

APPENDIX S

PRELIMINARY CLOSURE AND POST-CLOSURE
COST ESTIMATES

November 11, 2011
File No. 01210155.00

MEMORANDUM

TO: Lochlin Caffey, Republic / Keller Canyon Landfill Inc.
Susan Klassen, Sonoma County

FROM: Alex Tuveson, SCS Engineers
Joseph Miller, P.E., SCS Engineers

SUBJECT: *Preliminary Closure and Post-Closure Maintenance Cost Estimates
Sonoma County Central Disposal Site*

On behalf of Sonoma County, SCS Engineers (SCS) has prepared preliminary closure and post-closure maintenance cost estimates for the Sonoma County Central Disposal Site (CDS). The preliminary cost estimates for final closure have been prepared pursuant to 27CCR §21769(b)(2)(A), §21815, and §21820(a). Preliminary cost estimates for post-closure maintenance have been prepared pursuant to 27CCR §21840.

Updated closure and post-closure maintenance expenses for landfill closure were estimated by SCS. The estimates reflect costs in current dollars (\$2011) for hiring a third party to close the facility and then inspect, monitor and maintain the landfill for a 30-year post-closure period. The closure cost estimates are based on the following:

- Preliminary design and other information contained in the *Revised Joint Technical Document, Central Disposal Site, Sonoma County, California*, prepared by SCS and dated March, 2011.
- Landfill industry unit costs and our experience with closure capital improvements and post-closure monitoring and maintenance. Where applicable, closure construction quantity take-offs were estimated from digitized versions of the preliminary closure design plans using AutoDesk Civil 3D software.

Estimated capital expenses for landfill closure are summarized in Table 1. Estimated annual and 30-year total post-closure costs for third-party inspections, monitoring and maintenance are summarized in Table 2.

Worksheets with detailed line-item closure expenses for the CDS are provided in Attachment 1. Key underlying assumptions and other information for preparing the cost estimates are also attached.

The attached cost estimates reflect the State's cost (e.g. prevailing wage). Labor costs reflecting prevailing wage were provided by the California Department of Industrial Relations for laborers and equipment operators.

Attachment 2 provides a copy of a bid item summary for a comparable closure project recently undertaken in Merced County California. Contractor bids for earthmoving, liner placement and other closure activities are based on prevailing wages and validate line item expenses in the preliminary closure cost estimates prepared herein.

PROFESSIONAL CERTIFICATION

I, Joseph J. Miller, a Civil Engineer, Registration Number 042598, registered in the State of California pursuant to Section 6762 of the Business and Professions Code, hereby certify that I have prepared preliminary cost estimates pursuant to State regulations pertaining to closure and post-closure maintenance, for the Sonoma County Central Disposal Site, located in Sonoma County, California.

I certify (or declare) under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

November 11, 2011
Pleasanton CA

Date and Place



Signature

(Seal)



CE No. 042598

SCS Engineers
6601 Koll Center Parkway, Suite 140
Pleasanton, California 94566
Business Address

(925) 426-0080
Telephone Number

**TABLE 1. PRELIMINARY CLOSURE COSTS
SONOMA COUNTY CENTRAL DISPOSAL SITE**

Item	Estimated Cost (\$2011)
Pre-Field Activities	\$290,000
Final Grading and Cover Placement	\$18,366,200
CQA – Soil and Liner Placement	\$2,280,000
Revegetation – Hydroseeding	\$570,000
LFG Monitoring and Control System	\$425,000
Leachate Control	\$215,000
Final Drainage	\$1,165,000
Documentation	\$225,000
Sub-Total	\$23,536,200
20% Contingency	\$4,707,000
Total	\$28,243,200

**TABLE 2. POST-CLOSURE MAINTENANCE COSTS
SONOMA COUNTY CENTRAL DISPOSAL SITE**

Item	Estimated Cost, \$/Year (\$2011)
Final Cover Maintenance	\$127,500
Drainage System Maintenance	\$18,900
Leachate Collection	\$376,900
LFG System Operation and Maintenance	\$139,600
Final Grading Maintenance	\$8,000
Groundwater Monitoring	\$124,000
Site Security	\$10,000
Sub-Total Annual Cost	\$804,900
Total 30-Year Cost	\$24,147,000

ATTACHMENT 1

CLOSURE AND POST-CLOSURE COST ESTIMATE WORKSHEETS
SONOMA COUNTY CENTRAL DISPOSAL SITE

Preliminary Closure Cost Estimates - Sonoma Central Disposal Site
Jul-11

SCS ENGINEERS

<u>Item</u>	<u>Description</u>	<u>Unit</u>	<u>Unit Cost</u>	<u>Quantity</u>	<u>Cost</u>	
1	Pre-Field Activities					\$ 290,000
1a	Mobilization and Demobilization	LS	250,000	1	\$ 250,000	
1b	Surveying	LS	20,000	2	\$ 40,000	
2	Final Cover					\$ 18,366,200
2a	Final Grading, Scarifying, and Recompaction	AC	3,000	190	\$ 570,000	
2b	Foundation Layer (1 ft)	CY	4.50	307,000	\$ 1,381,500	
2c	GCL	SF	0.70	2,701,000	\$ 1,890,700	
2d	60-mil HDPE	SF	0.70	8,276,000	\$ 5,793,200	
2e	Geo-composite drain layer	SF	0.80	8,276,000	\$ 6,620,800	
2f	Vegetative Layer (1.5 ft)	CY	4.00	460,000	\$ 1,840,000	
2g	Gravel all-weather bench roads	CY	30.00	9,000	\$ 270,000	
3	CQA - Soil and Liner Placement	AC	12,000	190	\$ 2,280,000	\$ 2,280,000
4	Revegetation - hydroseeding	AC	3,000	190	\$ 570,000	\$ 570,000
5	Landfill Gas Monitoring and Control System					\$ 425,000
5a	Replacement Gas Extraction Wells	EA	11,000	15	\$ 165,000	
5b	Install header pipe	LF	21.00	10,000	\$ 210,000	
5c	Engineering and permitting	LS	50,000	1	\$ 50,000	

Preliminary Closure Cost Estimates - Sonoma Central Disposal Site
Jul-11

SCS ENGINEERS

<u>Item</u>	<u>Description</u>	<u>Unit</u>	<u>Unit Cost</u>	<u>Quantity</u>	<u>Cost</u>
6	Leachate Control				\$ 215,000
6a	Replacement Leachate Extraction Wells	EA	16,500	10	\$ 165,000
6b	Piping	LF	5	10,000	\$ 50,000
7	Final Drainage				\$ 1,165,000
7a	Drop Inlet Structures	EA	5,000	17	\$ 85,000
7b	Downchutes	LF	50	4,900	\$ 245,000
7c	Bench V-ditch w/ erosion mat Typ I & II	LF	25.00	25,000	\$ 625,000
7d	Bench V-ditch w/ erosion mat Typ III, IV & V	LF	35.00	6,000	\$ 210,000
8	Documentation				\$ 225,000
8a	Final Closure Plan and CQA Documents	LS	30,000	2	\$ 60,000
8b	Design Plans and Specifications	LS	150,000	1	\$ 150,000
8c	Final Survey - Aerial Topo	LS	15,000	1	\$ 15,000
SUBTOTAL					\$ 23,536,200
20% CONTINGENCY					\$ 4,707,000
TOTAL					\$ 28,243,200

Preliminary Post-Closure Cost Estimates - Sonoma Central Disposal Site
Jul-11

SCS ENGINEERS

<u>Item</u>	<u>Unit</u>	<u>Unit Cost</u>	<u>Quantity</u>	<u>Cost</u>	
1 Final Cover Maintenance					\$ 127,500
1a Inspect Final Cover	YR	3,000	2	\$ 6,000	
1b Final Cover Maintenance	AC-YR	350	190	\$ 66,500	
1c Liner Repairs	YR	55,000	1	\$ 55,000	
2 Drainage System Maintenance					\$ 18,900
2a Inspect Drainage System	YR	1,500	2	\$ 3,000	
2b Drainage System Repairs	LF-YR	0.35	31,000	\$ 10,900	
2c Detention Basin Cleanouts	YR	5,000	1	\$ 5,000	
3 Leachate Collection/Disposal					\$ 376,900
3a Leachate Disposal	\$-GAL	0.005	23,177,500	\$ 115,900	
3b Leachate Extraction System O&M	YR	225,000	1	\$ 225,000	
3c Leachate System Monitoring	YR	30,000	1	\$ 30,000	
3d Leachate Force Main System Electrical	YR	6,000	1	\$ 6,000	
4 Landfill Gas System O&M					\$ 139,600
4a Operation and Maintenance	MO	4,500	12	\$ 54,000	
4b Probe Monitoring/Sampling/Replacement	QTR	3,250	4	\$ 13,000	
4c Title V Monitoring/Reporting (incl source test)	YR	25,000	1	\$ 25,000	
4d Blower/flare replacement (1x)	YR	13,300	1	\$ 13,300	
4e LFG Well Repairs/Replacements	EA	8,500	1	\$ 8,500	
4f Wellbore Seal Replacement	YR	775,000	1/30	\$ 25,800	
5 Final Grading Maintenance					\$ 8,000
5a Survey	EA	5,000	1	\$ 5,000	
5b Aerial Topo and Survey (5 year interval)	YR	15,000	1/5	\$ 3,000	

Preliminary Post-Closure Cost Estimates - Sonoma Central Disposal Site
Jul-11

SCS ENGINEERS

6	Groundwater Monitoring						\$	124,000
6a	Annual Inspection/Monitoring/Replacement	YR	115,000	1	\$	115,000		
6b	Saturated Zone monitoring	YR	9,000	1	\$	9,000		
7	Security	YR	10,000.00	1	\$	10,000	\$	10,000
SUBTOTAL ANNUAL COST							\$	804,900
TOTAL 30-YEAR COST							\$	24,147,000

<u>Item</u>	<u>Comment</u>
-------------	----------------

Closure Costs

General	Closure area - 172.8 acres (plan); 190 acres (slope). Labor costs reflect prevailing wage. Labor costs reflect prevailing wage provided by the California Department of Industrial Relations for laborers and operators working within Area 2 (www.dir.ca.gov/dlsr/pwd/index.htm). SCS experience with similar projects refers to recently completed projects (within last 5 years) where SCS acted as engineer, performed CQA monitoring, and/or was the project contractor or sub-contractor.
1a	Mobilization and Demobilization. Unit cost based on approximately 1% of capital cost. Includes performance and maintenance bonds, equipment and material deliveries, admin, purchasing, schedules, coordination, office trailer, health and safety, and sanitary facilities and water services.
1b	Initial aerial surveying includes pre-flight ground control surveying, aerial survey, photogrammetry, initial survey staking and generation of AutoCad topographic figure(s). Aerial survey cost of \$20,000 based on recent surveying completed by SCS sub-contractor. Slope staking provided in unit costs below. Assume two capital projects.
2a	Final grading with prevailing wage labor, dozer, scraper, water truck and compactor type equipment. Clearing, grubbing, stripping, and finish grading completed at \$0.07/square foot (\$3,000/acre).

Item **Comment**

2b Foundation Layer costs estimated as follows:

Prevailing wage laborer	2@(\$42.79/Hr)(8 Hr) =	\$ 684.64/day
Prevailing wage operator	4@(\$63.98/Hr)(8 Hr) =	\$2,047.36/day
Caterpillar 623B Scraper	1@(\$150.20/Hr)(8 Hr)(1.15 Surcharge) =	\$1,381.84/day
John Deere 650G Dozer	1@(\$44.72/Hr)(8 Hr)(1.15 Surcharge) =	\$ 411.42/day
2,000 gallon Water Truck	1@(\$26.37/Hr)(8 Hr)(1.15 Surcharge) =	\$ 242.60/day
Bomag K300 Sheepsfoot Compactor	1@(\$68.19/Hr)(8 Hr)(1.15 Surcharge) =	\$ 626.75/day
Fuel	(40 Gal/Equip)(4 Equip)(\$4.00/Gal) =	\$ 640.00/day

Total = \$6,034.61/day

Caterpillar 623B Scraper estimated to haul 60 loads per day based on site conditions. 1,380 cu. yd. of material moved per day. \$6,034.61/1,380 cu. yd. = \$4.37/cu. yd. Use \$4.50/cu. yd.

Foundation Layer with prevailing wage labor, dozer, scraper, water truck and compactor type equipment. Includes compaction of surface to received liner. Area estimated via AutoCAD take-off from final grading plan. 3D area estimated by multiplying plan view area by 1.1. One acre requires approximately 1,600 bank cu. yd. of material. Final cover profile includes 2 feet of foundation soils. Assume 1-ft layer will have already been placed as intermediate cover prior to closure. Areas found to have less than 1 foot thick intermediate layer will be completed to 1 foot thickness by county staff. Unit cost is for placement, grading and compaction of stockpiled soils or from West Canyon borrow area. Soil placement cost \$2.00/cu. yd., grading and compaction costs \$2.50/cu. yd. based on recent project information and is consistent with above calculations.

2c GCL Layer. Install GCL layer in LF-2 only. Includes prevailing wage labor, materials and equipment for liner placement and anchor trench. Area estimated via AutoCAD take-off from final grading plan. Unit cost for GCL purchase, delivery, tax and installation based on recent industry data supplied by vendor and installer.

2d Install Synthetic membrane (HDPE). Includes prevailing wage labor, materials and equipment for liner placement and anchor trench. Area estimated via AutoCAD take-off from final grading plan. Unit cost for HDPE purchase, delivery, tax and installation based on recent industry data supplied by vendor and installer.

2e Geocomposite drain net area. Includes prevailing wage labor, materials and equipment for placement. Area estimated via AutoCAD take-off from final grading plan. Unit cost for drain net purchase, delivery and installation based on recent landfill industry data supplied by vendor and installer.

<u>Item</u>	<u>Comment</u>
2f	<p>Installation of Vegetative Soil Layer with prevailing wage labor, dozer, scraper, water truck and compactor type equipment as calculated in Item 2b above for foundation layer. Area estimated via AutoCAD take-off from final grading plan. 3D area estimated by multiplying plan view area by 1.1. Final cover profile includes 1.5 feet of vegetative soils. Unit cost is for placement, grading and compaction of previously-stockpiled soils. Higher productivity for vegetative soil placement projected at 1,500 cu yd/day due to lower compaction requirement for vegetative layer (85%). Unit cost for grading and compacting vegetative layer translates to \$4.00/cu yd based on productivity of 1,500 cu yd/day.</p>
2g	<p>Install Aggregate Road surface using prevailing wage labor, compactor, motor grader, trucks and water truck as calculated above for foundation layer. Replace Caterpillar 623B Scraper with Caterpillar 14H Grader @ \$117.13/Hr, dozer not required for this scope of work. Estimated for placement on all-weather access roads at 15-feet wide. Place 0.5-feet thick as road base on all site access roads. 31,000 lineal feet of roadway are present within project area, based on final grading plan. Gravel purchase, delivery and placement cost based on SCS experience with recent similar projects. $(15\text{ft} \times 0.5\text{ft} \times 31,000\text{ft}) / (27\text{cu. yd./cu. ft}) = 9,000\text{ cu. yd}$. Assume typical road base (Class II AB) cost of \$25/cu. yd.; includes material and delivery. Material and delivery costs verified by verbal quotes from local material supplier and local trucking company. Placement, grading, and compaction cost of \$5.00/cu. yd. Total gravel area cost of \$30.00/cu. yd. verified from recent bids.</p>
3	<p>Construction quality assurance (CQA). Unit cost includes CQA inspections, as well as field and laboratory testing for soils and geosynthetics (prevailing wage). Unit cost based on SCS experience performing CQA with similar projects with similar testing requirements.</p>
4	<p>Revegetation including hydromulch, seed, prevailing wage labor and equipment. Unit cost based on vendor quote provided in the Final Closure and Postclosure Maintenance Plans for the Sonoma County Central Disposal Site by Geosyntec Consultants 2008 and SCS Field Services for hydroseed construction services.</p>

<u>Item</u>	<u>Comment</u>
5a	Replace LFG Wells. Ten percent of LFG extraction wells in LF-1 area will likely need to be replaced upon final closure. Cost and quantity based on SCS experience with similar projects. Typical 100 foot well length for this area of the site installed at \$110/lf. Cost includes drilling (based on proposals received by drilling contractors), materials (based on materials purchased by SCS for well completion), and labor (based on labor performed by SCS and/or sub-contractors).
5b	Gas header / pipeline cost. Assume worst case scenario requires complete header system replacement will be needed. Approximately 10,000 lineal feet of HDPE piping required, including snaking. 10,000 lineal feet of 4 to 8-inch diameter above grade header (@ \$21/lf). Cost based on contracts awarded to SCS for header/pipeline installation and replacement. Cost includes labor and materials.
5c	Engineering and permitting. Cost based on SCS experience with similar projects for LFG control systems. Typical costs for engineering and permitting of larger sites (approximately 200 acres) are approximately 10 to 15% of project subtotal cost.
6a	Leachate Well Replacement including prevailing wage labor, materials and drill rig. Ten percent of leachate extraction wells in LF-1 area will need to be replaced upon final closure. Cost and quantity based on SCS experience with similar projects. Typical 150 foot well length for this area of the site installed at \$110/lf. Cost includes drilling (based on proposals received by drilling contractors), materials (based on materials purchased by SCS for well completion), and labor (based on labor performed by SCS and/or sub-contractors).
6b	Install leachate piping including prevailing wage labor, materials and equipment. Limited leachate collection piping system replacement to occur on LF-1 top deck. Approximately 10,000 lineal feet of 2-inch diameter liquid and 2-inch diameter air lines installed above grade or in common trench (@ \$5/lf). Cost based on contracts awarded to SCS construction division for header/pipeline installation and replacement. Cost includes labor and materials.
7a	Drainage - drop inlet structures. Number and lengths determined from final grading plan drawings. Unit cost based on industry data and vendor quotes for similar and recently completed projects. Cost includes operation of equipment and labor for installation on similar projects. Cost verified from bids received at Highway 59 Landfill Closure Project in Merced.
7b	Install Drainage - downdrains, including prevailing wage labor, materials and equipment. Preliminary design provides for CMP or HDPE downdrains with discharge to v-ditches or detention basins. Length determined via take off from final grading plan. Cost based on vendor quotes for materials and labor for installation on similar projects.

<u>Item</u>	<u>Comment</u>
7c	Install Drainage - bench and perimeter v-ditches including prevailing wage labor, equipment, and materials. Assume earthen v-ditch with erosion control mat on bench roads or around perimeter. V-ditch length determined via AutoCAD take off from final grading plan. Only bench roads within limits of waste used to determine total v-ditch length. Unit cost based on average cost for Type I and Type II v-ditch construction obtained from recent bids reviewed for similar projects. Costs verified from bids received at Highway 59 Landfill Closure Project in Merced.
7d	Drainage - bench and perimeter v-ditches. Assume earthen v-ditch with erosion control mat on bench roads or around perimeter. V-ditch length determined via AutoCAD take off from final grading plan. Only bench roads within limits of waste used to determine total v-ditch length. Unit cost based on average cost for Type III, IV, and V v-ditch construction obtained from recent bids reviewed for similar projects. Costs verified from bids received at Highway 59 Landfill Closure Project in Merced.
8a	Documentation - final closure plan and CQA documents. Assume 2 capital projects: one for LF-1 "South Face" (14.4 acres); and one for remainder of LF-1 and LF-2 (158.4 acres).
8b	Documentation - design plans and specifications (construction documents). Engineering fees based on SCS experience with similar projects. Typical fees based on percentage of project cost of 0.2% - 0.4% based on size of project.
8c	Documentation - aerial survey. Includes pre-flight ground control surveying, aerial survey, photogrammetry and generation of final survey figure(s). Aerial survey cost of \$15,000 based on recent surveying completed by SCS sub-contractor.

Item Comment

Post-Closure Maintenance Costs

- | | |
|----|---|
| 1 | Irrigation. Landfill to be seeded with native grasses and no irrigation system is planned. |
| 1a | Site inspections. The final cover will be inspected on a semi-annual basis with reports issued to Sonoma County. Cost for inspection and reporting estimated at \$3,000/event. Cost includes two persons and necessary equipment to complete one day of inspection activities. Excludes liner repairs. |
| 1b | Cover maintenance - fertilizing. Final grading area is 190 acres (slope area). Assume average \$350/acre-year expense for minor repairs (regrading and replacement of vegetative soil cover) and fertilizing. Unit costs based on SCS experience and vendor quotes for seeding/fertilizing on similar size projects. |
| 1c | Liner Repairs. Assume 30 capital projects over 30 year maintenance period. Liner repairs assumed to be approximately 0.5 acre each. Repair cost assumed to be \$110,000/acre based on line-item unit costs for foundation soil, 60-mil HDPE, geocomposite drain layer and vegetative layer placement as listed under "Item 2" in Closure Cost Estimate. Annual cost = \$55,000/yr |
| 2a | Drainage System Inspection. The drainage system will be inspected on a semi-annual basis with any reports issued to Sonoma County. Cost for inspection and reporting estimated at \$1,500/event. Cost includes one person and necessary equipment to complete one day of inspection activities. |
| 2b | Drainage System Repairs. Assume maintenance to include removal of silt and debris, maintaining connections and anchors of oversize drains, and re-vegetation of grass lined ditches. Channel lengths based on AutoCAD take off of final grading plan. Only bench roads within limits of waste used to determine total v-ditch length. Unit costs based on industry average and SCS experience. Cost assumes one-third of all ditches will need to be cleaned/repared each year. Cost based on one operator/laborer and necessary equipment to perform one day of cleaning/repair. |

<u>Item</u>	<u>Comment</u>
2c	<p>Sedimentation basin maintenance. Each of 5 permanent basins will be cleaned out every two years. Use loader, dump truck and operator(s) at \$2,000/day, 5-day project (\$10,000 every 2 years). Annual cost is \$5,000 estimates as follows.</p> <p>Prevailing wage operator: $2 @ (\\$63.98/\text{Hr})(8 \text{ Hr}) = \\$1023.68/\text{day}$</p> <p>John Deere 644 Loader: $1 @ (\\$71.44/\text{Hr})(8 \text{ Hr})(1.15 \text{ Surcharge}) = \\$657.25/\text{day}$</p> <p>Fuel: $(20 \text{ Gal/Unit})(2 \text{ Equip})(\\$4.00/\text{Unit}) = \\$160.00/\text{day}$</p> <p>Total Daily Cost = \$2083.53 (Use \$2,000/day)</p>
3a	<p>Leachate Disposal. Unit cost based on current and anticipated extraction rates at the CDS of approximately 63,500 gallons/day = 23,177,500 gal/yr. Disposal via force main to Santa Rosa Waste Water Treatment Plant. Disposal cost assumed to be \$0.005/gal (Sonoma County, 2011).</p>
3b	<p>Leachate system maintenance. Unit cost based on existing contract for LF-1 leachate pumping system inspections and maintenance (labor only) at the CDS; assume labor reduction by 45% during post-closure period. Existing cost for CDS is \$360,000/yr; post-closure cost estimated at $(1-0.45) * (360,000) = \\$200,000/\text{yr}$. Assume additional \$25,000/yr for pump replacement. Total estimated cost = \$225,000/yr.</p>
3c	<p>Leachate Monitoring. Assume monitoring and sampling at specified points as per WDRs as proposed (Geosyntec, 2008).</p>
3d	<p>Leachate Electrical. Force-main pumping system electrical cost \$6,000/yr based on existing utility expenses (Sonoma County, 2011)</p>
4a	<p>Gas control operation and maintenance. Unit costs based on LFG industry average for gas collection system monitoring and maintenance at large (greater than 100 acre) landfill site. Includes field labor, electric power for blower/flare, and miscellaneous expenses. Overall O&M cost is equivalent to \$4,500 per month.</p>
4b	<p>Landfill gas monitoring - trace gases. Assume 2 samples per year, at \$500 each.</p>
4b	<p>Landfill gas monitoring. Assume quarterly monitoring of perimeter probes with field instruments. Unit cost for sampling and reporting is \$3,000/event = \$12,000 / year.</p>

<u>Item</u>	<u>Comment</u>
4c	Other O&M Cost - Title V Monitoring and Reporting. Annual cost includes quarterly surface emissions monitoring,
4d	Gas control - flare. Assume replace LFG flare unit and blower(s) once during post-closure period. Unit cost estimated as follows:
	Enclosed ground flare skid, 1500 scfm \$250,000
	Installation, including civil, foundation, piping, etc.: \$50,000
	Electrical and controls \$25,000
	Replacement air compressor, 15 HP \$35,000
	Subtotal: \$360,000
	Engineering & permitting at 5%: \$18,000
	Start up and source test: \$20,000
	Total (rounded to 1,000): \$398,000 = \$13,300 /yr
4e	Gas well replacement. Assume 23 wells (15 percent of wellfield) will require replacement during 30-year post-closure period. Well replacement cost of \$11,000 each for 100-foot deep installation @ \$110/lf (cost includes wellhead controls). Total cost = \$253,000 over 30 years = \$8,500/yr (rounded).
4f	Wellbore seal replacement. Assume each LFG extraction well will be equipped with a wellbore seal at closure, and replaced once during post-closure period. Unit cost for wellbore seal replacement estimated at \$5,000 each based on SCS experience with similar projects. Total cost = 155 x \$5,000 = \$775,000.
6a	Groundwater monitoring. Assume quarterly monitoring for detection and corrective action parameters specified in WDRs as proposed. Unit costs are based on industry field labor and laboratory rates. Total lab cost for groundwater monitoring is \$530 per well/event (31 wells), Total lab cost for surface water sampling is \$560 per sample point (3 points) each event. Three days of sampling = \$3,000 for field tech. \$4,500 per report.

<u>Item</u>	<u>Comment</u>												
6a	Groundwater well replacement. Assume replace each well after 20 years in service, at a cost of \$15,000 each for 50-ft deep installations (including permitting). Unit cost based on SCS experience. Total 6a unit cost estimated as follows:												
	<table> <tr> <td>Quarterly Monitoring Lab Costs (\$530 per well/event. 4 events/year)</td><td>\$65,720</td></tr> <tr> <td>Surface Water Sampling Lab Costs (\$560 per sample/event. 2 events/year)</td><td>\$3,360</td></tr> <tr> <td>Sampling Technician (\$3,000/event. 4 events/year)</td><td>\$12,000</td></tr> <tr> <td>Sampling Reports (\$4,500/report. 4 reports/year)</td><td>\$18,000</td></tr> <tr> <td>Monitoring Well Replacement (31 wells replaced once in 30 year period at \$15,000/well). Total Replacement Cost per Year= (31*\$15,000)/ 30 years</td><td><u>\$15,500</u></td></tr> <tr> <td>Total:</td><td>\$114,580</td></tr> </table>	Quarterly Monitoring Lab Costs (\$530 per well/event. 4 events/year)	\$65,720	Surface Water Sampling Lab Costs (\$560 per sample/event. 2 events/year)	\$3,360	Sampling Technician (\$3,000/event. 4 events/year)	\$12,000	Sampling Reports (\$4,500/report. 4 reports/year)	\$18,000	Monitoring Well Replacement (31 wells replaced once in 30 year period at \$15,000/well). Total Replacement Cost per Year= (31*\$15,000)/ 30 years	<u>\$15,500</u>	Total:	\$114,580
Quarterly Monitoring Lab Costs (\$530 per well/event. 4 events/year)	\$65,720												
Surface Water Sampling Lab Costs (\$560 per sample/event. 2 events/year)	\$3,360												
Sampling Technician (\$3,000/event. 4 events/year)	\$12,000												
Sampling Reports (\$4,500/report. 4 reports/year)	\$18,000												
Monitoring Well Replacement (31 wells replaced once in 30 year period at \$15,000/well). Total Replacement Cost per Year= (31*\$15,000)/ 30 years	<u>\$15,500</u>												
Total:	\$114,580												
6b	Vadose zone (under drain) monitoring. Assume monitoring for specified parameters in REA and LF-2 underdrains. Total lab cost for vadose zone monitoring is \$750 per sample point per event, for 3 sample points. Field tech costs and report costs assumed as part of Groundwater Monitoring assumptions (monitor all at the same time and in same report).												
7	Security. Assume \$10,000/yr for perimeter fencing and patrols.												

ATTACHMENT 2

BID ITEM SUMMARY
PREVAILING WAGE CLOSURE PROJECT

Merced County Department of Public Works - Professional Services Division

BID ITEM

SUMMARY FOR: Hwy. 59 Landfill Phase 1-4 Final Closure / Phase 5 Partial Closure

BID DATE: Thursday, February 25, 2010

BID TIME: 3:00 PM

0 % DBE

CONTRACT

AWARDED TO: Wood Bros. Inc.

FOR: \$3,341,496.20

CHECKED BY: Randy Bardini, P.E.

STRUCTURE COST/SF: N/A

CLOSURE COST/SF: \$0.86

					Engineers Estimate		Wood Brothers Inc. PO Box 216 Lamoore, CA 93245 Phone: (559) 924-7715 Fax: (559) 924-4595		FCCI (Ford Const. Co. Inc.) 639 East Lockford Street Lodi, CA 95240-2406 Phone: (209) 333-1116		Sukut Const. Inc. 4010 West Chandler Santa Ana, CA 92704 Phone: (714) 460-1079 Fax: (714) 957-2079	
No.	Item Code	Item Description	Unit	Estimated Quantity	Item Price	Amount	Item Price	Amount	Item Price	Amount	Item Price	Amount
1		Mobilization / Demobilizaion	LS	Lump Sum	Lump Sum	\$200,000.00	Lump Sum	\$145,000.00	Lump Sum	\$75,000.00	Lump Sum	\$170,000.00
2		Construction Surveying	LS	Lump Sum	Lump Sum	\$50,000.00	Lump Sum	\$32,260.00	Lump Sum	\$20,000.00	Lump Sum	\$50,000.00
3		Soil Mono-Layer	SF	3,877,000	\$0.50	\$1,938,500.00	\$0.23	\$891,710.00	\$0.19	\$736,630.00	\$0.21	\$814,170.00
4		Add Compost to Mono-Layer*	SF	3,877,000	\$0.14	\$542,780.00	\$0.10	\$387,700.00	\$0.17	\$659,090.00	\$0.19	\$736,630.00
5		Drainage Ditch, Type I & II	LF	6,940	\$30.00	\$208,200.00	\$20.75	\$144,005.00	\$16.50	\$114,510.00	\$7.00	\$48,580.00
6		Drainage Ditch, Type III, IV & V	LF	9,300	\$45.00	\$418,500.00	\$19.45	\$180,885.00	\$22.50	\$209,250.00	\$8.00	\$74,400.00
7		18" Buried HDPE Road Crossing	LF	30	\$85.00	\$2,550.00	\$338.00	\$10,140.00	\$70.00	\$2,100.00	\$45.00	\$1,350.00
8		24" Aboveground HDPE	LF	760	\$65.00	\$49,400.00	\$44.60	\$33,896.00	\$41.00	\$31,160.00	\$65.00	\$49,400.00
9		Drainage Inlet	EA	4	\$5,000.00	\$20,000.00	\$5,800.00	\$23,200.00	\$4,000.00	\$16,000.00	\$3,500.00	\$14,000.00
10		Fertilizer & Seed	AC	89	\$500.00	\$44,500.00	\$242.00	\$21,538.00	\$270.00	\$24,030.00	\$200.00	\$17,800.00
11		Erosion Control and Protection	LS	Lump Sum	Lump Sum	\$100,000.00	Lump Sum	\$7,700.00	Lump Sum	\$5,500.00	Lump Sum	\$10,000.00
12		LFG Extraction Wells	LF	4,150	\$102.00	\$423,300.00	\$77.00	\$319,550.00	\$60.00	\$249,000.00	\$65.00	\$269,750.00
13		LFG Well Heads	EA	59	\$1,100.00	\$64,900.00	\$597.00	\$35,223.00	\$625.00	\$36,875.00	\$700.00	\$41,300.00
14		2" HDPE Pipe	LF	8,110	\$4.00	\$32,440.00	\$4.10	\$33,251.00	\$2.00	\$16,220.00	\$3.00	\$24,330.00
15		3" HDPE Pipe	LF	5,082	\$6.00	\$30,492.00	\$4.00	\$20,328.00	\$4.00	\$20,328.00	\$3.50	\$17,787.00
16		4" LFG Pipe	LF	2,500	\$9.00	\$22,500.00	\$7.65	\$19,125.00	\$5.00	\$12,500.00	\$4.00	\$10,000.00
17		6" LFG Pipe	LF	785	\$11.00	\$8,635.00	\$13.20	\$10,362.00	\$13.00	\$10,205.00	\$9.00	\$7,065.00
18		8" LFG Pipe	LF	6,170	\$16.00	\$98,720.00	\$15.20	\$93,784.00	\$11.30	\$69,721.00	\$11.00	\$67,870.00
19		10" LFG Pipe	LF	7,540	\$20.00	\$150,800.00	\$29.20	\$220,168.00	\$19.00	\$143,260.00	\$15.00	\$113,100.00
20		12" LFG Pipe (Buried)	LF	115	\$31.00	\$3,565.00	\$80.40	\$9,246.00	\$33.00	\$3,795.00	\$35.00	\$4,025.00
21		Road Crossings	EA	17	\$3,000.00	\$51,000.00	\$1,415.00	\$24,055.00	\$1,200.00	\$20,400.00	\$5,000.00	\$85,000.00
22		8" Butterfly Valve	EA	6	\$1,210.00	\$7,260.00	\$1,865.00	\$11,190.00	\$3,200.00	\$19,200.00	\$1,500.00	\$9,000.00
23		10" Butterfly Valve	EA	5	\$2,000.00	\$10,000.00	\$2,390.00	\$11,950.00	\$3,750.00	\$18,750.00	\$2,000.00	\$10,000.00

Merced County Department of Public Works - Professional Services Division

BID ITEM

SUMMARY FOR: Hwy. 59 Landfill Phase 1-4 Final Closure / Phase 5 Partial Closure

BID DATE: Thursday, February 25, 2010

BID TIME: 3:00 PM

0 % DBE

CONTRACT

AWARDED TO: Wood Bros. Inc.

FOR: \$3,341,496.20

CHECKED BY: Randy Bardini, P.E.

STRUCTURE COST/SF: N/A

CLOSURE COST/SF: \$0.86

24	Condensate Trap	EA	4	\$20,000.00	\$80,000.00	\$12,780.00	\$51,120.00	\$11,600.00	\$46,400.00	\$17,500.00	\$70,000.00
25	LFG Flare Station	LS	Lump Sum	Lump Sum	\$615,000.00	Lump Sum	\$415,340.00	Lump Sum	\$682,000.00	Lump Sum	\$675,000.00
26	Road Base	CY	4,050	\$35.00	\$141,750.00	\$30.30	\$122,715.00	\$28.50	\$115,425.00	\$35.00	\$141,750.00
27	Rip Rap	SF	2,950	\$4.20	\$12,390.00	\$3.08	\$9,086.00	\$5.60	\$16,520.00	\$6.00	\$17,700.00
28	Geotextile	SF	208,260	\$0.15	\$31,239.00	\$0.22	\$45,817.20	\$0.14	\$29,156.40	\$0.15	\$31,239.00
29	Fire Protection Foot Path	CY	272	\$600.00	\$163,200.00	\$41.00	\$11,152.00	\$43.00	\$11,696.00	\$65.00	\$17,680.00
TOTAL					\$5,521,621.00	\$3,341,496.20	\$3,414,721.40		\$3,598,926.00		

Merced County Department of Public Works - Professional Services Division

BID ITEM

SUMMARY FOR: Hwy. 59 Landfill Phase 1-4 Final Closure / Phase 5 Partial Closure

BID DATE: Thursday, February 25, 2010

BID TIME: 3:00 PM

0 % DBE

CONTRACT

AWARDED TO: Wood Bros. Inc.

FOR: \$3,341,496.20

CHECKED BY: Randy Bardini, P.E.

STRUCTURE COST/SF: N/A

CLOSURE COST/SF: \$0.86

					Engineers Estimate		Grainte Construction 2714 Grainte Court Fresno, CA 93706 Phone: (559) 441-5700 Fax: (559) 441-5791		DeSilva Gates Const. 11555 Dublin Blvd Dublin, CA 94568 Phone: (925) 829-9220 Fax: (925) 803-4260		Teichert Construction 835 South Kilroy road Turlock, CA 95381 Phone: (209) 632-6600 Fax: (209) 632-3404	
No.	Item Code	Item Description	Unit	Estimated Quantity	Item Price	Amount	Item Price	Amount	Item Price	Amount	Item Price	Amount
1		Mobilization / Demobilizaion	LS	Lump Sum	Lump Sum	\$200,000.00	Lump Sum	\$179,898.00	Lump Sum	\$180,000.00	Lump Sum	\$189,000.00
2		Construction Surveying	LS	Lump Sum	Lump Sum	\$50,000.00	Lump Sum	\$35,000.00	Lump Sum	\$37,000.00	Lump Sum	\$30,000.00
3		Soil Mono-Layer	SF	3,877,000	\$0.50	\$1,938,500.00	\$0.25	\$969,250.00	\$0.20	\$775,400.00	\$0.24	\$930,480.00
4		Add Compost to Mono-Layer*	SF	3,877,000	\$0.14	\$542,780.00	\$0.14	\$542,780.00	\$0.20	\$775,400.00	\$0.14	\$542,780.00
5		Drainage Ditch, Type I & II	LF	6,940	\$30.00	\$208,200.00	\$9.50	\$65,930.00	\$13.00	\$90,220.00	\$20.00	\$138,800.00
6		Drainage Ditch, Type III, IV & V	LF	9,300	\$45.00	\$418,500.00	\$17.00	\$158,100.00	\$17.00	\$158,100.00	\$15.00	\$139,500.00
7		18" Buried HDPE Road Crossing	LF	30	\$85.00	\$2,550.00	\$75.00	\$2,250.00	\$30.00	\$900.00	\$60.00	\$1,800.00
8		24" Aboveground HDPE	LF	760	\$65.00	\$49,400.00	\$50.00	\$38,000.00	\$30.00	\$22,800.00	\$30.00	\$22,800.00
9		Drainage Inlet	EA	4	\$5,000.00	\$20,000.00	\$3,750.00	\$15,000.00	\$5,000.00	\$20,000.00	\$3,000.00	\$12,000.00
10		Fertilizer & Seed	AC	89	\$500.00	\$44,500.00	\$200.00	\$17,800.00	\$400.00	\$35,600.00	\$275.00	\$24,475.00
11		Erosion Control and Protection	LS	Lump Sum	Lump Sum	\$100,000.00	Lump Sum	\$2,000.00	Lump Sum	\$5,000.00	Lump Sum	\$10,000.00
12		LFG Extraction Wells	LF	4,150	\$102.00	\$423,300.00	\$76.00	\$315,400.00	\$83.00	\$344,450.00	\$90.00	\$373,500.00
13		LFG Well Heads	EA	59	\$1,100.00	\$64,900.00	\$500.00	\$29,500.00	\$500.00	\$29,500.00	\$500.00	\$29,500.00
14		2" HDPE Pipe	LF	8,110	\$4.00	\$32,440.00	\$3.00	\$24,330.00	\$3.00	\$24,330.00	\$6.10	\$49,471.00
15		3" HDPE Pipe	LF	5,082	\$6.00	\$30,492.00	\$7.00	\$35,574.00	\$7.00	\$35,574.00	\$9.00	\$45,738.00
16		4" LFG Pipe	LF	2,500	\$9.00	\$22,500.00	\$10.00	\$25,000.00	\$10.00	\$25,000.00	\$10.00	\$25,000.00
17		6" LFG Pipe	LF	785	\$11.00	\$8,635.00	\$11.00	\$8,635.00	\$12.00	\$9,420.00	\$18.00	\$14,130.00
18		8" LFG Pipe	LF	6,170	\$16.00	\$98,720.00	\$13.00	\$80,210.00	\$15.00	\$92,550.00	\$20.00	\$123,400.00
19		10" LFG Pipe	LF	7,540	\$20.00	\$150,800.00	\$18.00	\$135,720.00	\$20.00	\$150,800.00	\$23.00	\$173,420.00
20		12" LFG Pipe (Buried)	LF	115	\$31.00	\$3,565.00	\$50.00	\$5,750.00	\$50.00	\$5,750.00	\$70.00	\$8,050.00
21		Road Crossings	EA	17	\$3,000.00	\$51,000.00	\$1,500.00	\$25,500.00	\$1,500.00	\$25,500.00	\$3,000.00	\$51,000.00
22		8" Butterfly Valve	EA	6	\$1,210.00	\$7,260.00	\$1,720.00	\$10,320.00	\$1,500.00	\$9,000.00	\$2,800.00	\$16,800.00
23		10" Butterfly Valve	EA	5	\$2,000.00	\$10,000.00	\$2,290.00	\$11,450.00	\$2,000.00	\$10,000.00	\$3,200.00	\$16,000.00

Merced County Department of Public Works - Professional Services Division

BID ITEM

SUMMARY FOR: Hwy. 59 Landfill Phase 1-4 Final Closure / Phase 5 Partial Closure

BID DATE: Thursday, February 25, 2010

BID TIME: 3:00 PM

0 % DBE

CONTRACT

AWARDED TO: Wood Bros. Inc.

FOR: \$3,341,496.20

CHECKED BY: Randy Bardini, P.E.

STRUCTURE COST/SF: N/A

CLOSURE COST/SF: \$0.86

24	Condensate Trap	EA	4	\$20,000.00	\$80,000.00	\$15,000.00	\$60,000.00	\$15,000.00	\$60,000.00	\$15,000.00	\$60,000.00
25	LFG Flare Station	LS	Lump Sum	Lump Sum	\$615,000.00	Lump Sum	\$639,000.00	Lump Sum	\$517,000.00	Lump Sum	\$569,000.00
26	Road Base	CY	4,050	\$35.00	\$141,750.00	\$36.00	\$145,800.00	\$50.00	\$202,500.00	\$26.00	\$105,300.00
27	Rip Rap	SF	2,950	\$4.20	\$12,390.00	\$5.00	\$14,750.00	\$5.00	\$14,750.00	\$5.00	\$14,750.00
28	Geotextile	SF	208,260	\$0.15	\$31,239.00	\$0.20	\$41,652.00	\$0.25	\$52,065.00	\$0.07	\$14,578.20
29	Fire Protection Foot Path	CY	272	\$600.00	\$163,200.00	\$75.00	\$20,400.00	\$125.00	\$34,000.00	\$80.00	\$21,760.00
TOTAL					\$5,521,621.00	\$3,654,999.00	\$3,742,609.00		\$3,753,032.20		

Merced County Department of Public Works - Professional Services Division

BID ITEM

SUMMARY FOR: Hwy. 59 Landfill Phase 1-4 Final Closure / Phase 5 Partial Closure

BID DATE: Thursday, February 25, 2010

BID TIME: 3:00 PM

0 % DBE

CONTRACT

AWARDED TO: Wood Bros. Inc.

FOR: \$3,341,496.20

CHECKED BY: Randy Bardini, P.E.

STRUCTURE COST/SF: N/A

CLOSURE COST/SF: \$0.86

					Engineers Estimate		Environmental Const. 21550 Oxnard St, Ste 1050 Woodland Hills, CA 91367 Phone: (818) 449-9820 Fax: (818) 703-9073		Sierra Equipment 8176 County Road 44 Glen, CA 95943-9640 Phone: (877) 503-6300 Fax: (530) 934-2247		Papich Construction PO Box 2210 Pismo, CA 93448 Phone: (805) 473-3016 Fax: (805) 481-5966	
No.	Item Code	Item Description	Unit	Estimated Quantity	Item Price	Amount	Item Price	Amount	Item Price	Amount	Item Price	Amount
1		Mobilization / Demobilizaion	LS	Lump Sum	Lump Sum	\$200,000.00	Lump Sum	\$60,512.00	Lump Sum	\$100,000.00	Lump Sum	\$395,000.00
2		Construction Surveying	LS	Lump Sum	Lump Sum	\$50,000.00	Lump Sum	\$20,680.00	Lump Sum	\$30,000.00	Lump Sum	\$24,900.00
3		Soil Mono-Layer	SF	3,877,000	\$0.50	\$1,938,500.00	\$0.21	\$814,170.00	\$0.24	\$930,480.00	\$0.30	\$1,163,100.00
4		Add Compost to Mono-Layer*	SF	3,877,000	\$0.14	\$542,780.00	\$0.22	\$852,940.00	\$0.21	\$814,170.00	\$0.18	\$697,860.00
5		Drainage Ditch, Type I & II	LF	6,940	\$30.00	\$208,200.00	\$14.00	\$97,160.00	\$12.50	\$86,750.00	\$18.50	\$128,390.00
6		Drainage Ditch, Type III, IV & V	LF	9,300	\$45.00	\$418,500.00	\$21.00	\$195,300.00	\$26.50	\$246,450.00	\$19.50	\$181,350.00
7		18" Buried HDPE Road Crossing	LF	30	\$85.00	\$2,550.00	\$30.00	\$900.00	\$90.50	\$2,715.00	\$121.00	\$3,630.00
8		24" Aboveground HDPE	LF	760	\$65.00	\$49,400.00	\$29.00	\$22,040.00	\$64.40	\$48,944.00	\$36.50	\$27,740.00
9		Drainage Inlet	EA	4	\$5,000.00	\$20,000.00	\$5,500.00	\$22,000.00	\$6,600.00	\$26,400.00	\$5,300.00	\$21,200.00
10		Fertilizer & Seed	AC	89	\$500.00	\$44,500.00	\$500.00	\$44,500.00	\$290.00	\$25,810.00	\$295.00	\$26,255.00
11		Erosion Control and Protection	LS	Lump Sum	Lump Sum	\$100,000.00	Lump Sum	\$15,000.00	Lump Sum	\$15,000.00	Lump Sum	\$26,600.00
12		LFG Extraction Wells	LF	4,150	\$102.00	\$423,300.00	\$66.00	\$273,900.00	\$82.00	\$340,300.00	\$58.80	\$244,020.00
13		LFG Well Heads	EA	59	\$1,100.00	\$64,900.00	\$745.00	\$43,955.00	\$525.00	\$30,975.00	\$961.00	\$56,699.00
14		2" HDPE Pipe	LF	8,110	\$4.00	\$32,440.00	\$3.75	\$30,412.50	\$3.40	\$27,574.00	\$1.70	\$13,787.00
15		3" HDPE Pipe	LF	5,082	\$6.00	\$30,492.00	\$4.75	\$24,139.50	\$8.00	\$40,656.00	\$3.80	\$19,311.60
16		4" LFG Pipe	LF	2,500	\$9.00	\$22,500.00	\$6.50	\$16,250.00	\$10.50	\$26,250.00	\$4.80	\$12,000.00
17		6" LFG Pipe	LF	785	\$11.00	\$8,635.00	\$8.20	\$6,437.00	\$12.00	\$9,420.00	\$9.50	\$7,457.50
18		8" LFG Pipe	LF	6,170	\$16.00	\$98,720.00	\$11.20	\$69,104.00	\$13.60	\$83,912.00	\$11.00	\$67,870.00
19		10" LFG Pipe	LF	7,540	\$20.00	\$150,800.00	\$17.60	\$132,704.00	\$20.00	\$150,800.00	\$15.80	\$119,132.00
20		12" LFG Pipe (Buried)	LF	115	\$31.00	\$3,565.00	\$45.00	\$5,175.00	\$55.60	\$6,394.00	\$43.00	\$4,945.00
21		Road Crossings	EA	17	\$3,000.00	\$51,000.00	\$50.00	\$850.00	\$1,785.00	\$30,345.00	\$1,900.00	\$32,300.00
22		8" Butterfly Valve	EA	6	\$1,210.00	\$7,260.00	\$2,680.00	\$16,080.00	\$1,725.00	\$10,350.00	\$1,560.00	\$9,360.00
23		10" Butterfly Valve	EA	5	\$2,000.00	\$10,000.00	\$3,080.00	\$15,400.00	\$2,289.00	\$11,445.00	\$1,990.00	\$9,950.00

Merced County Department of Public Works - Professional Services Division

BID ITEM

SUMMARY FOR: Hwy. 59 Landfill Phase 1-4 Final Closure / Phase 5 Partial Closure

BID DATE: Thursday, February 25, 2010

BID TIME: 3:00 PM

0 % DBE

CONTRACT

AWARDED TO: Wood Bros. Inc.

FOR: \$3,341,496.20

CHECKED BY: Randy Bardini, P.E.

STRUCTURE COST/SF: N/A

CLOSURE COST/SF: \$0.86

24	Condensate Trap	EA	4	\$20,000.00	\$80,000.00	\$18,820.00	\$75,280.00	\$16,275.00	\$65,100.00	\$16,900.00	\$67,600.00
25	LFG Flare Station	LS	Lump Sum	Lump Sum	\$615,000.00	Lump Sum	\$885,990.00	Lump Sum	\$696,000.00	Lump Sum	\$625,500.00
26	Road Base	CY	4,050	\$35.00	\$141,750.00	\$44.80	\$181,440.00	\$52.00	\$210,600.00	\$31.70	\$128,385.00
27	Rip Rap	SF	2,950	\$4.20	\$12,390.00	\$5.80	\$17,110.00	\$7.00	\$20,650.00	\$10.60	\$31,270.00
28	Geotextile	SF	208,260	\$0.15	\$31,239.00	\$0.35	\$72,891.00	\$0.10	\$20,826.00	\$0.13	\$27,073.80
29	Fire Protection Foot Path	CY	272	\$600.00	\$163,200.00	\$378.00	\$102,816.00	\$250.00	\$68,000.00	\$103.50	\$28,152.00
TOTAL				\$5,521,621.00		\$4,115,136.00		\$4,176,316.00		\$4,200,837.90	

ANNUAL INFLATION FACTOR TRANSMITTALS

MAY 2012



DEPARTMENT OF RESOURCES RECYCLING AND RECOVERY

1001 I STREET, SACRAMENTO, CALIFORNIA 95814 • WWW.CALRECYCLE.CA.GOV • (916) 322-4027
P.O. Box 4025, SACRAMENTO, CALIFORNIA 95812

ANNUAL INFLATION FACTOR 2011

FACILITY NAME: Annapolis Disposal Site

FACILITY NO.: 49-AA-0002

Multiply each cost estimate by the inflation factor to determine the new adjusted cost estimates as illustrated below.

The ABC Landfill's **COST ESTIMATE** for **CLOSURE** in 2011 was \$2,000,000. Using the 2011 inflation factor of 1.021, they recalculated their **ADJUSTED CLOSURE COST** for 2012 to \$2,042,000. Their **30-year COST ESTIMATE** for **POSTCLOSURE MAINTENANCE (PCM)** in 2011 was \$1,500,000. Using the 2011 inflation factor of 1.021, their **ADJUSTED POSTCLOSURE MAINTENANCE COST** for 2012 is \$1,531,500. Their cost estimate for corrective action in 2011 was \$1,000,000. Using the 2011 inflation factor of 1.021, they recalculated their **ADJUSTED CORRECTIVE ACTION COST** for 2012 to \$1,021,000.

	2011 Cost Estimate	2011 AIF	2012 Cost Estimate
Closure Cost Estimate	\$2,000,000	x 1.021	= \$2,042,000
Annual PCM Cost Estimate x 30-Year Multiplier	\$50,000 x 30 = \$1,500,000	x 1.021	= \$1,531,500
Corrective Action Cost Estimate	\$1,000,000	x 1.021	= \$1,021,000

Using the inflation factor for 2011, calculate the following:

\$ 0
Highest Closure Cost Estimate Approved or Subsequently Submitted

\$ 3,858,208.58
Highest Postclosure Cost Estimate Approved or Subsequently Submitted

\$ 777,702.48
Highest Corrective Action Cost Estimate Approved or Subsequently Submitted

N/A

Date of Plan

2010 annual inflation factor

Date of Plan

2010 annual inflation factor

Date of Plan

\$ <u>N/A</u>	x 1.021	=	\$ <u>N/A</u>
Closure Costs (2011 Dollars)			Estimate in 2012 Dollars
\$ <u>3,858,208.58</u>	x 1.021	=	\$ <u>3,939,230.96</u>
Annual PCM Costs x 30 years or other approved multiplier (2011 Dollars)			Estimate in 2012 Dollars
\$ <u>777,702.48</u>	x 1.021	=	\$ <u>794,034.23</u>
Corrective Action Costs (2011 Dollars)			Estimate in 2012 Dollars

I certify under penalty of perjury under the laws of the State of California that the information in this document is true and correct to the best of my knowledge and is being provided in accordance with the regulations.

Operator/Owner Signature <i>Trish Pisenti</i>	Title of Person Signing Operations Manager
Mailing Address 500 Meham Rd., Petaluma CA 94952	Printed Name of Person Signing Trish Pisenti
Phone Number/Email (707) 565-7958 / trish.pisenti@sonoma-county.org	Date of Report May 2012



DEPARTMENT OF RESOURCES RECYCLING AND RECOVERY

1001 I STREET, SACRAMENTO, CALIFORNIA 95814 • WWW.CALRECYCLE.CA.GOV • (916) 322-4027

P.O. Box 4025, SACRAMENTO, CALIFORNIA 95812

ANNUAL INFLATION FACTOR 2011

FACILITY NAME: Sonoma Disposal Site

FACILITY NO.: 49-AA-0005

Multiply each cost estimate by the inflation factor to determine the new adjusted cost estimates as illustrated below.

The ABC Landfill's **COST ESTIMATE** for **CLOSURE** in 2011 was \$2,000,000. Using the 2011 inflation factor of 1.021, they recalculated their **ADJUSTED CLOSURE COST** for 2012 to \$2,042,000. Their **30-year COST ESTIMATE** for **POSTCLOSURE MAINTENANCE (PCM)** in 2011 was \$1,500,000. Using the 2011 inflation factor of 1.021, their **ADJUSTED POSTCLOSURE MAINTENANCE COST** for 2012 is \$1,531,500. Their cost estimate for corrective action in 2011 was \$1,000,000. Using the 2011 inflation factor of 1.021, they recalculated their **ADJUSTED CORRECTIVE ACTION COST** for 2012 to \$1,021,000.

	2011 Cost Estimate	2011 AIF	2012 Cost Estimate
Closure Cost Estimate	\$2,000,000	x 1.021	= \$2,042,000
Annual PCM Cost Estimate x 30-Year Multiplier	\$50,000 x 30 = \$1,500,000	x 1.021	= \$1,531,500
Corrective Action Cost Estimate	\$1,000,000	x 1.021	= \$1,021,000

Using the inflation factor for 2011, calculate the following:

\$ 0
Highest Closure Cost Estimate Approved or Subsequently Submitted

N/A

Date of Plan

\$ 0
Highest Postclosure Cost Estimate Approved or Subsequently Submitted

N/A

Date of Plan

\$ 2,386,213.68
Highest Corrective Action Cost Estimate Approved or Subsequently Submitted

2010 annual inflation factor

Date of Plan

\$ N/A x 1.021 =
Closure Costs (2011 Dollars)

\$ N/A
Estimate in 2012 Dollars

\$ N/A x 1.021 =
Annual PCM Costs x 30 years or other approved multiplier (2011 Dollars)

\$ N/A
Estimate in 2012 Dollars

\$ 2,386,213.68 x 1.021 =
Corrective Action Costs (2011 Dollars)

\$ 2,436,324.17
Estimate in 2012 Dollars

I certify under penalty of perjury under the laws of the State of California that the information in this document is true and correct to the best of my knowledge and is being provided in accordance with the regulations.

Operator/Owner Signature <i>Trish Pisenti</i>	Title of Person Signing Operations Manager
Mailing Address 500 Meham Rd., Petaluma CA 94952	Printed Name of Person Signing Trish Pisenti
Phone Number/Email (707) 565-7958 / trish.pisenti@sonoma-county.org	Date of Report May 2012



DEPARTMENT OF RESOURCES RECYCLING AND RECOVERY

1001 I STREET, SACRAMENTO, CALIFORNIA 95814 • WWW.CALRECYCLE.CA.GOV • (916) 322-4027
P.O. Box 4025, SACRAMENTO, CALIFORNIA 95812

ANNUAL INFLATION FACTOR 2011

FACILITY NAME: Central Disposal Site

FACILITY NO.: 49-AA-0001

Multiply each cost estimate by the inflation factor to determine the new adjusted cost estimates as illustrated below.

The ABC Landfill's **COST ESTIMATE** for **CLOSURE** in 2011 was \$2,000,000. Using the 2011 inflation factor of 1.021, they recalculated their **ADJUSTED CLOSURE COST** for 2012 to \$2,042,000. Their **30-year COST ESTIMATE** for **POSTCLOSURE MAINTENANCE (PCM)** in 2011 was \$1,500,000. Using the 2011 inflation factor of 1.021, their **ADJUSTED POSTCLOSURE MAINTENANCE COST** for 2012 is \$1,531,500. Their cost estimate for corrective action in 2011 was \$1,000,000. Using the 2011 inflation factor of 1.021, they recalculated their **ADJUSTED CORRECTIVE ACTION COST** for 2012 to \$1,021,000.

	2011 Cost Estimate	2011 AIF	2012 Cost Estimate
Closure Cost Estimate	\$2,000,000	x 1.021	= \$2,042,000
Annual PCM Cost Estimate x 30-Year Multiplier	\$50,000 x 30 = \$1,500,000	x 1.021	= \$1,531,500
Corrective Action Cost Estimate	\$1,000,000	x 1.021	= \$1,021,000

Using the inflation factor for 2011, calculate the following:

\$ 28,243,200.00
Highest Closure Cost Estimate Approved or Subsequently Submitted

\$ 24,147,000.00
Highest Postclosure Cost Estimate Approved or Subsequently Submitted

\$ 2,546,028.20
Highest Corrective Action Cost Estimate Approved or Subsequently Submitted

March 2011 Prelim Closure

Date of Plan

March 2011 Post Closure

Date of Plan

2010 annual inflation factor

Date of Plan

\$ <u>28,243,200.00</u>	x 1.021	=	\$ <u>28,836,307.20</u>
Closure Costs (2011 Dollars)			Estimate in 2012 Dollars
\$ <u>24,147,000.00</u>	x 1.021	=	\$ <u>24,654,087.00</u>
Annual PCM Costs x 30 years or other approved multiplier (2011 Dollars)			Estimate in 2012 Dollars
\$ <u>2,546,028.00</u>	x 1.021	=	\$ <u>2,596,948.56</u>
Corrective Action Costs (2011 Dollars)			Estimate in 2012 Dollars

I certify under penalty of perjury under the laws of the State of California that the information in this document is true and correct to the best of my knowledge and is being provided in accordance with the regulations.

Operator/Owner Signature <i>Trish Pisenti</i>	Title of Person Signing Operations Manager
Mailing Address 500 Mechem Rd., Petaluma CA 94952	Printed Name of Person Signing Trish Pisenti
Phone Number/Email (707) 565-7958 / trish.pisenti@sonoma-county.org	Date of Report May 2012



DEPARTMENT OF RESOURCES RECYCLING AND RECOVERY

1001 I STREET, SACRAMENTO, CALIFORNIA 95814 • WWW.CALRECYCLE.CA.GOV • (916) 322-4027
P.O. Box 4025, SACRAMENTO, CALIFORNIA 95812

ANNUAL INFLATION FACTOR 2011

FACILITY NAME: Healdsburg Disposal Site

FACILITY NO.: 49-AA-0004

Multiply each cost estimate by the inflation factor to determine the new adjusted cost estimates as illustrated below.

The ABC Landfill's **COST ESTIMATE** for **CLOSURE** in 2011 was \$2,000,000. Using the 2011 inflation factor of 1.021, they recalculated their **ADJUSTED CLOSURE COST** for 2012 to \$2,042,000. Their 30-year **COST ESTIMATE** for **POSTCLOSURE MAINTENANCE (PCM)** in 2011 was \$1,500,000. Using the 2011 inflation factor of 1.021, their **ADJUSTED POSTCLOSURE MAINTENANCE COST** for 2012 is \$1,531,500. Their cost estimate for corrective action in 2011 was \$1,000,000. Using the 2011 inflation factor of 1.021, they recalculated their **ADJUSTED CORRECTIVE ACTION COST** for 2012 to \$1,021,000.

	2011 Cost Estimate	2011 AIF	2012 Cost Estimate
Closure Cost Estimate	\$2,000,000	x 1.021	= \$2,042,000
Annual PCM Cost Estimate x 30-Year Multiplier	\$50,000 x 30 = \$1,500,000	x 1.021	= \$1,531,500
Corrective Action Cost Estimate	\$1,000,000	x 1.021	= \$1,021,000

Using the inflation factor for 2011, calculate the following:

\$ 0
Highest Closure Cost Estimate Approved or Subsequently Submitted

\$ 4,223,856.67
Highest Postclosure Cost Estimate Approved or Subsequently Submitted

\$ 2,834,325.43
Highest Corrective Action Cost Estimate Approved or Subsequently Submitted

N/A

Date of Plan

2010 annual inflation factor

Date of Plan

2010 annual inflation factor

Date of Plan

\$ <u>N/A</u>	x 1.021	=	\$ <u>N/A</u>
Closure Costs (2011 Dollars)			Estimate in 2012 Dollars
\$ <u>4,223,856.67</u>	x 1.021	=	\$ <u>4,312,557.66</u>
Annual PCM Costs x 30 years or other approved multiplier (2011 Dollars)			Estimate in 2012 Dollars
\$ <u>2,834,325.43</u>	x 1.021	=	\$ <u>2,893,846.26</u>
Corrective Action Costs (2011 Dollars)			Estimate in 2012 Dollars

I certify under penalty of perjury under the laws of the State of California that the information in this document is true and correct to the best of my knowledge and is being provided in accordance with the regulations.

Operator/Owner Signature <i>Trish Pisenti</i>	Title of Person Signing Operations Manager
Mailing Address 500 Meham Rd., Petaluma CA 94952	Printed Name of Person Signing Trish Pisenti
Phone Number/Email (707) 565-7958 / trish.pisenti@sonoma-county.org	Date of Report May 2012