage to any property, regardless of where located, including the property of County; and any workers' compensation claim or suit arising from or connected with any services performed pursuant to this Agreement on behalf of Consultant by any person or entity. Consultant's indemnity obligations shall not be limited by the amount of insurance provided.

NOTWITHSTANDING ANYTHING TO THE CONTRARY HEREIN, CONSULTANT'S TOTAL AGGREGATE LIABILITY UNDER THIS AGREEMENT, AND THE COUNTY'S REMEDY FOR ALL CAUSES OF ACTION ARISING HEREUNDER, WHETHER BASED IN CONTRACT, TORT, WARRANTY, NEGLIGENCE, STRICT LIABILITY, INDEMNITY OR ANY OTHER CAUSE OF ACTION, SHALL NOT EXCEED THE AMOUNT OF ONE MILLION DOLLARS ($1,000,000), OR THE VALUE OF THE SERVICES PROVIDED PURSUANT TO THIS AGREEGMENT, WHICHEVER IS LESS (HEREIN REFERRED TO AS "LIMITATION OF LIABILITY"), AND WHICH AMOUNT INCLUDES ANY FEES AND COSTS INCURRED IN RE-PERFORMING THE SERVICES

END

RATE SCHEDULE

8.0 RATE SCHEDULE

APTIM's rate schedule for 2020 is provided on the next page, followed by rate schedules from major subcontractors NV5 and NOVA/UES.

Aptim Environmental & Infrastructure, LLC
2020 Rate Schedule

Title	Rate Range	
	Low	High
Professional Level V		
Project Scientist	$172.00	$199.00
Engineer	$193.00	$202.00
Professional Level IV		
Client Program Manager	$221.00	$225.00
Project Manager	$232.00	$243.00
Project Scientist	$152.00	$159.00
Engineer	$138.00	$151.00
Designer	$137.00	$142.00
Technican	$91.00	$99.00
Administrator Assistant	$79.00	$89.00
Professional Level III		
Client Program Manager	$190.00	$215.00
Project Manager	$185.00	$193.00
Project Scientist	$127.00	$140.00
Engineer	$115.00	$126.00
Designer	$114.00	$120.00
Technician	$74.00	$80.00
Administrator Assistant	$66.00	$80.00
Professional Level II		
Client Program Manager	$169.00	$181.00
Project Manager	$166.00	$181.00
Engineer	$94.00	$103.00
Designer	$90.00	$98.00
Technican	$60.00	$67.00
Administrator Assistant	$60.00	$67.00
Professional Level I		
Client Program Manager	$158.00	$170.00
Project Manager	$134.00	$152.00
Engineer	$75.00	$82.00
Designer	$73.00	$80.00
Technican	$53.00	$55.00
Administrator Assistant	$54.00	$59.00

Depositions and expert witness testimony, including preparation time, will be charged at 1.5 times the above rates.

NV5, INC.

Northern California
2020 Charge Rates Schedule

Office:

Technical Services

Engineering Aide/Planning Aide	$87.00/hour
Project Assistant	$110.00/hour
Project Administrator	$135.00/hour
CADD Technician I	$119.00/hour
CADD Technician II	$145.00/hour
CADD Technician III	$153.00/hour
Senior CADD Technician/Designer	$163.00/hour
Design Supervisor	$190.00/hour

Professional

Junior Engineer/Planner/Surveyor	$138.00/hour
Assistant Engineer/Planner/Surveyor	$159.00/hour
Associate Engineer/Planner/Surveyor	$186.00/hour
Senior Engineer/Planner/Surveyor	$197.00/hour
Manager	$220.00/hour
Structural Engineer	$234.00/hour
Associate	$247.00/hour
Principal	$284.00/hour

Field:

Construction Management

Junior Field Engineer	$126.00/hour
Assistant Field Engineer	$140.00/hour
Associate Field Engineer	$164.00/hour
Senior Field Engineer	$191.00/hour
Construction Manager	$208.00/hour

Surveying

1-Person Survey Crew (GPS) (Robotic)	$195.00/hour
1-Person Survey Crew	$154.00/hour
2-Person Survey Crew	$248.00/hour
3-Person Survey Crew	$352.00/hour

Expenses:

Plotting and In-house Reproduction	1.15 x Cost
Subsistence	1.15 x Cost
Other Expenses - Including Subconsultants & Purchased Services through Subcontracts	1.15 x Cost
Mileage - Outside local area	Per accepted IRS rate

Rates are effective through December 31, 2020. If contract assignment extends beyond that date, a new rate schedule will be added to the contract. Litigation support will be billed at $300.00 per hour. Rates based on "Prevailing Wage" (PW) for Construction Management and Surveying will be determined by Project and County per California law.

SCHEDULE OF CHARGES
Effective January 1, 2020

HOURLY CHARGES FOR PERSONNEL

Professional Services	
Principal / Officer	$225.00
Professional Engineer or Geologist	$175.00
Materials Consultant	$155.00
Engineer or Geologist	$135.00
Staff Engineer or Geologist	$110.00
Technician	$ 95.00
Special Inspection and Construction Testing Services (Includes Vehicle)	
ASNT NDT Level III Administrator	$145.00
Project Manager / Quality Manager	$125.00
AWS/CWI Inspector	$120.00
ICC Special Inspector	$115.00
Engineer of Record (EOR) Inspector	$110.00
Engineering Technician (Field Density Testing, Percolation Testing, Concrete Sampling)	$125.00
Field Assistant & Transport Technician	$ 85.00
Vehicle (Outside Reno/Sparks/Carson City)	$ 20.00
Laboratory Testing	
Laboratory Supervisor	$105.00
Lab Technician	$ 95.00
Office Support	
Drafting/CADD	$ 88.00
Clerical/Word Processing	$ 65.00

EXPENSES

1. Rates apply to both Regular time and Travel time.
2. Overtime rates are 1.5 times hourly rate. Hours are charged on a portal to portal basis.
3. Per Diem will be charged lodging at cost plus $50.00 per day per person.
4. Other out of pocket direct project costs will be charged at cost plus 15%.

SPECIALTY INSPECTION EQUIPMENT (PER HOUR)

- Backhoe Cost + 15%
- Concrete Coring Machine (including Generator) $ 25.00
- Core Barrel Usage Charge $ 5.00/in
- Laser Guided Profilometer $ 130.00
- Press-O-Film $ 5.00/ea
- Structure Scan Mini $ 130.00
- Concrete Test Hammer $ 15.00
- Enerpac RCH 154/RCH 202 $ 12.00
- Skidmore Wilhelm Bolt Tension Calibrator $ 35.00
- Drone Per Quote
- Torque Wrench $ 15.00
- Nortec Ultrasonic NDT – 131 $ 30.00
- Krautkramer USN52L $ 45.00
- Trailer with Equipment (Generator, Welder, Steam Cleaner) $ 163.00/day
- Windsor Probe + Shots $ 42.00/set
- Positector – 6000 $ 25.00
- Liner Tube Sample $ 5.00

ENVIRONMENTAL EQUIPMENT (per day)

- Stainless Steel Evacuated Cylinders (Air Sampling) Cost + 15%
- Photoionization Detector (PID) $ 105.00
- Purge Pump $ 21.00
- Disposable Tubing $ 0.42/ft
- Water Level Probe $ 16.00
- Brass/Stainless Soil Tubes $ 5.50/ea
- Disposable Bailers $ 8.00/ea
- Oil/Water Interface Probe $ 52.50
- 55 Gallon Drum Cost + 15%
- Well Supplies Cost + 15%
- Purge Pump Truck (16 gpm)–to depths of 220' $52.50/hr
- pH/Conductivity/Temp. Meter (Field Test) $ 31.50
- Environmental Laboratory Analysis Cost + 15%
- Outside Services (Misc. Equipment, Special Laboratory Services) Cost + 15%

LABORATORY TESTING SERVICES

All Tests are conducted in accordance with ASTM Standards unless otherwise specified.

SOIL AND AGGREGATES

Compaction

- Standard, D-698 $ 150.00
- Modified 4, D-1557 $ 155.00
- Modified 6", D-1557 $ 190.00
- Check Point, As Above 6" $ 75.00
- Check Point, As Above 4" $ 55.00

Properties

- R-Value, ASTM D2844 $ 250.00
- C.B.R. $ 550.00
- Soil Cement or C.T.B. Mix Design Per Quote
- C.T.B. Compression Test (without preparation), D-1633 $ 22.00
- Hydrometers without Specific Gravity, D-422 $ 150.00
- Moisture Determination, D-4959 $ 25.00
- Moisture Determination and Unit Weight – undisturbed tube sample $ 30.00
- Organic Content – Soils $ 100.00
- Free Swell $ 90.00
- Expansion Index, D-4829 $ 140.00
- Permeability Tests (Remolded Samples) (Does not include curve), D-5084 $ 190.00
- Permeability Tests (Undisturbed Samples), D-5084 $ 160.00
- Plasticity Index, D-4318 $ 100.00
- Sand Equivalent, Average of 3, D-2419 $ 95.00
- Sieve Analysis, Coarse, C-136 $ 85.00
- Sieve Analysis, Coarse and Fine, Incl. Wash, C-136 $ 150.00
- Sieve Analysis, Fine, Incl. Wash, C-136 $ 85.00
- Sieve Analysis, Wash, % Finer than No. 200 sieve, C-117 $ 65.00
- Soil Chemistry Per Quote
- Specific Gravity – Soils, D-854 $ 85.00

Shear Strength and Consolidation Tests

- Consolidation (with one-time rate), D-2435 $ 300.00
- Triaxial Compression (Quick) per Point Per Quote
- Triaxial Compression (Multi-Stage) Per Quote
- Triaxial Compression (Other Types) per Point Per Quote
- Direct Shear (3 Points), D-3080 $ 300.00
- Direct Shear W/Rate Slower than .025"/MIN $ 400.00
- Remolded Direct Shear (3 Points) $ 350.00

Aggregate Quality

- Specific Gravity, Absorption – Gravel, C-127 $ 85.00
- Specific Gravity, Absorption – Sand, C-128 $ 85.00
- Clay Lumps and Friable Particles, C-142 $ 90.00
- Fractured Faces, *NVT230 $ 100.00
- Durability Index, Coarse or Fine, D-3744 $ 130.00
- Flat and Elongated Particles on Sieved Sample, D-4791 $ 110.00
- Organic Impurities, C-40 $ 65.00
- Lightweight Pieces in Aggregate, C-123 $ 175.00

- Los Angeles Rattler Test, 500 revolutions, C-131 $175.00
- Mortar Making Properties of Sand (2 ages), C-87 $ 200.00
- Potential Reactivity Test, C-157 / SEAOC Per Quote
- Sulfate Soundness (5 cycles), C-88, per sieve $ 104.00
- Unit Weight, C-29 $ 75.00
- Angularity D2488 $ 85.00
- Cleanness Value $ 120.00

CONCRETE AND MASONRY

- Cement Content of Hardened Concrete Per Quote
- Compression Test, Concrete Cylinder, C-39
  - 4” $ 22.00
  - 6” $ 22.00
- Compression Test on Cored Concrete Specimens C42 $ 22.00
- Compression Test, Lightweight Insulating Concrete $ 22.00
- Compression Test, Grout, C1019 $ 22.00
- Compression Test, Gunite, C1604 $ 22.00
- Compression Test, Masonry Units, (Prisms), C1314 $ 125.00
- Compression Test, Mortar, C780 $ 22.00
- Compression Test on Pipe, (Based on Pipe Diameter) Per Quote
- Compression Test, Masonry Unit, C-140 $ 125.00
- Cylinder Molds $ 2.00
- Drying Shrinkage Test by ASTM or California Test Method, Set of 3 Per Quote
- Flexural Strength, Concrete Beam, C-78 $ 85.00
- Laboratory Trial Batch, (not including Testing of Specimens), C-192 Per Quote
- CMU Compliance Testing ASTM, C-140 $ 125.00
- Moisture Test Kits Concrete Floors (each) $ 50.00
- Shear Bond of Block Wall Cores $ 75.00
- Density of Light Weight Concrete, C567 $ 85.00

ASPHALT

- Built-up Roof Sample Analysis (One Square Foot Coupon) $130.00
- Complete Design of Wearing Surface for a Given Asphalt and Aggregate, State of Calif. or Marshall Method Per Quote
- Extraction, Percent Bitumen, D-2172 $ 130.00
- Sieve Analysis of Extracted Aggregate D-5944 $ 85.00
- Film Stripping $ 55.00
- Marshall Stability and Flow, Set of 3 (without mixing), D-6927 $ 200.00
- Moisture Content (Xylene Reflux Method), D-1461 $ 90.00
- Penetration Test, (Each Temperature), D-5 $ 40.00
- Hveem Stability, (including Mixing Sample), D-1560 Per Quote
- Hveem Stability, (on Premixed Sample) Per Quote
- Swell Test $ 100.00
- Unit Weight of Asphalt Core or Compacted Sample, D-2726 $ 35.00
- Theoretical Specific Gravity, D-2041 $ 100.00

METALS

- Bend Test $ 30.00
- Machining Costs Cost + 20%
- Pre-Stress Wire, Tensile/Elongation $ 52.00
- SFRM Density, E605 $ 55.00
- Yield, Tensile and Elongation of Reinforcing Steel Bars up to and including #5, A370 $ 55.00
- Yield, Tensile and Elongation of Reinforcing Steel Bars greater than #5, A370 $ 70.00

BOLT TESTING

- Bolts (Proof Load, Ultimate Load, Hardness) Per Quote
- Nuts (Proof Load, Hardness) Per Quote
- Washers (Hardness) Per Quote

WELDING QUALIFICATIONS – STRUCTURAL STEEL PHYSICAL TEST METHOD (AWS, AISC)

- Witnessing of Operator & Procedure $ 120.00 per/hr
- Welder Certification Per Quote
- WPS – PQR Testing Per Quote
- Light Gauge Structural Metals Per Quote

COMPENSATION

9.0 COMPENSATION

All project costs are proposed to be billed on a time and materials basis in accordance with APTIM's 2020 fee schedule (Section 8 attached).

Work will be conducted in accordance with mutually agreeable terms and conditions negotiated from the County's proposed Professional Services Agreement. We look forward to working with the County on this project.

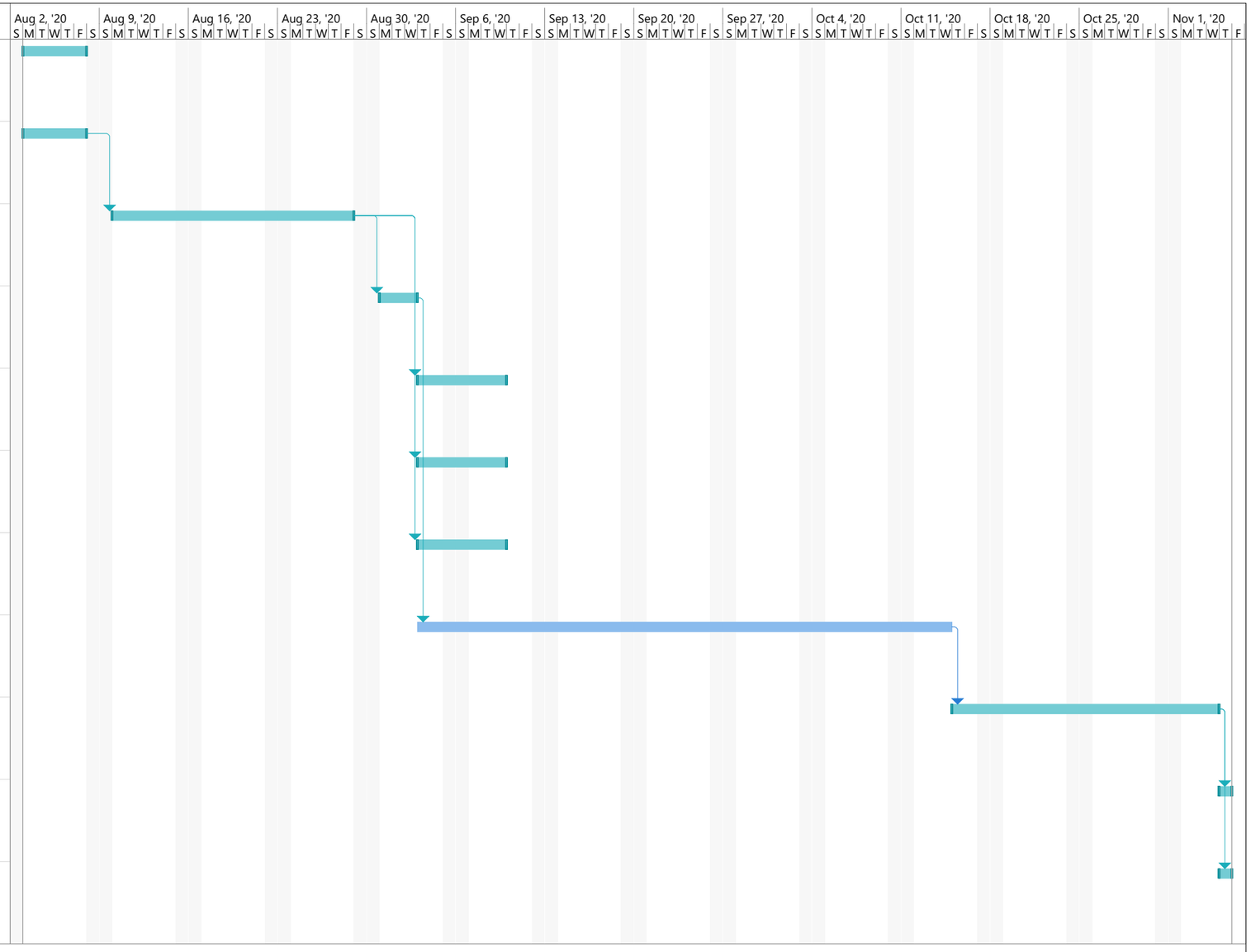
PROJECT SCHEDULE

10.0 PROJECT SCHEDULE

Assuming consultant selection, detailed scope development negotiation, and contract negotiation/execution can be completed by the end of July, APTIM/NV5 propose the following schedule starting August 3, 2020.

- Review of existing conditions and infrastructure that may be affected by the project, such as the existing GCCS wells, lateral piping and header piping, leachate collection and removal system components, other environmental monitoring system components, etc.;
  - 1 week, one meeting with county staff to review documents
- Review of soil stockpile areas, haul roads, construction water supply locations, Contractor staging area/ laydown areas are identified, as are haul routes and erosion/sediment control needs;
  - 1 week, one meeting (same as above) with county staff to review documents
- We will develop a proposed phasing plan to minimize areas of the landfill that are open to the environment during the course of the work in order to minimize potential for environmental concerns as identified in this proposal;
  - 2 weeks
- Preliminary drawings will be developed based on information gathered and technical evaluation of data;
  - 3 weeks
- APTIM will prepare a preliminary Engineer's Estimate of Quantities and Cost;
  - 3 days (concurrent with above)
- The preliminary drawings, phasing plan and cost estimate will be reviewed with the County prior to preparation of final construction documents, as defined in the RFQ:
  - Construction Drawings
  - Construction Specifications
  - General Standard Specifications and Requirements
  - Construction Quality Assurance Plan
  - Bid Schedule
  - Engineer's Estimate of Quantities and Costs
- Design Class II impoundment expansion and lining
  - 1 week
- Modify sprayer system design to ensure capture of leakage
  - 3 days

ID	Task Name	Duration	Start	Finish
1	**Review of existing conditions and infrastructure**	5 days	Mon 8/3/20	Fri 8/7/20
2	**Review of soil stockpile areas, haul roads, construction water supply locations**	5 days	Mon 8/3/20	Fri 8/7/20
3	**Preliminary Drawings Phase I Final Cover and Class II Impoundment Design Documents**	15 days	Mon 8/10/20	Fri 8/28/20
4	**Preliminary Engineer's Estimate of Quantities and Cost**	3 days	Mon 8/31/20	Wed 9/2/20
5	**Construction Specifications**	5 days	Thu 9/3/20	Wed 9/9/20
6	**General Standard Specifications and Requirements**	5 days	Thu 9/3/20	Wed 9/9/20
7	**Construction Quality Assurance Plan**	5 days	Thu 9/3/20	Wed 9/9/20
8	**RWQCB Review**	30 days	Thu 9/3/20	Wed 10/14/20
9	**Construction Drawings Phase I Final Cover and Class II Impoundment and Sprayerr System**	15 days	Thu 10/15/20	Wed 11/4/20
10	**Bid Schedule**	1 day	Thu 11/5/20	Thu 11/5/20
11	**Engineer's Estimate**	1 day	Thu 11/5/20	Thu 11/5/20



Project: Buena Vista Landfill.mp
Date: Wed 6/17/20

Task	Project Summary	Manual Task	Start-only	Deadline
Split	Inactive Task	Duration-only	Finish-only	Progress
Milestone	Inactive Milestone	Manual Summary Rollup	External Tasks	Manual Progress
Summary	Inactive Summary	Manual Summary	External Milestone

MANDATORY QUESTIONS ADDRESSED TO RESPONDING FIRMS

11.0 MANDATORY QUESTIONS ADDRESSED TO RESPONDING FIRMS

a) *Theoretically, in-place wastes could compact/consolidate during final cover construction. This could lead to actual construction quantities of final cover soils exceeding the engineer's estimates. For example, if (a) total final cover thickness is four feet, and (b) in-place wastes consolidate one foot (NOTE: One foot is an arbitrary number selected to facilitate this example.) during final cover construction (i.e., Wastes consolidate so the bottom of final cover is five feet below the "top-of-final-cover" design elevation, not four.), then the actual thickness of final cover necessary to meet the design elevation would be five feet. A significant increase in the quantity of final cover soil required would likely lead to a difficult and potentially costly change order request from the contractor.* ***What is your experience with compaction/consolidation of in-place wastes during final cover construction, and what provisions would you include in the construction documents to protect Amador County from potentially costly change order requests, related to this topic?***

APTIM/NV5 Answer: Conducting earthwork operations on a landfill is akin to building on a box spring. "Final Grade" when it comes to a landfill surface is something of a misnomer as the grade is constantly changing due to the addition or removal of soils (surcharge). Removal of the 4-ft final cover at Buena Vista Landfill would relieve up to roughly 500 psf in confining pressure, so some rebound may occur. An additional concern is this "pressure relief" causing release of fugitive LFG without earthwork and LFG controls in place to minimize the risk of that occurrence.

APTIM/NV5 is well aware of this situation. Hence for grade control we typically specify the use of depth gauges, and lift surveys to provide uniform thickness of final cover system lifts (vs chasing a specified grade which can be affected by settlement/consolidation of subgrade). While we present "Final Grading Plans" in construction documents, those are intended, and so noted, to provide general guidance for grading to ensure positive slopes are constructed for efficient stormwater management from the cover system.

Control of potential fugitive LFG emissions would be best managed through staged construction of final cover system reconstruction in order to localize, thus help control LFG emissions (discussed earlier in our Executive Summary).

An additional facet of this question is associated with landfill settlement during construction and its effect on construction quantities/project cost. As we described in the paragraph above, thickness of each layer (and overall cap system thickness) can be managed by ensuring the thickness of each layer matches the design (vs specifying grades). Subsidence/settlement of the waste mass below the final cap as a result of construction activity will occur, and is due to a number of factors, including but not limited to:

- Decomposition of waste within the landfill;
- Varying density of landfill waste mass associated with compaction variability of wastes over the life of the landfill and varying densities of materials placed within the landfill (i.e. mattresses vs concrete rubble);
- Energy imparted in the underlying waste due to heavy truck traffic hauling construction materials and compaction of cover system soils;

- Weight of the new materials placed in the final cover system.

It is much more difficult, if not impossible, to predict how much settlement will occur as a result of construction of the final cover system. Much of that settlement can be accommodated within the design as long as minimum slopes are achieved for the cover system. Other areas may not able to meet minimum slopes and may settle to the point where a depression develops, or minimum surface grade dodo not meet minimums to allow surface drainage. Those locations will require additional soils to promote drainage and achieve minimum slopes of the final cover system. Generally, increased costs associated with settlement-driven soil volumes can be accommodated within a normal construction contingency.

b) *As noted above and in the "Test Pit Report", deep desiccation cracks have reduced the effectiveness of the existing final cover. The fact that the final cover consists entirely of clay soils increases the problems caused by desiccation cracking. Amador County wishes to increase the thickness (from the existing six inches to twelve), and change the properties, of the vegetative layer to reduce the final cover susceptibility to deep desiccation cracking.* ***What, if any, amendments would you recommend adding to the vegetative layer to reduce its susceptibility to desiccation cracking? Are there changes, other than amending the existing soil, that you would recommend to reduce the susceptibility of the vegetative layer/final cover to desiccation cracking?***

APTIM/NV5 Answer: The current cover soils in place at the Buena Vista Landfill have failed once andand will likely fail again given repeated soil materials, construction methods and environmental conditions at the facility.

As discussed in the Executive Summary, addition of compost or other high carbon materials in vegetative cover is one way to increase the water holding capacity of the vegetative soil layer, but would likely require a thickness greater than one foot both to provide sufficient long-term holding capacity (if it is possible to maintain moisture over the long dry season) and minimize longer rooted grass species penetration into the CCL. Periodic addition of amendment materials (placing, rototilling and re-seeding) may be required to ensure adequate performance over the long term as the organic materials decompose. If this scenario is under consideration, the GCCS should be reconfigured to allow for mechanical mowing, amendment addition, rototilling and re-seeding.

Another scenario that would improve performance of the vegetative layer is the import of high-quality topsoil to provide additional moisture holding capacity and promote a thick vegetative layer (seeded with shallow root vegetation). This scenario would require the purchase of topsoil (either natural or man-made), with costs adding to the overall cover system construction.

Both scenarios described in the previous paragraphs would require extensive trucking to accomplish, again increasing the project costs.

As the answer to this question is not simple, one needs to look at the vegetative layer in the light of designing an evapotranspirative cover. That is the top, plant bearing soil layer has to be designed of suitable soil type and thickness in order to store sufficient moisture throughout the summer to protect the underlying compacted clay liner from excessive desiccation leading to cracking until the cover begins to rehydrate in the winter. This scenario would have to account for the range of precipitation/evaporation levels to protect the CCL during those particularly dry seasons.

c) *As noted above, the County proposes to replace the liner in the surface impoundment by installing a new liner over the existing liner. Questions have arisen regarding the resulting stability of two FMLs in direct contact with each other.* ***In your opinion, would installing the new liner directly over the existing liner create stability concerns, or other problems? How would you propose to respond to questions raised regarding this proposal?***

APTIM/NV5 Answer: For a liquid containment application like the subject impoundment, we would not envision a significant concern with stability under ideal conditions. The applied normal load and resulting developed interface shear strength ranges from zero (neglecting liner weight) at the pond surface to a maximum at pond base. Liquid does not act like a "block" trying to push its way down a lined sideslope as would a mass of solid waste. Hence this is not an issue for a simple pond overlay other than the existing liner may be warped and stiff and may create stress points in the new overlay which could lead to leaks over time. We know that holes in the base and sideslope liner were repaired after a previous cleaning event. Soil conditions beneath the liner may be saturated and may heave and warp during construction. Liner subgrade conditions will need to be assessed once the impoundment is drained and sediment is removed to inspect its condition.

One aspect of the impoundment expansion lining system that causes concern is where the new liner extends vertically beyond the current shoulder of the impoundment berm up to the new shoulder and anchor trench. Since the raised portion of the liner/berm would be a rather thin profile, not a lot of interface shear strength would develop in the new section or between the new liner and liner left in place. With this in mind, we believe the existing berm liner would need to be removed to avoid interface shear strength issues with the sideslope areas of the impoundment. The sideslope liner could become unsecured hence could cause future complications as liquid levels rise and fall in the impoundment. At a minimum, existing sideslope and berm liner should be removed.

However as discussed above, if the liner has been leaking as the RWQCB suspects, the entire liner may have to be removed depending on subgrade conditions discovered after the existing impoundment is drained. If subgrade conditions are unsuitable for long term impoundment stability the entire existing liner will require removal.

d) *As noted above, the surface impoundment expansion and liner replacement design should include provisions to prevent leaks in the leachate spray evaporation header line from flowing outside the lined area of the impoundment.* ***What provisions would you recommend including in the design to address this concern?***

APTIM/NV5 Answer: As discussed in the main SOQ text, an interior bench would be incorporated into the western impoundment berm expansion to place the spray evaporation piping and spray heads such that any leakage from those components would drain back into the impoundment. Another option would be to extend the spray head locations 2' or so vertically below the shoulder of the berm grade to ensure all leachate stays within the impoundment. There are many engineered solutions to this situation. APTIM/NV5 would explore them and select the one best suited to the conditions at the site.

APPENDIX

APPENDIX

Addendum 1 - Signed

GENERAL SERVICES ADMINISTRATION

MAIL: 12200-B Airport Road, Jackson, CA 95642
LOCATION: 12200-B Airport Road, Martell, CA
PHONE: (209) 223-6759 FAX: (209) 223-0749 E-MAIL jhopkins@amadorgov.org

May 4, 2020

Addendum No. 1

Request for Qualifications
RFQ No. 20-06

Engineering Design Services for the Buena Vista Landfill Project

NOTICE TO ALL PROSPECTIVE RESPONDENTS

THE FOLLOWING ITEMS AND INFORMATION WILL SUPERSEDE THOSE PREVIOUSLY STATED IN THIS REQUEST FOR QUALIFICATIONS OR IN ANY E-MAIL CORRESPONDENCE:

CHANGES, ADDITIONS & INFORMATION:

Item 1: **Question:** When did the landfill close?

Response: During the meeting, closure dates of 1992 and 1995 were discussed. 1995 is the correct date. (1992 is the date the liner was installed in the surface impoundment.) As stated in the RFQ Phase I was closed in 1995.

Item 2: **Question:** When did the cracks in the Phase I final cover appear?

Response: The cracks have been appearing for many years. The County has performed surficial repairs on the cracks over past years. For additional information please see Attachment 1 in the RFQ.

Item 3: **Question:** Has the county completed the initial documents for the environmental review of the project?

Response: County Solid Waste is working with County Planning on the CEQA review, if necessary, for the project. All of the proposed work will occur in disturbed areas, so an extensive CEQA review is not anticipated. Funding applications may require additional environmental review. The flat area north of Phase 1 is also owned by the county and was the borrow source originally for closure. It is also the proposed borrow source if any additional soil is needed for either of these projects. Therefore, any additional soil needed will come from a previously excavated (previously disturbed) area.

Item 4: **Question:** Has the County discussed alternative final covers or alternatives to the prescriptive standard with the regional board?

Response: Alternatives have been discussed internally. The RWQCB has indicated that they do not feel that they can require a higher level of containment than the Title 27 prescriptive standard, but they have suggested that the County consider a final cover that includes a flexible membrane liner (FML). The County has prepared some rough cost estimates of installing an FML and the cost is significantly higher then using existing on site soil to reconstruct the final cover to Title 27 standards. In addition, Attachment 1 to the RFQ presents laboratory data related to the performance

of the existing final cover soils and their suitability for use in re-constructing the final cover to the Title 27 prescriptive standard. The County has not discussed an evapotranspirative (ET) final cover with the RWQCB. However, as noted above, the RWQCB has suggested that the County consider including an FML in the final cover and has not suggested that the County consider an ET final cover.

Item 5: **Question:** What is the existing final cover?

Response: Please refer to Attachment 1 to the RFQ.

Item 6: **Question:** Have soils in the proposed borrow area been tested for engineering properties?

Response: The existing final cover soils came from the proposed borrow area. Attachment 1 provides information on the engineering properties of the existing material in the final cover (which came from the proposed borrow area).

Item 7: **Question:** Can we observe the cracks?

Response: No, the County has repaired the cracks.

Item 8: **Question:** Is the entire landfill, including Phase II/III closed?

Response: The entire landfill is closed.

Item 9: **Question:** How big were the cracks that the County repaired?

Response: The cracks were sufficiently large at the surface to stand ankle-deep in one. The cracks were approximately 30 – 36 inches deep. (See Attachment 1 to the RFQ for more accurate information regarding the depth of the cracks.)

Item 10: **Question:** How active are the gas wells in Phase I?

Response: The County will post the most recent publicly released gas well monitoring data on Public Purchase, listed as Exhibit B ("Amador County Sanitary Landfill Monthly OM&M Report, Ione, California," SCS Field Services, January 10, 2020). Landfill gas flowrate is not a routinely monitored parameter for the dual-purpose wells.

Item 11: **Question:** Does the County intend to put CQA services for these projects out to competitive procurement?

Response: The County will procure Construction Quality Assurance services through a competitive procurement process.

Item 12: **Question:** How does the top deck of Phase I drain?

Response: There has been some minor differential settlement on the top deck. There are areas where vegetation indicates that the storm runoff does not flow quickly, but standing, ponding water has never been observed on top of the landfill. Consistent with the original design, in general the top deck drains to the perimeter. There are perimeter burns around the perimeter of the top deck that direct water to overside drains.

Item 13: **Question:** Is the original design on the Purchasing website?

Response: No, the County will post available information on the original design on Public Purchase as Exhibit C (Buena Vista Landfill Phase I Final Closure, Vail Consulting Services, approved September 17, 1995 by the Chairman of the Amador County Board of Supervisors). (Available information may be limited due to the date of closure construction.) The drawings provided on Public Purchase appear to be the design drawings for the Phase I final closure in 1995. However, the County cannot confirm this. In addition, there appear to be more overside drains in-place on Phase I than are shown on these drawings. RFQ respondents may wish to review the most recent aerial topographic map (Attachment 2) for more recent drainage data.

Item 14: **Question:** In discussions during the meeting, the final cover was described as being 3.5 feet thick, but the RFQ discussed removing approximately 4 feet of final cover material. Can this discrepancy be resolved?

Response: Yes, during meeting discussions, the RWQCB-approved final cover (an Engineered Alternative) was described as being 3.5 feet thick. However, Attachment 1 provides information on the actual existing, thickness of final cover, and 4 feet is consistent with this information.

Item 15: **Question:** Has the County provided funding for this project?

Response: The County has provided funding for the design of the project and is seeking grant funding for construction.

Item 16: **Question:** Will the County require assistance from the selected design firm in obtaining grant funding for construction?

Response: The current scope of work does not include assistance in obtaining grant funds. However, the design documents will likely be part of any grant application. The County may request assistance from the selected firm in obtaining grant funds as the process proceeds.

Item 17: **Question:** Does the County intend to maintain the existing slope of the surface impoundment in the berm to be constructed?

Response: Yes, currently, the County intends to maintain the existing slope of the impoundment. However, if a responding firm believes that a steeper slope on the berm is advantageous and less expensive due to lower volume of earth in the berm, the County is receptive to that suggestion.

Item 18: **Question:** Will the County post the December 31 report presenting the water balance and leachate capacity information on the Purchasing website?

Response: No, the County will post a more recent revision to that report on Public Purchase as Exhibit D [Letter Report Re. Class II Surface Impoundment Amended Water Balance, Buena Vista Landfill (Amador County Sanitary Landfill) WDR/MRP R5-2018-0020, NV5, March 23, 2020].

Item 19: **Question:** Does the County intend to keep the existing spray evaporation system at the impoundment?

Response: Yes, therefore, the construction documents prepared by the selected firm must include provisions for removing and replacing this system.

Item 20: **Question:** What is the County's motivation for replacing the existing liner in the impoundment?

Response: The RWQCB believes that the liner is leaking. The RFQ provides more detailed information on this.

Item 21: **Question:** Does the RWQCB want to see an LCRS under the new liner?

Response: The surface impoundment is equipped with a leak detection system (an LCRS) under the existing liner.

Item 22: **Question:** Do the wells in the landfill pump directly to the surface impoundment, or is there another pump station?

Response: The leachate wells pump directly to the surface impoundment.

Item 23: **Question:** Does the water balance present the flow rate from the leachate wells and other inflows to the impoundment?

Response: Yes, that information is in the water balance (Exhibit D).

Item 24: **Question:** Can the fence around the surface impoundment be removed?

Response: Yes, the construction documents should include provisions for removing and replacing/reinstalling the fence.

Item 25: **Question:** How much sediment is in the bottom of the impoundment?

Response: The thickness of sediment is not known. However, County removed the sediment within the past couple years. Sediment is believed to be less than one foot thick.

Item 26: **Question:** Will the County be responsible for removing leachate from the pond and managing leachate pumped to the pond?

Response: Yes, this is not part of the designer's scope of work.

Item 27: **Question:** Will the County post the attendance list on the Purchasing website?

Response: No, the County will post information on Public Purchase, not the County's website.The County will post the attendance list on Public Purchase as Exhibit E ["Buenavista Landfill Project: Engineering and Design Services, Mandatory on Site Meeting, 04/17/2020" (three sheets – two handwritten sheets and one typed sheet)].

Item 28: **General Information:** The intent of the Mandatory Questions, Item 11 in the RFQ is to give consultants the opportunity to set themselves apart from others. Many firms are qualified to provide the requested services. However, responses to these questions will indicate if a given firm has exceptional qualifications and experience that others do not. Therefore, responding firms are encouraged to give significant thought to the responses to these questions.

Item 29: **General Information:** Mandatory Question 11.c raises the topic of potential problems related to leaving the existing liner in the surface impoundment in-place and installing the new liner over it. The possibility of simply installing a new liner over the existing liner was raised before the need to increase the capacity of the surface impoundment was known. The County notes that leaving the existing liner in-place may

not be advisable now that they need to construct an earth berm around the perimeter of the impoundment, particularly if the earth berm must be constructed over the existing liner. If responding firms believe that removing the existing liner is more cost effective, or recommended for technical reasons ("non-cost-related reasons), please state so in the statement of qualifications.

Item 30: General Information: Removing at least part of the concrete spillway into the surface impoundment may be necessary.

Item 31: Add: The County has provided the most recent aerial topographic map of the landfill as **Attachment 2** of the RFQ. If responding firms believe that additional field surveying is necessary, please state so in the SOQ.

Item 32: Add: The County must increase the depth of the surface impoundment by 2.5 feet. (i.e., Construct a berm 2.5 feet high around the perimeter of the impoundment.) The RFQ might indicate that the County must construct a berm 2.0 feet high, but subsequent to preparing the RFQ, the RWQCB requested revisions to the water balance for the impoundment. The revisions indicate that a berm 2.5 feet high is necessary.

Requests for Qualifications are required to be submitted no later than **1:30 p.m. Thursday, June 18, 2020** to Amador County General Services Administration, 12200 Airport Road, Jackson, CA 95642. Questions must be received no later than **Thursday, June 12, 2020 at 1:30 p.m.**

This Addendum must be signed and attached with all other required documents when you submit your RFQ. This Addendum is hereby made a part of and incorporated herein by reference into "Request for Qualifications RFQ No. 20-06 Engineering Design Services for the Buena Vista Landfill Project

Signature: Daniel Thompson Date: June 12, 2020

Any questions regarding this Addendum please e-mail www.publicpurchase.com or contact General Services at (209) 223-6375.

Final Proposal Evaluations RFQ 20-06 Contract Services For Engineering Design Services for the Buena Vista Landfill

The Evaluation Committee was made up of three (3) members

CATEGORIES	Max Points	Proposers 0-20 Points	Weight	Proposer 1 Geo-Logic Assoc. Weighted Score	Max Points	Proposers 0-20 Points	Weight	Proposer 2 APTIM Weighted Score	Max Points	Proposers 0-20 Points	Weight	Proposer 3 Geosyntec Consult. Weighted Score
A. Quality and Responsiveness of the Proposal			10%				10%				10%	
A.1. Proposal contains all requested information, is organized, not missing or lacking material information, does not have numerous spelling or grammatical errors, is not laborious and provided relevant information. All information requested specifically in the Executive Summary is included.	20	15.67		7.83	20	18.67		9.33	20	15.00		7.50
B. Experience and Desirable Qualifications			40%				40%				40%	
B.1. Proposal included a description of the nature of the respondent's present work, including a comprehensive list of current and past work on similar projects, staff who worked on those projects, and corresponding client's names, titles, addresses and phone numbers. For any projects referenced in the Statement of Experience and Qualifications, list the involvement of the proposed staff members. Include evidence of any special licensing or qualifications required to perform the work. Proposal includes a Design of comparable projects in California, including strong knowledge of working with local agency implemented or sponsored projects. Strong technical experience specifically in the design and funding of solid waste landfill projects. Please provide brief descriptions of at least three projects your firm has completed successfully that are similar to the Phase I Final Cover Re-Construction and Surface Impoundment Expansion and Liner Replacement projects, with reference contact information. At least one project must have included design of either a landfill liner, or a landfill final cover that included a low permeability soil layer (compacted clay liner), and at least one project must have included design of a waste management unit with a flexible membrane liner and a leak location survey as part of the CQA Plan. All projects must have been subject to Title 27 regulations. Projects under the jurisdiction of the Central Valley Regional Water Quality Control Board are preferred, but not required.	20	18.33		36.67	20	16.33		32.67	20	16.67		33.33
C. Staffing			5%				5%				5%	
C.1. Proposal contains a staffing plan listing associates, personnel and sub-consultants who will be directly assigned to the project, together with a discussion of responsibilities for this project and resumes. Please provide résumés for key personnel to be assigned to this project. Include an organizational chart of personnel involved in the project. Also identify the extent of County personnel involvement deemed necessary, including the candidate's estimated number of hours required and expertise required of the County and/or any other professionals required to participate in the work. The candidate shall discuss the availability of all staff proposed for this project. Experience of key project personnel while employed by other firms (i.e., prior to employment with your firm) is acceptable.	20	20.00		5.00	20	18.67		4.67	20	20.00		5.00
D. Mandatory Question			25%				25%				25%	
D.1. Proposal contains the responding firm's answers to the mandatory questions to evaluate each firm's qualifications. Detailed, design-level responses to these questions are not necessary. Amador County wishes the firms to provide only conceptual/qualitative responses that demonstrate their experience and qualifications related to the proposed work.	20	16.33		20.42	20	19.00		23.75	20	16.00		20.00
E. Project Schedule			20%				20%				20%	
E.1. Proposal contains a detailed proposed schedule identifying all tasks and projected dates of completion for project milestones.	20	16.33			20	19.67			20	17.00		
TOTAL POINTS * 0 = Non-existent 4 = Poor 8 = Marginal 12 = Acceptable 16 = Very Good 20 = Excellent	100	86.67		16.33	100	92.33		19.67	100	84.67		17.00
TOTAL WEIGHT (100%)			**100.00%**				**100.00%**				**100.00%**	
TOTAL WEIGHTED POINTS				**86.25**				**90.08**				**82.83**

Averaged Final Scores 7.14.20

Signature/Date

PROFESSIONAL SERVICES AGREEMENT

THIS SERVICES AGREEMENT (this "Agreement") is entered into as of _____, 2020 by and between the COUNTY OF AMADOR, a political subdivision of the State of California (the "County") and**_____, a (Corporation, Sole Proprietor, LLC, etc.)** (the "Consultant").

RECITALS

A. County desires to engage professional assistance to provide the hereinafter set forth special services.

B. Consultant is in the business of providing services similar to those set forth in this Agreement.

C. County desires to engage Consultant, and Consultant desires to be hired by County, to perform the work described below, upon the terms and conditions set forth in this Agreement.

NOW THEREFORE, in consideration of the performance of the covenants herein contained, the parties agree as follows:

1. SERVICES TO BE RENDERED BY CONSULTANT.

1.1 Upon request from County, Consultant will provide all equipment, supplies and personnel to perform **Engineering Services** for Amador County Airport (the "Work"). The Work is more particularly described on **Attachment A** attached and incorporated by this reference. Consultant shall comply with all applicable Federal, State and local laws relating to Consultant's performance of this Agreement.

1.2 Consultant shall perform the Work in a manner consistent with the level of competency and standard of care normally observed by a person practicing in Consultant's profession. If County determines that any of the Work is not performed in accordance with such level of competency and standard of care, County, in its sole discretion, shall have the right to do any or all of the following: (a) require Consultant to meet with County to review the quality of the Work and resolve matters of concern; (b) require Consultant to repeat any substandard Work at no additional charge until it is satisfactory; (c) terminate this Agreement pursuant to section 4 below; or (d) pursue any and all other remedies at law or in equity.

1.3 Consultant is authorized to proceed immediately following full execution of this Agreement and delivery and approval of required insurance documents as required by Section 11. Performance of the Work shall be completed within the time required herein or prescribed for an individual task by County; provided, however, that if performance is delayed by earthquake, flood, high water or other act of God, or by strike, lockout, or similar labor disturbances, the time for Consultant's performance of this Agreement shall be extended by the number of days equal to the number of days of delay.

1.4 Consultant shall complete each project assigned by County in accordance with an agreed-upon schedule.

1.5 Consultant and County acknowledge that portions of the work to be performed hereunder may be subject to payment of prevailing wages in accordance with California law. For all covered work, Consultant must comply with California prevailing wage laws (California Labor Code section 1770 et seq.), and must pay and require payment of wages according to prevailing wage rates established by the California Department of Industrial Relations. Consultant is advised to obtain current prevailing wage documents entitled "Basic Trades or Sub-Trades Rates" as determined by the Director of the California Department of Industrial Relations, available for review at: http://www.dir.ca.gov/DLSR/statistics_research.html, or mail to; Department of Industrial Relations, Division of Labor Statistics and Research, P.O. Box 420603, San Francisco, CA 94142-0603, or call (415) 703-4780. (A copy is also available via the Internet at the Department of Transportation and Public Works office). Consultant shall indemnify, defend and hold County harmless from any loss, damage, liability or expense resulting from Consultant's failure to comply with applicable prevailing wage statutes.

1.6 Consultant and County also acknowledge that the work to be performed hereunder shall be financed in whole or in part with federal funds; therefore Federal Prevailing Wage Determination issued under the Davis-Bacon and Related Acts shall apply to this Agreement and may be applicable to the Work.

2. SERVICES TO BE RENDERED BY COUNTY. County agrees to make available to Consultant all existing documents and information applicable to any assigned project constituting the Work.

3. CHANGES IN SCOPE OF SERVICES. Only the Amador County Board of Supervisors has the authority to agree to any extension of time, change order, change in the scope of work, change in the contract price, or other term or condition affecting either Consultant's or County's duties set forth herein. Adjustments in compensation, if any, shall be determined through negotiation between the parties to the Agreement and are subject to approval by the Board of Supervisors. Consultant acknowledges that no County staff person or County officer other than the Board of Supervisors has the power to amend the terms and conditions of this Agreement. Any change not so authorized in advance in writing by the Board of Supervisors shall be null and void.

4. TERM; TERMINATION OF AGREEMENT. This Agreement shall commence on the date of execution by County and shall terminate upon the earlier of the successful completion of the Work or, **no later than December 31, 2021,** following the date of execution, unless extended in writing by mutual agreement of the parties. County reserves the right to terminate this Agreement with or without cause on **thirty (30) days** written notice to Consultant. In the case of such early termination, Consultant shall be paid for all services satisfactorily rendered up to the effective date of termination, up to the maximum fee prescribed for any task.

The County may immediately terminate this Agreement upon written notice to Consultant in the event Consultant, or any or its employees or subconsultants, fails to provide, in any manner, the services required under this Agreement or otherwise fails to comply with the terms of this Agreement.

5. COMPENSATION TO CONSULTANT.

5.1 Consultant shall submit monthly invoices in arrears indicating for each item of the Work performed, hours of work expended (in quarter-hour increments), hourly rate or rates of persons performing the task, and copies of receipts for reimbursable materials or expenses. Compensation to Consultant shall be paid on a time-and-materials basis, with a cost-not-to-exceed limit of **_____ Dollars and no _____cents ($0.00)**, in accordance with the fee schedule and list of reimbursable expenses set forth on **Attachment B** attached and incorporated by this reference. In the event the County determines that a change to the Work from that specified in **Attachment B** is required, the contract time and/or actual costs reimbursable by the County shall be adjusted by agreement amendment to accommodate the changed work.

5.2 If Consultant's Proposal contains a schedule of tasks or subtasks with identified levels of effort such as estimated hours and/or estimated costs, or identifiable work products, milestones, or other events, then compensation for these individual tasks or activities shall not exceed the identified estimate or other limiting factors without the written approval of County's Project Manager. Consultant shall promptly notify County's Project Manager in writing of any tasks, subtasks, work products, or milestones that need to be reevaluated and indicate the reason and/or justification for such reevaluation. County's Project Manager is authorized to negotiate adjustments of individual tasks so long as the work is within the general scope of the project and the total compensation does not exceed amounts specified in **Attachment B**.

5.3 County shall make payment to Consultant within 30 days of the invoice for payment, based upon the services described on the invoice and in an amount properly allowed by the County.

5.4 Progress payments will be made monthly in arrears based on services provided. A pro rata portion of the Consultant's fixed fee will be included in the monthly progress payments. If Consultant fails to submit the required deliverable items according to the schedule set forth in the Scope of Work, **Attachment A**, the County shall have the right to delay payment and/or terminate this Agreement in accordance with the provisions of Section 4 of this Agreement. Consultant shall submit monthly a Progress Report containing a detailed statement of all services performed and all work accomplished under this Agreement since Consultant's last monthly Progress Report. Final invoices must contain the final cost and all credits due the County. The final invoice should be submitted within 30-calendar days after completion of the Consultant's work.

5.5 Consultant shall immediately notify the County's Project Manager in writing of any work that the County requests to be performed that Consultant believes is outside the original scope of work covered by this Agreement. If it is determined that said request is outside the scope of work, such work shall not be performed unless and until an amendment providing for adjustment in Consultant's compensation is approved and executed by both parties.

5.6 Consultant shall provide a completed W-9 to the Auditor's Office. No payments shall be issued prior to submission of this form.

5.7 In the event Consultant claims or received payment from County for a service for which reimbursement is later disallowed by County, state or federal agencies, Consultant shall promptly refund the disallowed amount to County upon request or, at County's option, County may offset the amount disallowed from any payment that is due or becomes due to Consultant under this Agreement or any other agreement.

6. SUPERVISION OF THE WORK.

6.1 Consultant shall supervise and direct the Work, using Consultant's best skill and attention. Consultant shall be solely responsible for all methods, techniques, sequences and procedures, and shall coordinate all portions of the Work. County will deal only through Consultant, who shall be responsible for the proper execution of the entire Work.

6.2 Consultant shall assign only competent personnel to perform any portion of the Work. If at any time County, in its sole discretion, desires the removal of any person or persons assigned by Consultant to perform the Work, Consultant shall remove such person or persons immediately upon receiving written notice from County. If any person is identified in this Agreement (or any attachment hereto), Consultant shall not remove, replace, substitute, or otherwise change any key personnel without the prior written consent of County.

6.3 Consultant shall be responsible to County for the acts and omissions of Consultant's employees, subconsultants, and their agents and employees, and any other persons performing any of the Work under a contract with Consultant.

6.4 A subconsultant ("Subconsultant") is a person or organization that has a direct contract with Consultant to perform any of the Work. Consultant shall not subcontract any portion of the Work unless pre-approved in writing by County. Consultant agrees that it is as fully responsible to County for the acts and omissions of Subconsultants and of persons either directly or indirectly employed by Consultant as it is for the acts and omissions of persons directly employed by it. Nothing contained in this Agreement or any other document associated with the performance of the work shall create any contractual relation between any Subconsultant and County.

6.5 Consultant agrees to bind every Subconsultant and every Subconsultant agrees to be bound by the terms of this Agreement as to that portion of the Work performed by Subconsultant, unless specifically noted to the contrary in a subcontract approved in writing by County. Subconsultant agrees to be bound to the Consultant by the terms of this Agreement and to assume toward Consultant all of the obligations and responsibilities that the Consultant assumes toward County. Consultant agrees to be bound to the Subconsultant by all of the obligations that County assumes to Consultant under this Agreement as to the portion of the Work performed by Subconsultant.

7. CONFERENCES, VISITS TO SITE, INSPECTION OF WORK. In the event it should become necessary for the State or County to hold any conference or visit the site of a project, as a part of any such conference, Consultant shall cooperate fully with the parties involved and shall arrange for qualified representatives of Consultant, upon request of County, to attend any such conference or visit to the site as a part thereof.

8. ASSIGNMENTS. Neither party may assign, sublet, or transfer its interest in this Agreement without the written consent of the other.

9. CONSULTANT NOT EMPLOYEE OF COUNTY. It is understood that Consultant is not acting hereunder as an employee of County, but solely as an independent consultant. Consultant, by virtue of this Agreement, has no authority to bind or incur any obligation on behalf of County. Except as expressly provided in this Agreement, Consultant has no authority or responsibility to exercise any rights or power vested in County. It is understood by both Consultant and County that this Agreement shall not under any circumstances be construed or considered to create an employer-employee relationship or a joint venture.

10. LICENSES, PERMITS, ETC. Consultant represents and warrants to County that it or its principals have all licenses, permits, qualifications, and approvals of whatsoever nature that are legally required for Consultant to practice its profession and to perform the Work. Consultant represents and warrants to County that Consultant shall, at its sole cost and expense, keep in effect at all times during the term of this Agreement any license, permits, and approvals that are legally required for Consultant or its principals to practice its profession and perform the Work. Consultant further represents and warrants to County that any Subconsultant engaged by Consultant to perform a portion of the Work shall similarly possess all licenses, permits, qualifications, and approvals of whatsoever nature that are legally required for the Subconsultant to perform the portion of the Work that is the subject of the subcontract at issue.

11. INSURANCE. Consultant shall procure and maintain for the duration of the contract insurance against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work hereunder by the Consultant, its agents, representatives, or employees. Within **five (5**) business days of award of the Bid to Consultant, Consultant shall furnish to County satisfactory proof that Consultant has the following insurance:

11.1 Minimum Scope and Limit of Insurance: Coverage shall be at least as broad as:

11.1.1 Commercial General Liability (CGL): Insurance Services Office Form CG 00 01 covering CGL on an "occurrence" basis, including products and completed operations, property damage, bodily injury and personal & advertising injury with limits no less than $1,000,000 per occurrence. If a general aggregate limit applies, either the general aggregate limit shall apply separately to this project/location (ISO CG 25 03 or 25 04) or the general aggregate limit shall be twice the required occurrence limit.

11.1.2 Automobile Liability: Insurance Services Office Form Number CA 0001 covering, Code 1 (any auto), or if Consultant has no owned autos, Code 8 (hired) and 9 (non-owned), with limit no less than $1,000,000 per accident for bodily injury and property damage.

11.1.3 Workers' Compensation insurance as required by the State of California, with Statutory Limits, and Employer's Liability Insurance with limit of no less than $1,000,000 per accident for bodily injury or disease.

(If Consultant has no employees a Certificate of Exemption from Worker's Compensation Laws must be completed using the County's form and submitted with all other insurance documents).

11.1.4 Professional Liability (Errors and Omissions) Insurance appropriate to the Consultant's profession, with limit no less than $2,000,000 per occurrence or claim, $2,000,000 aggregate.

Broader Coverage/Higher Limits: If the Consultant maintains broader coverage and/or higher limits than the minimums shown above, the County requires and shall be entitled to the broader coverage and/or higher limits maintained by the Consultant. Any available insurance proceeds in excess of the specified minimum limits of insurance and coverage shall be available to the County.

11.2 **The insurance policies are to contain, or be endorsed to contain, the following provisions:**

11.2.1 Additional Insured Status: The County, its officers, officials, employees, and volunteers are to be covered as additional insureds on the CGL policy with respect to liability arising out of work or operations performed by or on behalf of the Consultant including materials, parts, or equipment furnished in connection with such work or operations. General liability coverage can be provided in the form of an endorsement to the Consultant's insurance (at least as broad as ISO Form CG 20 10 11 85 or both CG 20 10, CG 20 26, CG 20 33, or CG 20 38; and CG 20 37 forms if later revisions used).

11.2.2 Primary Coverage: For any claims related to this contract, the Consultant's insurance coverage shall be primary insurance primary coverage at least as broad as ISO CG 20 01 04 13 as respects the County, its officers, officials, employees, and volunteers. Any insurance or self-insurance maintained by the County, its officers, officials, employees, or volunteers shall be excess of the Consultant's insurance and shall not contribute with it.

11.2.3 Notice of Cancellation: Each insurance policy required above shall state that coverage shall not be canceled, except with notice to the County.

11.2.4 Waiver of Subrogation: Consultant hereby grants to County a waiver of any right to subrogation which any insurer of said Consultant may acquire against the County by virtue of the payment of any loss under such insurance. Consultant agrees to obtain any endorsement that may be necessary to affect this waiver of subrogation, but this provision applies regardless of whether or not the County has received a waiver of subrogation endorsement from the insurer.

11.3 Self-Insured Retentions: Self-insured retentions must be declared to and approved by the County. The County may require the Consultant to provide proof of ability to pay losses and related investigations, claim administration, and defense expenses within the retention. The policy language shall provide, or be endorsed to provide, that the self-insured retention may be satisfied by either the named insured or County.

11.4 Acceptability of Insurers: Insurance is to be placed with insurers authorized to conduct business in the state with a current A.M. Best's rating of no less than A:VII, unless otherwise acceptable to the County.

11.5 Claims Made Policies: If any of the required policies provide coverage on a claims-made basis:

11.5.1 The Retroactive Date must be shown and must be before the date of the contract or the beginning of contract work.

11.5.2 Insurance must be maintained and evidence of insurance must be provided for at least five (5) years after completion of the contract of work.

11.5.3 If coverage is canceled or non-renewed, and not replaced with another claims-made policy form with a Retroactive Date prior to the contract effective date, the Consultant must purchase "extended reporting" coverage for a minimum of five (5) years after completion of contract work.

11.6 Verification of Coverage: Consultant shall furnish the County with Certificates of Insurance including all required amendatory endorsements (or copies of the applicable policy language effecting coverage required by this clause) and a copy of the Declarations and Endorsement Page of the CGL policy listing all policy endorsements to County before work begins. However, failure to obtain the required documents prior to the work beginning shall not waive the Consultant's obligation to provide them. The County reserves the right to require complete, certified copies of all required insurance policies, including endorsements required by these specifications, at any time. ***Certificates and endorsements shall refer to the Project or Work. Certificates of Insurance shall list the Certificate Holder as: County of Amador, Attn: (Department, Title, and Address of Contract Administrator). Contractor shall provide all insurance documentation to the Contract Administrator.***

11.7 Subcontractors: Consultant shall require and verify that all subcontractors maintain insurance meeting all the requirements stated herein, and Consultant shall ensure that County is an additional insured on insurance required from subcontractors.

11.8 Special Risks or Circumstances: County reserves the right to modify these requirements, including limits, based on the nature of the risk, prior experience, insurer, coverage, or other special circumstances.

12. OWNERSHIP OF DOCUMENTS. Upon completion or termination of this Agreement, County shall be entitled to ownership and immediate possession of, and Consultant shall furnish, on request, all computations, plans, correspondence, manuals, warranties, and other pertinent data gathered or computed by Consultant for the Work prior to termination. Consultant may retain copies of such original documents for Consultant's files.

13. INDEMNIFICATION. Consultant agrees to indemnify, defend (upon request of County) and hold harmless County and County's agents, board members, elected and appointed officials and officers, employees, volunteers and authorized representatives from any and all losses, liabilities, charges, damages, claims, liens, causes of action, awards, judgments, costs, and expenses (including, but not limited to, reasonable attorney's fees of County Counsel and counsel retained by County, expert fees, costs and staff time, and investigation costs) of whatever kind or nature (collectively "Claims"), that arise out of or are in any way connected with any negligent error, act or omission of Consultant or Consultant's officers, agents, employees, independent consultants, subconsultants, or authorized representatives, unless resulting from the sole negligence, active negligence, or willful misconduct of an indemnified party. Without limiting the generality of the foregoing, the same shall include injury or death to any person or persons; damage to any property, regardless of where located, including the property of County; and any workers' compensation claim or suit arising from or connected with any services performed pursuant to this Agreement on behalf of Consultant by any person or entity. Consultant's indemnity obligations shall not be limited by the amount of insurance provided.

14. PUBLIC RECORDS ACT DISCLOSURE. Consultant has been advised and is aware that all reports, documents, information and data including, but not limited to, computer tapes, discs or files furnished or prepared by Consultant, or any of its subconsultants, and provided to County may be subject to public disclosure as required by the California Public Records Act (California Government Code Section 6250 et seq.). Exceptions to public disclosure may be those documents or other information that qualify as trade secrets, as that term is defined in the California Government Code Section 6254.7, and of which Consultant informs County of such trade secret. The County will endeavor to maintain as confidential all information obtained by it that is designated as a trade secret. The County shall not, in any way, be liable or responsible for the disclosure of any trade secret including, without limitation, those records so marked if disclosure is deemed by County to be required by law or by court order.

15. RESPONSIBILITY FOR ERRORS. Consultant shall be responsible for its work and results under this Agreement. Consultant, when requested, shall furnish clarification and/or explanation as may be required by the County, regarding any services rendered under this Agreement at no additional cost to the County. In the event an error or omission attributable to Consultant occurs, then Consultant shall, at no cost to County, provide all necessary design drawings, estimates, and other professional services necessary to rectify and correct the matter to the sole satisfaction of County and to participate in any meeting with regard to the correction.

16. NON-DISCRIMINATION. Consultant shall provide all services under this Agreement without discrimination, and shall not discriminate against any employee or applicant for employment, on the basis of race, religious creed, color, national origin, ancestry, physical disability, mental disability, medical condition, marital status, sex, age, or sexual orientation. Consultant will comply with Section 1735 of the Labor Code and all provisions of Executive

Order No. 10925 of March 6, 1961, as amended, and all rules, regulations and relevant orders of the President's Committee on Equal Opportunity created thereby. Consultant shall also comply with the California Fair Employment and Housing Act (Government Code, Section 12900 and following).

17. CONFLICT OF INTEREST. Consultant warrants and represents that it presently has no interest and covenants that it will not acquire any interest, direct or indirect, that represents a financial conflict of interest under state law or that would otherwise conflict in any manner or degree with the performance of the Work. Consultant further agrees that in the performance of this Agreement no person having any such interest shall be employed by Consultant.

18. ALCOHOL-FREE AND DRUG-FREE WORK PLACE POLICY. That while performing any services pursuant to the Contract, being present on any County property, or using any County equipment, the Contractor, its employees, sub-contractors and agents:

1. Shall not be in any way be impaired because of being under the influence of alcohol or a drug.

2. Shall not possess, consume, or be under the influence of alcohol and/or an illegal drug.

3. Shall not sell, offer, or provide alcohol or an illegal drug to another person.

If Contractor, or any employees, sub-contractors violate any of the above provisions, the County may terminate the Contract immediately.

19. NOTICES. All notices herein provided to be given, or which may be given, by either party to the other, shall be deemed to have been fully given when made in writing and deposited in the United States Postal Services, certified with return receipt requested, with postage prepaid and addressed as follows:

To Consultant:
Attn:

To County:
Amador County Waste Management Department
Attn: Jeff Gardner, Director
810 Court Street
Jackson, CA 94642

With a copy to:
Office of the County Counsel
810 Court Street
Jackson, CA 95642

The address to which notice shall or may be mailed, as aforesaid, to either party shall or may be changed by written notice given by such party or the other, as hereinbefore provided, but nothing herein contained shall preclude the giving of any such notice by personal service.

20. CONTRACT EXECUTION. Each individual executing this Agreement on behalf of Consultant represents that he or she is fully authorized to execute and deliver this Agreement.

21. CONSTRUED PURSUANT TO CALIFORNIA LAW; VENUE. The parties hereto agree that the provisions of this Agreement will be construed pursuant to the laws of the State of California. Venue for all litigation relative to the formation, interpretation, and performance of this Agreement shall be in Amador County, California.

22. INCORPORATION OF AGREEMENTS AND AMENDMENTS. This Agreement contains all agreements of the parties with respect to any matter mentioned herein. No other Agreement or understanding pertaining to any such matter shall be effective, unless in writing signed by the party to be charged. This Agreement may be modified by the parties hereto only in writing and signed by both parties.

23. SEVERABILITY. The invalidity of any provision of this Agreement, as determined by a court of competent jurisdiction, shall in no way affect the validity of any other provision hereof.

24. TIME OF ESSENCE. Time is hereby expressly declared to be the essence of this Agreement and of each and every provision thereof, and each such provision is hereby made and declared to be a material, necessary, and essential part of this Agreement.

25. RETENTION OF RECORDS. Pursuant to Government Code section 8546.7, the performance of any work under this Agreement is subject to the examination and audit of the State Auditor at the request of County or as part of any audit of County for a period of three years after final payment under the Agreement. Each party hereto shall retain all records relating to the performance of the Work and the administration of the Agreement for three years after final payment hereunder. The state, the State Auditor, County, Federal Aviation Administration, or any duly authorized representative of the federal government shall have access to any books, records, and documents of the Consultant that are pertinent to the Contract for the audit, examinations, excerpts, and transactions, and copies thereof shall be furnished if requested.

26. PROGRESS REPORTS. Consultant shall submit monthly a report for the project containing a detailed statement of all services performed and all work accomplished under this Agreement since Consultant's last monthly report, indicating for each item of the Work the task performed, hours of work expended (in quarter-hour increments), hourly rate or rates of persons performing the task, and copies of receipts for reimbursable materials or expenses.

27. ADDITIONAL FEDERAL REQUIREMENTS. The funding for the Work performed pursuant to this Agreement are provided, in whole or part, from federal funds. Therefore, Consultant shall also fully and adequately comply with the federal requirements included in **Attachment C**, attached hereto and incorporated by this reference and made part of this Agreement.

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

COUNTY OF AMADOR

BY:_____
Chairman, Board of Supervisors

APPROVED AS TO FORM:
GREGORY GILLOTT, AMADOR COUNTY COUNSEL

BY:_____

CONSULTANT:

BY:_____

Federal I.D. No.:

ATTEST:
JENNIFER BURNS, CLERK OF THE BOARD OF SUPERVISORS

BY:_____

ATTACHMENT A – SCOPE OF WORK

1. Includes all services specified in the County of Amador RFP Number 20-06 and;
2. Consultant's response to RFP Number 20-06 dated _____, 2020 attached herein and;
3. This Agreement

These documents are hereby made a part of and incorporated herein by reference into this contract.

ATTACHMENT B – COMPENSATION

Total compensation to Consultant will be made monthly on a time-and-materials basis (or task related basis) with cost-not-to-exceed _____Dollars and No _____Cents ($0.00) in accordance with Cost Proposal dated____, 2020 submitted by_____(see attached).

The Cost Proposal and Fee Schedule attached hereto, constitute the full and complete understanding and agreement of the parties with respect to the Services to be provided by_____; and they supersede any prior or contemporaneous understanding or agreement, whether written, oral or communicated in any other type of medium, between the parties relating thereto. No amendment or modification of any provision of this Agreement shall be binding unless made in writing and signed by the parties hereto.

The California Constitution requires that any County contract that extends beyond the current fiscal year must be subject to future appropriations.

ADDITIONAL WORK

When the County requests additional work to be performed Consultant shall provide monthly invoices which will include an itemization of expenses for which reimbursement is being requested for. The invoice shall include for each item of the Work performed, hours of work expended (in quarter-hour increments), a detail of work performed, hourly rate or rates of persons performing the task, and copies of receipts for reimbursable materials or expenses.

These documents are hereby made a part of and incorporated herein by reference into this contract.

ATTACHMENT C
FEDERAL CONTRACT PROVISIONS

SUSPENSION AND DEBARMENT

(1) This contract is a covered transaction for purposes of 2 C.F.R. pt. 180 and 2 C.F.R. pt. 3000. As such, the consultant is required to verify that none of the consultant's principals (defined at 2 C.F.R. § 180.995) or its affiliates (defined at 2 C.F.R. § 180.905) are excluded (defined at 2 C.F.R. § 180.940) or disqualified (defined at 2 C.F.R. § 180.935).

(2) The consultant must comply with 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C, and must include a requirement to comply with these regulations in any lower tier covered transaction it enters into.

(3) By submitting a bid/proposal under this solicitation, the bidder or offeror certifies that neither it nor its principals are presently debarred or suspended by any Federal department or agency from participation in this transaction.

(4) This certification is a material representation of fact relied upon by the County of Amador. If it is later determined that the consultant did not comply with 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C, in addition to remedies available to the County of Amador, the Federal Government may pursue available remedies, including but not limited to suspension and/or debarment.

(5) The bidder or proposer agrees to comply with the requirements of 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C while this offer is valid and throughout the period of any contract that may arise from this offer. The bidder or proposer further agrees to include a provision requiring such compliance in its lower tier covered transactions.

PROCUREMENT OF RECOVERED MATERIALS

Consultant agrees to comply with Section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act, and the regulatory provisions of 40 CFR Part 247. In the performance of this contract and to the extent practicable, the Contractor and subcontractors are to use of products containing the highest percentage of recovered materials for items designated by the Environmental Protection Agency (EPA) under 40 CFR Part 247 whenever:

a) The contract requires procurement of $10,000 or more of a designated item during the fiscal year; or,
b) The contractor has procured $10,000 or more of a designated item using Federal funding during the previous fiscal year.

List of EPA designated items is available at: https://www.epa.gov/smm/comprehensive-procurement-guideline-cpg-program

Section 6002(c) establishes exceptions to the preference for recovery of EPA-designated products if the contractor can demonstrate the item is:

a) Not reasonably available within a timeframe providing for compliance with the contract performance schedule;
b) Fails to meet reasonable contract performance requirements; or
c) Is only available at an unreasonable price.