SECTION 2 – SCOPE OF WORK

The scope of work for this Agreement is to provide all labor, materials and personnel for environmental sampling and reporting services in support of County rural landfills post-closure compliance monitoring and reporting. The proposed scope of work is required to comply with 27 CCR and the Monitoring and Reporting Program (M&RP) specified in Waste Discharge Requirements (WDR) Orders and the California Code of Regulations. The work will be performed in accordance with applicable regulatory requirements. EBA has performed previous services for the County and are therefore familiar with the sites and general monitoring requirements.

The scope of work for each site has been segregated into the following tasks:

TASK 1: ANNAPOLIS LANDFILL – MONITORING AND REPORTING

Task 1a – First Quarter Monitoring, Sampling and Reporting

Task 1a includes performance of routine monitoring, sampling, and reporting activities during the First Quarter as required by Waste Discharge Requirements (WDR) Order No. R1-2023-0010 and the associated Monitoring and Reporting Program (M&RP). WDR Order No. R1-2023-0010 was adopted by the North Coast Regional Water Quality Control Board (NCRWQCB) on June 15, 2023 and replaced WDR Order No. 96-44.

Specifically, Task 1a includes the following WDR compliance services: performance of the quarterly site visit for documentation of the standard observations requirements; collection of annual leachate samples from the leachate Tank Farm; performance of quarterly landfill gas (LFG) monitoring as required by CalRecycle; and preparation of the quarterly LFG monitoring report. As stipulated in the M&RP, standard observations also are to be performed following any rainfall event of more than 1.0 inch in a 24-hour period. Conditional monitoring activities for Annapolis Landfill (i.e., those based on a qualifying rain event, retesting based upon statistical exceedances and/or indication of a release, etc.) would be performed with the prior approval of the County on a time-and-materials and as-needed basis under Task 1g as described below.

For monitoring and reporting at the Annapolis Landfill, it is assumed that the County will provide the following information/data to EBA: daily rainfall data (including notification of a qualifying rain event with >1.0 inch of precipitation in 24-hours); slide debris/spoils stockpiling data (including total monthly volume of placed spoils); monthly leachate collection volumes; leachate disposal documentation; certified analytical reports for any additional sampling performed by the County for leachate disposal purposes; and notification of circumstances which would require an update to the Emergency Response Plan and/or Spill Contingency Plan. It is assumed that soil, groundwater, and leachate samples will be submitted to the County's contract laboratory for analytical testing (Alpha Analytical, Inc. [Alpha]).

Task 1b – Second Quarter Monitoring, Sampling, and Reporting

Task 1b includes performance of routine monitoring, sampling, and reporting activities during the Second Quarter as required by the WDR and M&RP. Specifically, Task 1b includes the following WDR compliance services: performance of the quarterly site visit for documentation of the standard observations requirements; performance of the first semi-annual groundwater monitoring and sampling event; performance of unsaturated zone monitoring as required under the M&RP; statistical analysis of analytical data as required by the M&RP; preparation of the



first semi-annual monitoring report for submittal to the NCRWQCB (due August 15); performance of quarterly landfill gas (LFG) monitoring as required by CalRecycle; and preparation of the quarterly LFG monitoring report. Provisions to sample and test unsaturated zone monitoring locations for volatile organic compound (VOC) vapors are included within the revised M&RP for monitoring locations in which methane is detected above one percent by volume using a landfill gas meter and/or total organic vapors are detected above 50 parts per billion by volume (ppbV) using a photoionization detector. Conditional monitoring activities would be performed with the prior approval of the County on a time-and-materials and asneeded basis under Task 1g as described below.

Task 1c – Third Quarter Monitoring, Sampling, and Reporting

Task 1c includes performance of routine monitoring, sampling, and reporting activities during the Third Quarter as required by the WDR and M&RP. Specifically, Task 1c includes the following WDR compliance services: performance of the quarterly site visit for documentation of the standard observation requirements; performance of LFG monitoring as required by CalRecycle; and preparation of the quarterly LFG monitoring report. Conditional monitoring activities would be performed with the prior approval of the County on a time-and-materials and as-needed basis under Task 1g as described below.

Task 1d – Fourth Quarter Monitoring, Sampling and Reporting

Task 1d includes performance of routine monitoring, sampling, and reporting activities during the Fourth Quarter as required by the WDR and M&RP. Specifically, Task 1d includes the following WDR compliance services: performance of the quarterly site visit for documentation of the standard observations requirements; performance of the second semi-annual and annual groundwater monitoring and sampling event; collection of annual surface water samples, performance of unsaturated zone monitoring as required under the M&RP; statistical analysis of analytical data as required by the M&RP; preparation of the second semi-annual and annual monitoring report for submittal to the NCRWQCB (due February 15); performance of quarterly landfill gas (LFG) monitoring as required by CalRecycle, and preparation of the quarterly LFG monitoring report. Conditional monitoring activities would be performed with the prior approval of the County on a time-and-materials and as-needed basis under Task 1g as described below.

Task 1e – WDR and M&RP Transition

Task 1e includes one-time costs associated with the transition to the current WDR and M&RP including development of reporting templates; statistical analysis of historical analytical data; generation of graphical summaries of historical analytical data; preparation of field documentation forms pursuant to M&RP requirements; coordination with the analytical laboratory; and database management. It should be noted that the revised M&RP requires the graphical presentation of analytical data for each monitoring point in each medium. Graphs are not required until a minimum of two samples of a given analyte have been taken at a given sampling point or when an analyte at a given sampling point has always been non-detect. The analytical database management to facilitate the required statistical analyses and the level of effort for database management to facilitate the required statistical analyses and graphical presentation of data is unknown. For cost estimation purposes Task 1e includes eight hours devoted to database management. EBA will notify the County if additional time is needed.

Task 1f – Winterization and Erosion Control

Task 1f includes the performance of winterization and erosion control inspections, documentation, and reporting as required under the WDR and M&RP. Specifically, Task 1f includes performance of the annual winterization and erosion control inspection, preparation of



the annual Winterization Plan (due August 15), and preparation of the Annual Erosion Control Report (due December 15) documenting implementation of the measures described within the Winterization Plan. It should be noted that the WDR includes additional requirements during times of post closure maintenance or any period of repair to the waste containment, drainage, or monitoring facilities. These conditional requirements would be performed with the prior approval of the County on a time-and-materials and as-needed basis under Task 1g as described below.

Task 1g – Conditional Monitoring and Reporting Provisions

Task 1g includes implementation of conditional monitoring and reporting provisions as described within the current WDR and M&RP. Task 1g includes any additional scopes of work beyond those described under Tasks 1a through 1f above. Examples of conditional monitoring and reporting tasks required by the current WDR and M&RP include: retesting and notification of a release; conditional standard observations during qualifying rain events; conditional unsaturated zone sampling when trigger concentrations are exceeded; coordination of repairs; performance of an annual survey of repairs and associated drafting; completion of daily construction quality assurance reports; and preparation of updates to the Emergency Response Plan or Spill Contingency Plan. Work performed under Task 1g would be performed when requested by the County on a time-and-materials and as-needed basis.

TASK 2: ANNAPOLIS LANDFILL – PROFESSIONAL OVERSIGHT OF MONITORING WELL INSTALLATION AND ABANDONMENT

Task 2a – Project Coordination, Permitting, & Pre-Field Activities

Task 2a includes project coordination, permitting, and pre-field activities associated with the professional oversight of monitoring well installation and abandonment. The scope of work for Task 2a includes: project scheduling, contractor coordination, pre-field activities including marking the drilling locations for Underground Service Alert (USA), and submittal of a drilling permit application (including permit fees) to the County of Sonoma Department of Health Services – Environmental Health Division (CSDHS-EHD).

Task 2b – Professional Oversight of Monitoring Well Installation

Task 2b includes professional oversight of the drilling and installation of replacement groundwater monitoring wells MW-9R and MW-10R. EBA will supervise a licensed C-57 drilling contractor in the drilling and installation of the replacement monitoring wells MW-9R and MW-The boreholes will be advanced by sonic drilling technology. Each borehole will be 10R. continuously sampled for the purpose of characterizing the lithology in the field per the Unified Soil Classification System (USCS). Drilling activities will be performed under the supervision of a State of California licensed professional geologist. The monitoring wells will be constructed with 2-inch diameter schedule 40 and/or schedule 80 polyvinyl chloride (PVC) piping. The screened sections of the well casing will contain machine-slotted 0.010-inch horizontal perforations (i.e., consistent with existing well construction). A threaded end cap will be installed at the bottom of each monitoring well. The screened interval for each replacement monitoring well will be as shown in Table 1 on the following page (unless lithologic conditions dictate a different length), while the remaining sections will be comprised of solid PVC piping. Above ground completion of each monitoring well is proposed. The PVC casing for each monitoring well will extend approximately two to three feet above ground surface. The top of the PVC casing will be equipped with an adjustable cap and be enclosed within by a protective steel standpipe set in a concrete pad. Each protective standpipe will have a locking metal lid and labeled with the well identification number painted on the outside of each standpipe.



MONITORING WELL CONSTRUCTION SPECIFICATIONS			
Wall D	Total Well Depth	Screened Interval	
Well ID	(Feet BGS)	Top (Feet BGS)	Bottom (Feet BGS)
MW-9	30	20	30
MW-9R	50	25	50
MW-10	20	10	20
MW-10R	40	15	40

BGS = Below Ground Surface.

MSL = Mean Sea Level.

For cost estimation purposes (see Exhibit B), it is assumed that monitoring well installation will be performed by Gregg Drilling. As such, the number of EBA hours needed to provide professional oversight of monitoring well installation is based upon Gregg Drilling's estimated drilling schedule (i.e., monitoring well installation will be completed in one day onsite).

Task 2c – Professional Oversight of Monitoring Well Abandonment

Task 2c includes the professional oversight of abandonment of nonfunctional monitoring wells MW-7, MW-8, MW-9, MW-10, and MW-11. The well locations will be over-drilled and the well casings and well materials (i.e., sand, grout, concrete and bentonite) will be removed from the boreholes. The boreholes will then be abandoned by tremie backfilling with cement grout to approximately four inches below ground surface (BGS). The abandoned monitoring wells will be completed to match the surrounding existing conditions.

For cost estimation purposes (see Exhibit B), it is assumed that monitoring well abandonment will be performed by Gregg Drilling. As such, the number of EBA hours needed to provide professional oversight of monitoring well abandonment is based upon Gregg Drilling's estimated drilling schedule (i.e., monitoring well abandonment will be completed in three days onsite).

Task 2d – Waste Profiling

Task 2d includes the collection of samples and analytical testing for waste profiling to evaluate the suitability of disposal to the on-site inert soil storage area and subsequent re-use. All drill cuttings generated during borehole advancement and monitoring well abandonment will be temporarily placed onto plastic sheeting and stockpiled. Four soil samples will be collected from the soil bin(s) and/or soil stockpile(s) containing the drill cuttings associated with monitoring well installation. Four additional soil samples will be collected from the drill cuttings generated during monitoring well abandonment. All soil samples will be collected in 2-inch diameter by 6-inch-long stainless-steel tubes, capped, labeled and placed under refrigerated conditions pending transport under Chain-of-Custody (C-O-C) procedures to Alpha, the County's State-certified analytical laboratory, for chemical analysis. The soil samples will be composited by the laboratory four-to-one to yield two (2) four-point composite soil samples. The two composite soil samples will be analyzed for VOCs by Environmental Protection Agency (EPA) Test Method



8260B/5035. If the NCRWQCB concurs that the analytical results indicate that the drill cuttings are suitable for reuse, the drill cuttings can be disposed of, by the County, to the on-site Inert Soil Storage Area. If the drill cuttings are not suitable for reuse, they will be profiled for disposal to an appropriately licensed waste disposal facility. Waste disposal manifests and/or disposal documentation will be retained and included in project documentation.

Task 2e – Professional Oversight of Monitoring Well Development

Task 2e includes professional oversight of the development of replacement groundwater monitoring wells MW-9R and MW-10R. Following well installation, plus a minimum 48-hour curing period, EBA will supervise the selected drilling contractor in the development of the replacement monitoring wells to remove residual fine material introduced into the filter pack from the drilling process and to improve the hydraulic communication between the filter pack and the natural formation. Groundwater quality parameters including pH, electrical conductivity, turbidity, and temperature will be monitored during the development process. All equipment used during well development will be cleaned using a steam cleaner and/or with an Alconox® solution wash and potable water rinse. Purge water and rinsate water generated during the well development activities will be containerized and transported to EBA's warehouse, where it will be subsequently treated using granular activated carbon (GAC) and discharged to the City of Santa Rosa's Publicly Owned Treatment Works (POTW) under EBA's Industrial User Permit #SR-GW-7010.

For cost estimation purposes (see Exhibit B), it is assumed that monitoring well development will be performed by Gregg Drilling. As such, the number of EBA hours needed to provide professional oversight of monitoring well development is based upon Gregg Drilling's estimated drilling schedule (i.e., monitoring well development will be completed in one day onsite).

Task 2f – Well Survey

Task 2f includes survey of replacement groundwater monitoring wells MW-9R and MW-10R. The location and top of casing (TOC) elevation of each monitoring well will be surveyed by a licensed surveyor. The horizontal locations will be measured to approximately 1-foot of the North American Datum of 1983 (NAD83), while the vertical elevation of each TOC will be measured to within 0.01-feet of the North American Vertical Datum of 1988 (NAVD88) to comply with the State of California Water Resources Control Board's requirements. The corresponding data will then be uploaded to the State of California's Geotracker website in accordance with Assembly Bill 2886 (AB2886).

EBA has identified a legacy error in elevation data for existing monitoring locations which appears to be related to an arbitrary elevation datum being established circa 1996. Also included within the cost associated with Task 2f is the surveying of existing groundwater monitoring wells MW-1R, MW-4R, MW-5R, and MW-6A; surface water monitoring stations SW-1, SW-2, and SW-3; leachate wells LW-1 and LW-2; and landfill gas probes MP-1, MP-2, MP-3, MP-4, and MP-5.

Task 2g – Report of Installation

Task 2g includes the preparation of a Report of Monitoring Well Installation (Report). The Report will include a description of the work performed, pertinent findings, graphical boring logs with USCS descriptions, monitoring well construction diagrams, well development logs, and well survey data.



TASK 3: GUERNEVILLE LANDFILL – MONITORING AND REPORTING

Task 3a – Detection Monitoring

Detection monitoring will be performed quarterly pursuant to Monitoring and Reporting Order No. 84-3 and the *Site Investigation Work Plan* by Fugro West, Inc. The monitoring will include measuring water levels and sampling monitoring wells G-1, G-2, G-3, G-4, G-5, G-6, G-7 and MP-1 as well as collecting surface water samples from Land of Woo Creek and Tunstall Creek at locations specified by the County. Surface water stations SW-2 and SW-3 will be sampled twice annually, during the wet season. EBA will prepare a hydrograph for well G-6 using quarterly water level data and present the hydrograph in each quarterly report.

A quarterly monitoring report will be prepared following each sampling event that will present the monitoring results and include field forms and a Certified Analytical Report. Three hard copies of the report will be transmitted to the County of Sonoma by the 8th of the month following the sampling event. Groundwater elevations and copies of the reports will be uploaded to the Geotracker web site.

Task 3b -Standard Observations

Standard observations will be performed quarterly that includes the following:

i. Monitor/inspect the perimeter of the waste at the limit of refuse on a quarterly basis, noting any evidence of liquid leaving or entering the waste unit, size of effected area and flow rate, odors, source, distance traveled from source, evidence of erosion and/or exposed refuse.

ii. Perform standard observations of cap integrity (i.e., evidence of ponded water, odors, erosion, seeps, tension cracks, etc.).

iii. Facilities Monitoring – Inspect water diversion systems, leachate management facilities, secondary containment, condition of access roads or other problems which could affect compliance with WDRs for the site. Significant findings shall be reported to County Staff within 24 hours of observation. Reports of findings shall be included within the quarterly reports for the site.

TASK 4: OCCIDENTAL LANDFILL – MONITORING AND REPORTING

Task 4a - Detection Monitoring

Detection monitoring will be performed quarterly pursuant to County direction and the sampling program presented in the Occidental sampling program synopsis. Quarterly monitoring will consist of water level measurements and the collection of samples from monitoring wells O-1, O-2 and O-3 and sampling surface water location SP1.

A quarterly monitoring report will be prepared following each sampling event that will present the monitoring results and include field forms and a Certified Analytical Report. Three hard copies of the report will be transmitted to the County of Sonoma by the 8th of the month following the sampling event. Groundwater elevations and copies of the reports will be uploaded to the Geotracker web site.

Task 4b - Standard Observations

Standard observations will be completed that consists of the following:



i. Monitor/inspect the perimeter of the waste at the limit of refuse on a quarterly basis, noting any evidence of liquid leaving or entering the waste unit, size of effected area and flow rate, odors, source, distance traveled from source, evidence of erosion and/or exposed refuse.

ii. Perform standard observations of cap integrity (i.e., evidence of ponded water, odors, erosion, seeps, tension cracks, etc.).

iii. Facilities Monitoring – Inspect water diversion systems, condition of access roads or other problems which could affect compliance with WDRs for the site.

Significant findings shall be reported to County Staff within 24 hours of observation. Reports of findings shall be included within the quarterly reports for the site.

TASK 5: RETESTS

EBA will perform all work necessary, except laboratory analysis, for retests of any monitoring point. No retest work will be performed prior to written approval of the Integrated Waste Division, Division Manager-Engineering and Operations (Manager) or the Manager's designee. We assume retests up to 40 hours shall be included in Tasks 1 through 4.

TASK 6: CONSULTATIONS AND MEETINGS

At the request of the County, EBA will provide consultations and attend meetings, subject to the prior written approval of the Manager (Division Manager of Refuse Disposal) or the Manager's designee.

Task 6a – Annual Review

Pursuant to applicable regulations and WDRs, EBA will review with County staff ongoing environmental issues for each site in the monitoring contract, and at that time recommend, if applicable, changes in monitoring programs or procedures for each site.

Task 6b – Miscellaneous Consultations

EBA will meet with the County, when requested, to discuss any aspects of the water and landfill gas monitoring program.

Task 6c – Emergency Services

EBA will provide assistance to County staff related to consulting service for environmental emergency events at the County's landfills and transfer stations. Due to the nature of these events, we understand that EBA's presence will be required on-site at short notice and at any time of the day or night, based on notification from the County. EBA assumes we will provide up to 80 hours of Principal/Senior Project Manager staff, 80 hours of senior staff and 100 hours of regular staff time for this work.

Task 6d - Expert Testimony and Public Meeting Presentations

EBA will provide assistance to County staff related to providing Expert Testimony in any legal proceedings court and public meetings for environmental work associated with the County's landfills and transfer stations. We assume that we will provide up to 60 hours of Principal/Senior Project Manager staff time for this work.

TASK 7: ADDITIONAL SERVICES

EBA will provide additional related services as directed in writing by the Director of Transportation and Public Works including, but not limited to, additional surface and groundwater monitoring and sampling, additional gas monitoring, additional reporting,



supplemental studies, replacement of damaged wells or monitoring points, and installation of new wells or monitoring points.

