California Regional Water Quality Control Board
North Coast Region

MONITORING AND REPORTING PROGRAM
ORDER NO. R1-2018-0059

for

LAYTONVILLE SOLID WASTE DISPOSAL SITE
WDID No. 1B75050OMEN

Mendocino County

The County of Mendocino (Discharger) shall maintain water quality monitoring systems that are appropriate for detection monitoring and corrective action, and that comply with California Code of Regulations, title 27, subchapter 3, chapter 3, subdivision 1, division 2, title 27, and any other applicable provisions therein.

The Laytonville Class III Solid Waste Disposal Site (SWDS) shall be monitored for leak detection and corrective action because groundwater contamination has been detected and the SWDS is currently in corrective action. Monitoring wells which are known to contain volatile organic compounds (VOCs) and naturally occurring compounds at levels above background shall be monitored as corrective action wells. Other downgradient monitoring locations shall be monitored for leak detection.

This Monitoring and Reporting Program (MRP) is issued pursuant to California Water Code Section 13267 (b) and requires monitoring of groundwater and submission of technical reports necessitated by the fact that the SWDS is a solid waste disposal site. The objective of monitoring conducted under this monitoring program is to provide the Dischargers and the Regional Water Quality Control Board (Regional Water Board) with information concerning vadose zone, surface water, groundwater quality and whether the SWDS is responsible for any impacts to their quality; status of waste control measures; status of corrective action measures; and status of compliance with California Code of Regulations, title 27 at the SWDS. The burden, including costs, of these reports bears a reasonable relationship to the need for the reports and the benefits to be obtained from the reports.

The failure to furnish any of the required reports, or the submittal of substantially incomplete reports or false information, is a misdemeanor, and may result in additional enforcement actions being taken against the County, including issuance of an Administrative Civil Liability (ACL) Complaint pursuant to Water Code section 13268. Liability may be imposed pursuant to Water Code section 13268 in an amount not to exceed one thousand dollars ($1,000) for each day in which the violation occurs.

Under the authority of California Water Code Section 13267(b), the Dischargers named above are required to comply with the requirements outlined in this MRP:

I. REPORTING REQUIREMENTS

The Discharger shall report monitoring data and information as required in this MRP and as required in Waste Discharge Requirements Order Nos. (WDRs) 75-050 and 93-83. The Discharger shall submit a copy of the monitoring report in an electronic format, with transmittal letter, text, tables, figures, laboratory analytical data, and appendices in PDF format (one PDF for the entire report). The Discharger shall enter all monitoring data and monitoring reports into the online Geotracker database as required by California Code of Regulations, title 27, division 3 and title 23, division 3, chapter 30. The Discharger shall notify the Regional Water Board staff assigned to the facility of the upload via email.

All testing, other than field parameters, shall be performed at a laboratory certified by the State Water Resources Control Board Division of Drinking Water or approved by the Regional Water Board Executive Officer. Instruments used for field parameters shall be kept in good condition and calibrated according to manufacturer's requirements. Reports that do not comply with the required format will be rejected, and the Discharger shall be deemed to be in noncompliance with the WDRs.

The results of any monitoring done more frequently than required at the locations specified herein shall be reported to the Regional Water Board in the monitoring report(s) for that period. Method detection limits and practical quantification limits shall be reported. All peaks shall be reported, including those that cannot be quantified and/or specifically identified.

Monitoring reports (MRs) must include, but shall not be limited to the following:

1. Letter of Transmittal: A letter transmitting the essential points shall accompany each report. The letter must include a discussion of violations since submittal of the last such report. If the Discharger has not observed any violations since the last submittal, the Discharger must state this in the transmittal letter. Both the monitoring report and the transmittal letter must be signed by a principal executive officer, ranking elected official, or responsible corporate officer. Documents may be signed by a duly authorized representative provided the authorization is requested in writing by a principal executive officer, ranking elected official, or responsible corporate officer prior to or with document submittal and the authorization specifies an individual or position having responsibility for the overall operation of the regulated facility. The transmittal letter must contain the following statement by the authorized official: "*I certify under penalty of law that this document and all attachments were prepared under*

my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted, is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

2. Compliance Summary:
   The summary shall contain a narrative discussion of the monitoring results, including a discussion of compliance with concentration limits, any water quality violations, or other monitoring results of potential significance to water quality and describe any corrective actions taken to correct the violations and to prevent future similar violations.

3. Tabular Presentation of Data:
   In reporting the monitoring data required by this program, the Discharger shall arrange the data in tabular form so that the date, the constituents, the concentrations, and the units are readily discernible. The data shall be summarized in such a manner as to illustrate clearly the compliance with WDRs or the lack thereof.

4. Graphical Presentation of Data (Annual Report):
   For each monitoring point in each medium, the Discharger shall submit, in graphical format, the complete history of laboratory analytical data. Graphs must effectively illustrate trends and/or variations in the laboratory analytical data. Each graph must plot a single constituent concentration over time at one (for intra-well comparison) or more (for inter-well comparisons) monitoring points in a single medium. Where applicable, the monitoring report should include concentration limits along with graphs of constituent concentrations. When multiple samples are taken, graphs must plot each datum, rather than plotting mean values. 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 Discharger must also determine horizontal gradients, groundwater flow rate, and flow direction for each respective groundwater body. The Discharger must present these data on a figure that depicts groundwater contours, flow directions, and gradient. For each water level measuring period, the Discharger must include one figure.

5. Corrective Action Summary:

   The Discharger shall discuss significant aspects of any corrective action measures conducted during the monitoring period and the status of any ongoing corrective action efforts, including constituent trend analysis.

6. Laboratory Results:

   The Discharger shall summarize and report laboratory results and statements demonstrating compliance with **Part II. Monitoring Programs.** Monitoring reports must include results of analyses performed at the facility that are outside of the requirements of this MRP.

   Analytical laboratory results shall be sent to Regional Water Board staff via email to Gina.Morrison@waterboards.ca.gov within ten business days of when they are submitted to the Discharger. Since the results have not undergone quality assurance and approval by the licensed professional preparing the MRs, these results may be marked preliminary at the licensed professional's discretion.

7. Sampling Summary:

   a. For each monitoring point, the monitoring report shall include a description of: 1) the method and time of water level measurement; 2) the method of purging and purge rate and well recovery time; and 3) field parameter readings.

   b. For each monitoring point, the monitoring report shall include: a description of the type of sampling device used; its placement for sampling; a description of the sampling procedure (number of samples, field blanks, travel blanks, and duplicate samples taken; the date and time of sampling; the name and qualifications of the person collecting the samples and/or making the measurement; and description of any anomalies).

8. Leachate Detection and Collection:

   A summary of results from leachate detection monitoring and sampling shall be reported in the monitoring report. In addition, the estimated monthly volume of leachate collection (in gallons) shall be reported and receipts from leachate disposal shall be included in the monitoring report.

9. Standard Observations:

   The Discharger shall document standard observations in the monitoring report submit a written incident report, if necessary. The Discharger shall comply with the following when documenting and reporting standard observations:

   a. Each monitoring report shall include a summary and certification of completion of all standard observations for the entire facility including the waste management unit (WMU); the perimeter of the WMU; and for the receiving waters.

b. The standard observations shall be performed monthly during the rainy season (October through May); quarterly during the dry season (June through September); and after rainfall events of more than 1.0 inches in 24 hours.

c. Daily rainfall shall be tracked at either an on-site weather gauge or at the nearest NOAA weather station and the daily rainfall data shall be included in each semi-annual monitoring report.

d. The standard observations shall include: condition of WMU cover; whether storm water drainage ditches and sedimentation ponds contain liquids; condition of drainage facilities; condition of sedimentation ponds; whether there are any leachate seeps present, including estimates of seep size and flow; presence of odors; evidence of ponding; freeboard in leachate holding facilities; evidence of erosion or potential erosion; slope failures or potential slope failures; inspection of storm water discharge locations for evidence of non-storm water discharges; evidence of floating and suspended material or discoloration or turbidity in the receiving waters; presence of odors in the receiving waters; condition of access roads; other problems which could affect compliance with the WDRs; and weather conditions during the standard observations and the precipitation during the five days preceding the observations that were made during the monitoring period.

10. Map(s):

The base map for the monitoring report shall consist of a current aerial photograph or include relative topographical features, along with monitoring points and features of the SWDS.

11. Report Preparation

These reports shall be prepared by, or under the direction of, California Registered Civil Engineer, or Certified Engineering Geologist, or registered Professional Geologist; and shall be signed and stamped by this professional.

A. REQUIRED REPORTS

1. Detection and Corrective Action Monitoring Report

Monitoring Reports shall be prepared and submitted to the Regional Water Board semi-annually, by the reporting dates listed below. Groundwater sampling shall occur in the 2nd quarter (April-June) and the 4th quarter (October-December) of each year. Leachate sampling shall occur between the months of October and December of each year. Surface water, storm water, and unsaturated zone monitoring (both discrete vapor sampling and landfill

gas sampling) shall be sampled as described and reported in the appropriate semi-annual report. The reports shall include the results of all monitoring programs listed herein. The established monitoring and reporting periods are as follows:

SEMI-ANNUAL	PERIOD NO.	REPORTING DATE
January through June	1	August 31
July through December (Includes Annual Report)	2	March 15

2. Annual Monitoring and Corrective Action Summary Report

An annual report, which summarizes the monitoring results for the prior two semi-annual periods, shall be submitted to the Regional Water Board by March 15, annually. The annual report may be combined with the semi-annual report that is also due March 15. The annual report shall contain the following:

a. Tabular and graphical summaries of the detection and, if applicable, corrective action monitoring data and a discussion of the progress toward re-establishment of compliance with WDRs and the Water Quality Protection Standard (WQPS).

b. Proof of adequate assurances of financial responsibility for closure, post-closure maintenance, and corrective action for all known or reasonably foreseeable releases from a WMU at the facility in accordance with California Code of Regulations, title 27, sections 20380(b), 20950(f), 22210, 22211, 22212, 22220, 22221, and 22222, and include annual accounting for inflation.

c. By March 15, 2019, 2024, and every five years thereafter, until the rescission of this MRP, the Discharger shall provide as part of the annual monitoring report updated post-closure costs and corrective action cost estimates Regional Water Board staff for review. The Discharger shall demonstrate to CalRecycle and report to the Executive Officer that it has established an acceptable financial assurance mechanism described in California Code of Regulations, title 27, section 22228 in at least the amount of the cost estimate approved by the Executive Officer. The Executive Officer may delete the requirement of submitting updated cost estimates, with the exception of inflation adjustments, upon finding that the need for further corrective action is unlikely and that post-closure costs are likely to remain constant.

d. In accordance with California Code of Regulations, title 27, section 20340(d), any leachate collection and removal system shall be tested annually to demonstrate proper operation. Results shall be compared with earlier tests made under comparable conditions. The Discharger shall submit results with the annual report. Given that the current leachate collection system is sealed and cannot directly receive the introduction of test liquids, documentation and comparison of monthly leachate flow volumes is an acceptable means to ensure that the leachate collection system is operating.

e. A map showing any areas of differential settlement noted by visual observation, and highlighting areas of repeat or severe differential settlement. This map shall be made by or under the direction of a California Registered Civil Engineer or Certified Engineering Geologist.

3. Surface Water and Storm Water Sampling Report

Surface water and storm water monitoring shall be sampled as described herein and reported in the appropriate semi-annual report.

The report shall include the following:

a. A narrative discussion of water quality sampling and any seep detection and response, including notations of any water quality violations, tabular summaries of the water quality data for the sampling locations. The data shall be summarized in such a manner as to clearly illustrate compliance, or lack thereof, with the WDRs.

b. Tabular summaries that include notations to clearly identify specific analytical results that indicate an exceedance of water quality standards for naturally occurring compounds; an exceedance of detection limits for all man-made compounds; or any other violation of the SWDS's WDR prohibition to discharge to surface water, surface water drainage systems, or groundwater; or both. Any of these conditions is a violation of the WDRs. Any detection of a man-made compound in the facility drainage or surface water is a potential discharge violation. To determine if the facility has contributed to the discharge for naturally occurring compounds, data shall be compared to results from the background sampling location, SW-B. Any discharge of a naturally occurring compound at a level statistically greater than background is a violation. The calculation of background shall include consideration of variations that occur due to rainfall.

c. Records from daily rainfall measurements in tabular form.

d. Copies of the field sampling log, chain of custody, including the date and time of sample collection, the name of the person collecting the samples, the signed lab sheets including quality assurance/quality control (QA/QC), daily field logs, and leachate seep inspection logs.

4. Water Quality Protection Standard Report

As noted above, a discussion of compliance and any changes to the WQPS are to be included in the Annual Report.

5. Five Year Iso-Settlement Map

The Discharger shall produce an iso-settlement map and submit it by March 15, 2019 and 2024 of the Class III waste footprint, and every five years thereafter, until the Executive Officer has determined that differential settlement is unlikely to be of such magnitude as to impair either the unit's containment features (e.g., final cover) or the free drainage of surface flow. When reconstruction is complete, a new as-built elevation contour map shall be submitted. The next iso-settlement map shall be due 5 years after the completion of the cap re-construction. These maps shall be submitted to the Regional Water Board with the annual report for that year.

The iso-settlement maps shall:

a. Accurately depict the estimated total change in elevation of the final cover's low-hydraulic-conductivity layer for any portion of the SWDS footprint closed by the time of mapping.

b. Show the total lowering of the surface elevation of the final cover, relative to the baseline topographic map submitted in the original closure report for that phase of closure, and shall indicate all areas where visually noticeable differential settlement may have been obscured by grading operations.

c. Be drawn to the same scale and contour interval as the topographic map in the closure report for that phase of closure, but showing the current topography of the final cover, and featuring overprinted isopleths indicating the total settlement to date. Land surveying rather than aerial surveying may be substituted to produce the iso-settlement map [Cal. Code Regs., tit. 27, § 21090(e) (2)].

d. Be prepared by, or under the direction of, a California Registered Civil Engineer or Certified Engineering Geologist and shall be stamped and signed.

6. Annual Erosion Control Report

By October 15, annually, the Discharger shall submit a report to the Regional Water Board Executive Officer describing any measures taken to comply with erosion control requirements. The report shall include a description of any erosion control measures implemented, and any necessary construction, maintenance, or repairs of precipitation and drainage control facilities. Upon request, the Executive Officer may exempt the Discharger from the requirement for submitting annual erosion control reports if the Executive Officer determines that no erosion control work is necessary prior to the return of winter rains.

7. Emergency Response Plan

The most recent Joint Technical Document includes the current emergency response plan for the facility, which is dated April 2005 (and was revised in November 2006). The emergency response plan shall be updated and submitted by March 15, 2019, March 15, 2024, and at a minimum, every five years thereafter; or if during its implementation, problems were found. The emergency contact list shall be updated and submitted by August 31, 2018, then as part of the emergency response plan updates; or after key personnel changes.

8. Constituents of Concern (COCs)

The Discharger shall submit reports of the results of groundwater, springs, surface water, and leachate sample test results for the COCs every 5 years, or more frequently if required. The monitoring for COC report shall alternate between fall and spring seasons in conjunction with the regular semi-annual sampling; fall 2021, spring 2026 and every five years thereafter. The COC monitoring results shall be submitted with, or reported in, the MR for the period the sampling took place.

9. Notification of Release and Re-test

For any WMU, if the results of a detection monitoring program show that there is a measurably significant increase in an indicator parameter or waste constituents over the WQPS at or beyond the points of compliance (i.e., measurably significant evidence of an exceedance or release), the Discharger shall:

a. Immediately notify the Regional Water Board staff by telephone or fax of the exceedance,

b. Within seven days of the initial findings, follow up with written notification (or acknowledgment of the Regional Water Board's finding),

c. Within 30 days of the initial finding, re-sample for the constituent(s) or parameter(s) at the point where the standard was exceeded, and

d. Within 60 days of the initial finding, submit the results of the re-sampling and statistical analysis, indicating whether or not an exceedance or release was confirmed by the re-test.

10. Detection of a Release

Immediately following detection of a release, or after completion of the retest, the Discharger:

a. Shall immediately sample all monitoring points in the affected medium at the WMUs and determine the concentration of all COCs. Because this COC scan does not involve statistical testing, the Discharger need collect and analyze only a single water sample from each monitoring point in the affected medium. The Regional Water Board can approve an appropriate subset of monitoring points to be sampled for all COCs, based upon the hydrogeologic conditions at the WMU. [Cal. Code Regs., title 27, § 20420(k)(1)]

b. Within 90 days of determining measurably significant evidence of release, submit an amended ROWD to establish an evaluation monitoring program, in accordance with California Code of Regulations, title 27, section 20420(k)(5).

c. Within 180 days of verifying measurably significant evidence of a release from a WMU, submit an engineering feasibility study for a corrective action program. The corrective action program shall, at a minimum, meet the requirements of California Code of Regulations, title 27, section 20430. [Cal. Code Regs., title 27, § 20420(k)(6)]

11. Responding to a Release Discovery

Upon verifying a measurably significant evidence of a release from a WMU according to California Code of Regulations, title 27, section 20420(j) and Section I.A.7 and I.A.8 of this MRP, the Discharger shall follow the procedures and timeline described in California Code of Regulations, title 27, section 20420(k).

12. Closure Reports

A closure report for each construction season of closure activities and a full closure report once final closure is achieved shall be prepared and certified by the Construction Quality Assurance (CQA) Officer and submitted, under penalty of perjury, to the Regional Water Board and other appropriate agencies in accordance with California Code of Regulations, title 27, sections 20324(c), 20324(d), and 21880. The CQA officer must be a Registered Civil Engineer or a

Certified Engineering Geologist licensed in the State of California. The reports, at a minimum, shall include the certificate of closure; daily summary reports; material acceptance reports; photo logs of closure activities; final CQA documentation; laboratory testing results; field testing results; and an as-built

topographic map of the capped area (for each construction season then for the completed project), prepared at a scale of one-inch to 100 feet, with a contour interval of two feet.

During times of active closure construction or any periods of repair to the waste containment, drainage, or monitoring facilities, legible copies of the daily CQA field notes and summary reports shall be submitted to the Regional Water Board via facsimile at (707) 523-0135 or via email to Gina.Morrison@waterboards.ca.gov by noon the following weekday. The facsimile or email shall be addressed to the Regional Water Board, Land Disposal Unit, and include the name of the staff person assigned to the SWDS.

II. GENERAL MONITORING PROGRAM REQUIREMENTS

A. ROUTINE MAINTENANCE

The SWDS shall be inspected monthly during the rainy season (October through May), once during the summer (June through September), and after rainfall events of more than 1.0 inches in 24 hours per Section I 9. Standard Observations. Standard observation inspection logs, problem areas, special occurrences, and corrective actions taken shall be included in the corresponding semi-annual monitoring reports**.**

B. CONSTITUENTS OF CONCERN

Except as otherwise indicated in this Order, the Discharger shall monitor each medium of the SWDS for applicable COC (per State Water Resources Control Board Resolution 93-62). The monitoring locations, analytical methods, and frequencies of analysis are as follows:

1. Monitoring Locations

a. Leachate – FD-1 and new leachate extraction well(s) once they are installed.

b. Groundwater –Monitoring wells 90-1, 91-1, 93-1, 93-2, 94-1, 04-1, 04-2, 04-3, 04-4, 04-5, and 04-7.

c. Surface Water/Storm Water – SW-1, SW-2A, SW-B, and SW-4 per Table IIIC.

d. Unsaturated Zone – LFG-1, LFG-2, LFG-3, LFG-4, LFG-5, LFG-6, and the new vertical landfill gas well(s), once they are installed. LF-6 and Probe-1 shall have VOC monitoring by TO-15.

2. Monitoring Schedule

Groundwater monitoring wells shall be sampled for COCs in fall 2021, spring 2026, and every five years thereafter alternating between seasons.

C. LEACHATE MONITORING

Samples shall be taken from Monitoring Location FD-1, if sufficient sample is present (Attachment C). Leachate is vacuum-pumped from storage tanks and transported to the Willits Wastewater Treatment Facility (WWTF). Any results from leachate sampling required by the Willits WWTF shall be reported to the Regional Water Board.

There are not any leachate seep monitoring locations currently established. Any seeps located during inspections shall be sampled as soon as possible, but no more than 7 days after the discovery. The seep shall be reported to Regional Water Board staff within 24 hours via telephone or by email.

The volume of leachate collected each month since the previous monitoring report shall be reported in accordance with California Code of Regulations, title 27, section 20340(h). Results from the samples, any district sampling, leachate collection volume, and any leachate seeps shall be reported in the semi-annual monitoring reports.

D. DETECTION AND CORRECTIVE ACTION MONITORING

For each monitoring medium, samples from all monitoring points assigned to detection monitoring or corrective action monitoring shall be collected and tested per Tables III.D. and III.E. for the monitoring parameters listed in this program.

For any given monitored medium, a sufficient number of samples shall be taken from all monitoring points to satisfy the data analysis requirements for a given Reporting Period, and shall be taken in a manner that ensures sample independence to the greatest extent feasible.

Statistical analyses shall be performed as soon as the monitoring data are available. Intra-well statistical data analyses shall be performed for both aquifers due to the lack of appropriate background monitoring capabilities. Concentration limits for man-made chemicals shall be set at method detection limits (MDLs) for individual

analytes. Concentration limits for naturally occurring compounds are determined statistically for groundwater and surface water monitoring programs using the tolerance interval method or other appropriate statistical method as approved by the Executive Officer.

E. GROUNDWATER ELEVATION MONITORING

The groundwater surface elevation (in feet and hundredths, M.S.L.) in all wells and piezometers shall be measured on a semi-annual basis for each monitored groundwater body and used to determine the velocity and direction of groundwater flow. Monitoring shall include the times of expected highest and lowest elevations of the water level for the respective groundwater body. Groundwater elevations for all upgradient and downgradient wells for a given groundwater body shall be measured within a period of time short enough to avoid temporal variations in groundwater flow which could preclude accurate determination of groundwater gradient and direction. This information shall be included in the monitoring reports.

F. UNSATURATED ZONE MONITORING

Since the SWDS does not have pan lysimeters, the existing landfill gas monitoring wells will be used for unsaturated zone monitoring (LFG-1, LFG-2, LFG-3, LFG-4, LFG-5, LFG-6, and Probe-1). In addition to the landfill gas monitoring required by CalRecycle, the probes LFG-6 and Probe-1 will be analyzed for VOC vapors using TO-15 in fall 2018 and spring 2019 during regular probe sampling. These samples will be used to determine sampling frequency, which must be at least every five years thereafter.

III. MONITORING REQUIREMENTS

A. GENERAL

The Discharger shall perform detection monitoring and corrective action monitoring (per Cal. Code Regs., title 27, § 20420 and 20430) on all media potentially affected by a release, including surface water and groundwater, and the unsaturated zone. For any given monitored medium, a sufficient number of samples shall be taken from all monitoring points and background monitoring points to satisfy the data analysis requirements for a given reporting period, and samples shall be collected in a manner that ensures sample independence to the greatest extent feasible.

As set forth in California Code of Regulations, title 27, section 20415(e)(8), the Discharger shall use a Board-approved statistical (or non-statistical) procedure to determine whether there has been a measurably significant increase in a constituent over the WQPS.

Method detection limits and practical quantitation limits shall be reported. All peaks shall be reported, including those that cannot be quantified and/or specifically identified.

The Discharger may, with approval of the Executive Officer, use alternative analytical test methods, including new U.S. EPA approved methods, provided the methods have method detection limits equal to or lower than those for the analytical methods specified in this MRP (Attachment 1).

B. UNSATURATED ZONE

1. Monitoring Locations

Monitoring points for the unsaturated zone are LFG-1, LFG-2, LFG-3, LFG-4, LFG-5, LFG-6 and Probe-1. These gas probes will be used for perimeter landfill-gas monitoring and monitoring of the waste mass (LFG-6 and Probe-1). LFG-6 and Probe-1 will be used for discrete VOC monitoring by TO-15. Attachment C shows the unsaturated zone monitoring points for the SWDS.

2. Monitoring Schedule

LFG-6 and Probe-1 will be analyzed for VOC vapors using TO-15 in fall 2018 and spring 2019 during regular probe sampling. These sample results will be used to determine future discrete sampling frequency required by this program. After the second sampling event, the Discharger will include the proposed sampling frequency as part of the monitoring report for approval by the Executive Officer. Regular perimeter landfill-gas sampling will be conducted as required by CalRecycle. The landfill-gas sampling reports for CalRecycle shall also be submitted to the Regional Water Board.

The results for the discrete vapor monitoring shall be reported to the Regional Water Board in the semi-annual monitoring reports. Landfill-gas monitoring reports, conducted as required by CalRecycle, may be submitted as a stand-alone report or as part of the semi-annual monitoring reports.

TABLE III.A.
UNSATURATED ZONE DETECTION MONITORING PROGRAM

Parameter	Units	Frequency
Laboratory Monitoring Parameters		
VOCs by US EPA Method TO-15	ug/cm^3	Fall 2018, Spring 2019, and a minimum of every 5 years thereafter
Methane	%	Semi-annual

C. LEACHATE SAMPLING

1. Monitoring Locations

a. Leachate – Samples will be taken from the French drain (FD-1) located up line of the storage tanks once per year in the 4th quarter (October-December). The drain shall be sampled as soon as adequate precipitation occurs for leachate to discharge from the landfill's leachate collection system. The drain shall be checked for flow after each storm event (over 1-inch of precipitation in a week) until a sample is obtained. FD-1 shall be checked for the presence of leachate every other month starting in September and ending in June until a sample has been obtained for the season or the end of the rainy season; and if leachate is present a leachate sample shall be obtained. If any additional leachate samples are taken at the request of the Willits WWTF, these results shall also be reported to the Regional Water Board.

b. Seeps - If new seeps are detected, the Discharger shall immediately sample the seepage and test for field parameters and monitoring parameters listed in Table IIIB. and continue to sample seepage and report test results at frequencies listed in Table IIIB. If the seep has been determined to contain leachate, the Discharger shall abate the discharge.

2. Monitoring Schedule

The parameters and frequency of leachate and seep monitoring are as follows:

TABLE III.B.
LEACHATE MONITORING PROGRAM

Parameter	Units	Frequency[1]
Field Parameters		
pH	pH units	4th quarter
Specific Conductance	Mhos/cm	4th quarter
Temperature	˚C	4th quarter
Total Flow (for entire leachate collection system)	Gallons/Month	Monthly
Monitoring Parameters		
Chloride	ug/l	4th quarter
Sulfate	ug/l	4th quarter
Nitrate as Nitrogen	mg/l	4th quarter
Manganese	mg/l	4th quarter
26 Metals[2]	ug/l	4th quarter
Total Dissolved Solids (TDS)	mg/l	4th quarter
Chemical Oxygen Demand	mg/l	4th quarter
VOCs including oxygenates (low level)	ug/l	4th quarter
Constituents of Concern (See Attachment 1)		
Inorganics (dissolved)	mg/l	Five years
VOCs (low level)	ug/l	Five years
Semi-VOCs	ug/l	Five years
Chlorophenoxy Herbicides	ug/l	Five years
Organophosphorus Pesticides	ug/l	Five years
Polychlorinated Biphenyls	ug/l	Five years
Organochlorine Pesticides	ug/l	Five years

Note 1: Frequency shown is for the regular leachate collection removal system sampling. Leachate seep samples shall be taken whenever seeps are present.

Note 2: 26 Metals are aluminum, antimony, arsenic, barium, beryllium, boron, cadmium, calcium, chromium, cobalt, copper, iron, lead, magnesium, mercury, molybdenum, nickel, potassium, selenium, silver, sodium, thallium, titanium, tin, vanadium, and zinc. Metals analyses are for dissolved concentrations.

D. SURFACE WATER AND STORM WATER

1. Monitoring Locations

Monitoring locations, SW-1, SW-2A and SW-4 are downgradient of the SWDS. The downgradient storm water sampling points act as points of compliance for both storm water and surface water. Monitoring location, SW-B is upgradient from the SWDS and acts as a background sampling point for both storm water and surface water. The surface water and storm water monitoring points for facility are shown in Attachments B and C. Total petroleum as gasoline, diesel, and motor oil shall be monitored for a minimum of one year until proven that these constituents are non-detect or if detected in leachate then it should be only oil and grease. Upon results indicating that these constituents are non-detect below the PQL for a minimum of one year, the Regional Water Board will remove them from annual monitoring. Rainfall shall be measured at the closest weather station to the SWDS.

2. Monitoring Schedule (Sampling and Laboratory Analysis)

Samples shall be collected at surface water and storm water monitoring points and analyzed in accordance with the schedule presented in the following table:

TABLE III.C.

SURFACE WATER AND STORM MONITORING PROGRAM

Parameter	Units	Frequency
Field Parameters		
pH	pH units	1st Quarter
Specific Conductance	Mhos/cm	1st Quarter
Turbidity	turbidity units	1st Quarter[1]
Temperature	˚C	1st Quarter
Rainfall	inches	Daily
Monitoring Parameters		
Chloride	ug/l	1st Quarter
Total Suspended Solids (TSS)	mg/l	1st Quarter[1]
Total Dissolved Solids (TDS)	mg/l	1st Quarter
Manganese	mg/l	1st Quarter
26 Metals	ug/l	Conditional[2]
VOCs	ug/l	Conditional[2]
Nitrate as Nitrogen	ug/l	Conditional[2]

Parameter	Units	Frequency
Monitoring Parameters (continued)		
Sulfate	ug/l	Conditional[2]
Oil and Grease	mg/l	Annually
Total Petroleum as Gasoline	ug/l	Annually[3]
Total Petroleum as Diesel	ug/l	Annually[3]
Total Petroleum as Motor Oil	ug/l	Annually[3]
Constituents of Concern (See Attachment 1)		
Inorganics (dissolved)	mg/l	After a release[4]
VOCs (low level)	ug/l	After a release[4]
Semi-VOCs	ug/l	After a release[4]
Chlorophenoxy Herbicides	ug/l	After a release[4]
Organophosphorus Pesticides	ug/l	After a release[4]
Polychlorinated Biphenyls	ug/l	After a release[4]
Organochlorine Pesticides	ug/l	After a release[4]

Note 1: Turbidity and Total Suspended Solids may be substituted for each other depending on which sampling method is more readily available.

Note 2: If results for conditional samples are not obtained from the FD-1 sample then storm water/ surface water samples shall include testing for all conditional analytes.

Note 3: Total Petroleum as Gasoline, Diesel, and Motor Oil shall be sampled and tested to assess the frequency of sampling for those analytes.

Note 4: Sampling shall take place during the next flow event after a verified measurably significant release. Verification shall be determined according to California Code of Regulations, title 27, section 20420(j).

E. GROUNDWATER

The groundwater surface elevation (in feet and hundredths, M.S.L.) in all wells shall be measured on a semi-annual basis and used to determine the velocity and direction of groundwater flow. The Discharger has submitted documentation demonstrating that semi-annual monitoring will cover the times of expected highest and lowest elevations of the water level for the respective groundwater body in compliance with California Code of Regulations, title 27, section 20415(e)(15). The amount of siltation in all wells shall be measured as needed and during pump maintenance. Siltation information shall be used to make recommendations for well

maintenance or replacement. Additional monitoring wells shall be added to the program as needed. Samples shall be collected from wells at the frequency and for the parameters specified below.

1. Monitoring Locations

Monitoring points included in the current groundwater monitoring system consist of six corrective action wells (90-1, 93-1, 93-2, 94-1, 04-04, 04-05), two detection monitoring wells (04-01 and 04-05) and two background wells (04-02, 04-03).

The groundwater monitoring points for the SWDS, shown in Attachment C, are as follows:

TABLE III.D.
GROUNDWATER DETECTION AND CORRECTIVE ACTION MONITORING PROGRAM SAMPLING FREQUENCY

Semi-annual and Five Year COC:	90-1, 91-1, 93-1, 93-2, 94-1, 04-01, 04-02, 04-03, 04-04, 04-05, and 04-07
Deep Aquifer (Franciscan formation) Monitoring Wells:	90-1, 91-1, 93-2, 04-01, 04-02, 04-04, and 04-05
Shallow Aquifer (Sedimentary formation) Monitoring Wells:	93-1, 94-1, 04-03, and 04-07

Sampling at the above-listed groundwater monitoring locations shall occur on the following schedule:

2. Monitoring Schedule

The analytes and frequency of groundwater monitoring are as follows:

TABLE III.E.
GROUNDWATER DETECTION AND CORRECTIVE ACTION MONITORING PROGRAM

Parameter	**Units**	**Frequency**
Field Parameters		
Total Hardness	mg/l	Semi-Annual[1]
pH	pH units	Semi-Annual[1]
Specific Conductance	Mhos/cm	Semi-Annual[1]
Temperature	˚C	Semi-Annual[1]

Parameter	Units	Frequency
Field Parameters (continued)		
Groundwater Elevations	Ft./tenths TOC[2]	Semi-Annual
Turbidity	Turbidity units	Semi-Annual[1]
Siltation in Well Casing	Ft./tenths	As needed and during pump maintenance
Monitoring Parameters		
Arsenic	ug/l	Semi-Annual[1]
Barium	ug/l	Semi-Annual[1]
Chloride	ug/l	Semi-Annual[1]
Chromium	ug/l	Semi-Annual[1]
Sodium	ug/l	Semi-Annual[1]
Calcium	ug/l	Semi-Annual[1]
Sulfate	ug/l	Semi-Annual[1]
Magnesium	ug/l	Semi-Annual[1]
Iron	ug/l	Semi-Annual[1]
Manganese	ug/l	Semi-Annual[1]
Nitrate as Nitrogen	mg/l	Semi-Annual[1]
Bicarbonate/carbonate Alkalinity as $CaCO_3$	mg/l	Semi-Annual[1]
Fluoride	ug/l	Semi-Annual[1]
Total Dissolved Solids (TDS)	mg/l	Semi-Annual[1]
Aluminum[3]	ug/l	Annually
Boron[3]	ug/l	Annually
Copper[3]	ug/l	Annually
Lead[3]	ug/l	Annually
Molybdenum[3]	ug/l	Annually
Potassium[3]	ug/l	Annually
Titanium[3]	ug/l	Annually
VOCs	mg/l	Semi-Annual
Chemical Oxygen Demand	mg/l	Five years
26 Metals[4]	ug/l	Five years
Constituents of Concern Full Scan (See Attachment 1)		
Inorganics (dissolved)[5]	mg/l	Five years
VOCs (low level)	ug/l	Five years
Semi-VOCs	ug/l	Five years
Chlorophenoxy Herbicides	ug/l	Five years
Organophosphorus Pesticides	ug/l	Five years
Polychlorinated Biphenyls	ug/l	Five years
Organochlorine Pesticides	ug/l	Five years

Note 1: These analytes shall be sampled for wells 90-1, 93-1, 93-2, 94-1, and 04-1 semi-annually. Wells 91-1, 04-2, 04-3, 04-4, 04-5 and 04-7 shall be sampled annually.

Note 2: TOC s top of casing.

Note 3: These analytes shall be sampled for wells 90-1, 93-1, 93-2, 94-1, and 04-1 annually.

Note 4: 26 Metals are aluminum, antimony, arsenic, barium, beryllium, boron, cadmium, calcium, chromium, cobalt, copper, iron, lead, magnesium, mercury, molybdenum, nickel, potassium, selenium, silver, sodium, thallium, titanium, tin, vanadium, and zinc. Metals analyses are for dissolved concentrations.

Note 5: Metals analyses are for dissolved concentrations.

IV. WATER QUALITY PROTECTION STANDARD

The WQPS consists of the following elements:

a. Constituents of Concern;
b. Concentration Limits;
c. Monitoring Points;
d. Points of Compliance; and
e. Compliance Period.

Each of these is described as follows:

A. Constituents of Concern

The COCs, as required under California Code of Regulations, title 27, section 20395, shall include all constituent groups identified in Attachment 1. The Discharger shall test samples for all COCs every five years or more frequently, as required under the monitoring program.

B. Concentration Limits

The concentration limit for any given COC or monitoring parameter in a given monitored medium (i.e., the uppermost aquifer) at the SWDS shall be as follows, and shall be used as the basis of comparison with data from the monitoring points in that monitored medium:

a. The background value established in the WDRs by the Regional Water Board for that constituent and medium;

b. The constituent's background value, from the background monitoring points for that monitored medium. When using background monitoring results to determine background concentrations, the background concentration will be calculated using one of the following methods:

1. The mean (or median, as appropriate) and standard deviation (or other measure of central tendency, as appropriate) of the constituent's background data; or

2. The constituent's MDL, in cases where less than 10 percent of the background samples exceed the constituent's MDL; or

3. A concentration limit greater than background, as approved by the Regional Water Board for use during or after corrective action.

C. Monitoring Points

1. Unsaturated Zone - As listed in Section III.B.1.

2. Surface Water - As listed in Section III.C.1.

3. Groundwater - As listed in Section III.D.1.

D. Points of Compliance

The point of compliance for each WMU is the vertical surface located at the downgradient limit of the WMU that extends through the uppermost aquifer underlying the WMU.

Because the alluvium is generally dry in the downgradient direction, the Franciscan formation is the first water. Therefore, the wells currently located closest to the point of compliance at the SWDS are 93-1, 94-1, 90-1 and 04-07 (if contains water).

E. Compliance Period

The compliance period is the number of years equal to the active life of the SWDS plus the closure period. Each time the WQPS is exceeded (i.e., a release is discovered), the SWDS begins a compliance period on the date the Regional Water Board directs the Discharger to begin an evaluation monitoring program. If the Discharger's corrective action program has not achieved compliance with the WQPS by the scheduled end of the compliance period, the compliance period

is automatically extended until the SWDS has been in continuous compliance for at least three consecutive years.

Any person aggrieved by this action of the North Coast Water Board may petition the State Water Board to review the action in accordance with CWC section 13320 and California Code of Regulations, title 23, sections 2050 and following. The State Water Board must receive the petition by 5:00 p.m., 30 days after the date that this Order becomes final, except that if the thirtieth day following the date that this Order becomes final falls on a Saturday, Sunday, or state holiday (including mandatory furlough days), the petition must be received by the State Water Board by 5:00 p.m. on the next business day. Copies of the law and regulations applicable to filing petitions may be found on the Internet at:

https://www.waterboards.ca.gov/public_notices/petitions/water_quality/

or will be provided upon request.

The Discharger shall implement the above monitoring program beginning on the effective date of this Order.

Ordered by: _____ Digitally signed by Claudia Villacorta Date: 2018.10.31 12:15:28 -07'00'

Matthias St. John
Executive Officer

Attachments:
1 – Constituents of Concern and Approved EPA Analytical Methods
A – Site Location Map
B – Background Surface Water Monitoring Location
C – Site Plan