
COMMUNITY MONITOR ANNUAL REPORT 2021 ALTAMONT LANDFILL AND RESOURCE RECOVERY FACILITY Livermore, CA

Prepared For:

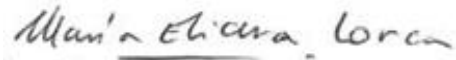
ALRRF Community Monitor Committee

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1.0 INTRODUCTION

1.1 Background: Settlement Agreement

In December 1999, a Settlement Agreement was reached among parties involved in a lawsuit regarding the proposed expansion of the Altamont Landfill and Resource Recovery Facility (ALRRF). The settlement limited the expansion to a second permitted operational area, known as Fill Area 2 (FA2), adjacent to the existing Fill Area 1 (FA1). The Settlement Agreement established the Community Monitor Committee (CMC) and a funding mechanism for its technical consultant, the Community Monitor (CM).

The Settlement Agreement defines the purview of the CMC and the CM. The CM's scope of work is further defined in a contract between the CM and the CMC. The City of Livermore provides staff and administrative support to the CMC, as well as management of the CM contract and space for CMC meetings. The City also acts as financial agent for the CMC, pursuant to a letter agreement dated July 6, 2004.

In broad terms, the CM is to review certain reports and information, as defined; monitor incoming traffic by conducting truck counts, as described in the Settlement Agreement; and inspect the ALRRF site no more than twelve times each year. The Settlement Agreement describes the CM's Scope of Work to include "issuing a written report each year summarizing the ALRRF's compliance record for the period since the last such report with respect to all applicable environmental laws and regulations." This Annual Report provides that summary for 2021.

The Settlement Agreement also requires that the ALRRF operator, Waste Management of Alameda County (WMAC), pay invoices submitted by the CM to the CMC, if the work represented in those invoices is consistent with the CM's scope of work and role as defined in the Settlement Agreement.

1.2 Prior Community Monitor Work

Records indicate that the CMC retained a technical consultant as the CM from 2005 through part of 2007.

In mid-2007, the CMC selected the current CM team of Environmental Science Associates (ESA) and Langan (formerly Treadwell & Rollo). This team began work in February 2008. From 2008 through 2019, the team carried out report reviews, Class 2 soil analysis file review, and site inspections as defined in the Settlement Agreement. From 2020, after a public procurement process to select a continuing CM, the CM team of Langan and ESA switched roles, with Langan

as the primary CM and ESA as a sub-contractor to Langan. The CM team continues to carry out report reviews, Class 2 soil analysis file review, and site inspections (when allowed), as defined in the Settlement Agreement.

- In 2008, the primary concern was the rate at which groundwater monitoring wells were purged during sampling. This was resolved satisfactorily.
- In 2009, the CM team took a close look at the methodology used by ALRRF and its consultants to track variations in groundwater quality. No areas of concern were identified.
- In 2010, landfill gas perimeter probes were installed to comply with new regulations, and one of those probes detected landfill gas at levels that exceeded regulatory limits. This was abated by installing several gas extraction wells close to those probes.
- In 2011, the ALRRF sought to use fine material¹ from the Davis Street Material Recovery Facility (MRF) as Alternative Daily Cover. The use of this material was approved by the LEA through a special study in 2013.
- In 2012, two ongoing problems, windblown litter and seagull activity, became more severe; and while the gull problem has varied seasonally, the litter problem has continued.

Since mid-2013, the CM's observations and document reviews have included the construction of FA2 and related mitigation measures. The excavation and preparation of the Phase 1 portion of FA2, together with related improvements, were monitored in 2014 and 2015.

In 2015, the Five-Year Permit Review process began when the Alameda County Department of Environmental Health, the Local Enforcement Agency (LEA), requested the ALRRF to submit an application and a revised draft of its Joint Technical Document² (JTD), which contains a detailed description of FA2 development plans, design details, and operating procedures. On July 31, 2015, the revised JTD was submitted to the LEA and the Central Valley Regional Water Quality Control Board (CVRWQCB). Waste Discharge Requirements (WDRs) were issued by the CVRWQCB in mid-2016.

Throughout this process, the LEA held its permit review in abeyance while CVRWQCB staff prepared, and the CVRWQCB adopted, the WDRs. Subsequently, the LEA's review required

1 MRF fines: Fine material produced by sorting systems that recover materials at the Davis Street Transfer Station.

2 Under California regulations, a Joint Technical Document (JTD) is a detailed description of all of the means and methods by which a disposal site will satisfy State requirements to protect water resources and safely dispose of permitted wastes.

more than four years to complete. It has been difficult for the ALRRF to refine its JTD to conform to the requirements of the WDRs and subsequent directives from CVRWQCB staff, and the sheer size and complexity of the JTD itself has also impeded progress. The JTD, after several revisions, was finalized on April 30, 2020. The Five-Year Solid Waste Facility Permit (SWFP) was finalized and issued on September 2, 2020.

1.3 Regional Context and Landfill Capacity Needs

Events in the landfill disposal industry and demographic shifts within the greater Bay Area have affected, and may continue to affect, operations and future developments at the ALRRF. Prior Annual Reports have discussed impending landfill capacity changes and changes in landfill usage that could directly affect the life expectancy of regional landfills including the ALRRF.

Those issues have largely abated, but legislative and regulatory developments have resulted in new implications for landfill life in the region and statewide. The bellwether for this trend was AB 1594, which was passed in 2014. As of January 1, 2020, the use of green material as alternate daily cover (ADC) does not constitute diversion through recycling and is considered disposal for purposes of measuring a jurisdiction's 50 percent per capita disposal rate.

The 2015-2016 legislative session in California gave rise to several new laws that are intended to dramatically reduce the disposal to landfill of organic wastes (plant debris, food scraps and similar materials that readily decompose and produce methane, a potent greenhouse gas). In Alameda County, this material is approximately 30% of the waste stream^{3,4}.

The two pieces of 2016 legislation with the most direct effect are SB 1383 and AB 901. SB 1383 established targets to achieve a 50 percent reduction in the statewide disposal of organic waste from the 2014 level by 2020, and a 75 percent reduction by 2025. AB 901 changed how disposal and recycling is reported to California Department of Resources Recycling and Recovery (CalRecycle). The intended effect is to provide a more accurate assessment of progress toward State goals. Regulations that implement these measures are now in place, and CalRecycle is providing resource documents and workshops to support implementation⁵.

³ CalRecycle 2014 Waste Characterization Study: <https://www2.calrecycle.ca.gov/WasteCharacterization/> , accessed December 2017.

⁴ Alameda County 2017-2018 Waste Characterization Study: <http://www.stopwaste.org/sites/default/files/2017-18%20Alameda%20County%20Waste%20Characterization%20Study.pdf> , accessed December 2018.

⁵ <https://calrecycle.ca.gov/organics/slcp/education>

One result of this activity has been a tangible commitment by waste industries in California to provide additional organics diversion facilities. In Alameda County, two examples are the 500 ton per day Covered Aerated Static Pile (CASP) facility at the ALRRF, and the implementation of 100 tons per day of anaerobic digestion and subsequent composting capacity at the Davis Street Transfer Station. Taken together, these could reduce disposal at the ALRRF by up to 600 tons per day, which would be a 25% reduction in the current rate of disposal there. This reduction may be offset somewhat by the need for disposal of contaminants and oversize materials from compost operations.

Related State legislation passed in the 2017-2018 session provided further support for waste reduction through product stewardship, packaging, and enhanced organics-diversion requirements. The legislation passed in the first year of the 2019-2020 session has continued to focus on product stewardship while also removing some requirements to provide buy-back recycling centers.

Against this backdrop, the ALRRF began operation in FA2 Phase 3 on March 25, 2021. This triggered several constraints on the types, quantities and sources of materials received; these are described in the next section of this report.

1.4 Site-Specific Constraints and Opportunities

The 1999 Settlement Agreement added constraints on operations, by adding new conditions to the Use Permit for the ALRRF. Solid wastes from out-of-county sources were strictly limited to those covered by existing disposal agreements. During peak traffic hours, the number of refuse trucks entering the landfill is limited. Numerous conditions intended to protect natural resources on the ALRRF property were imposed. These were extensively refined during the development of permit conditions from the State and Federal natural resource agencies with permit authority: The US Army Corps of Engineers, the US Fish and Wildlife Service, the California Department of Fish and Wildlife, and the Central Valley Regional Water Quality Control Board. This process required several years and concluded in 2012.

Some of these conditions did not take effect until FA2 began to receive refuse, on March 25, 2019. These conditions include limitations on the amounts of sludges, inert waste and special waste accepted from certain Bay Area counties, as well as self-hauled wastes from Contra Costa County. The specific restrictions are:

- Wastes collected for disposal under a municipal franchise may only be received from Alameda County, San Francisco, and the City of San Ramon in Contra Costa County. San

Francisco and San Ramon wastes can only be received if those jurisdictions meet specified waste diversion goals.

- Non-franchise waste may only be received for disposal from Alameda County and San Francisco, plus up to 25,000 tons per year of sludges, inert waste and special waste from the other seven Bay Area counties. In addition, up to 25,000 tons per year of self-hauled wastes from Contra Costa County may be disposed.

Also, under the Settlement Agreement the size of the future expansion area was limited to 40 million tons of capacity, with a footprint of approximately 250 acres. In addition to Use Permit conditions, the Settlement Agreement established the CMC and the CM role, as described above; and it established mitigation funding related to the landfill expansion.

The physical setting of the ALRRF site presents certain constraints and opportunities. Canyons provide convenient high-volume fill sites, but hilly terrain and local high winds in the Altamont area require constant attention to windblown litter, especially film plastic. As FA1 neared its final elevation, windblown litter continued to be a problem due to the exposure of the landfill's active face to wind. That problem increased through 2019, despite the move to FA2 at a lower elevation. Although the ALRRF's litter collection crew has been able to repeatedly remove litter from large expanses of the ALRRF property, high-wind events in 2019 and 2020 quickly replenished windblown litter in those areas, requiring repeated cleanups. In 2021, the landfill experienced record wind speeds, exacerbating the existing windblown litter issue further around FA2. As a result, a section of the fencing was knocked down and windblown litter covered large expanses of the ALRRF property as well as neighboring properties, including Bethany Reservoir. The landfill has added additional staff dedicated to litter cleanup, plans to repair the fencing downwind of FA2, and is communicating frequently with CalRecycle and the LEA to provide updates on removal of the windblown litter.

1.5 Overview of Operations, Regulations and Permits

1.5.1 Operational Functions and Requirements

Like most large landfills throughout California, the ALRRF performs a variety of functions that support the region's management of solid wastes. These functions continue to evolve as increasing emphasis is placed on reducing and recovering wastes, but the primary function of the site continues to be the safe disposal of solid wastes by placing, compacting and covering these materials. Federal, State and local regulations require that at the ALRRF:

- Wastes are covered to control litter, prevent fire, and prevent the spread of disease.

- Wastes are placed and compacted to be physically stable.
- Plant debris is not to be disposed; if received, it must be separated and reclaimed by composting or other methods. The CASP compost system adjacent to the landfill provides a convenient location for plant debris that is inadvertently delivered to the landfill.
- A liner and liquid recovery system is in place to prevent groundwater contamination by leachate.
- Landfill gas (LFG) is controlled by an extraction system. Currently the gas is used to produce fuel (liquefied and compressed natural gas, LNG/CNG) and electrical energy.
- Emissions from combustion and processing (diesel engines and landfill gas systems) are controlled to meet Bay Area Air Quality Management District (BAAQMD) standards.
- Other air pollutants and nuisances (dust, odor, litter, etc.) are prevented.
- Stormwater erosion is controlled and stormwater runoff is tested for pollutants.

Compliance with these requirements protects the environment and public health, and it also presents opportunities to develop and support innovative methods for improved waste management. Currently, such activities at the ALRRF include:

- Using LFG to produce electricity and fuel (LNG/CNG);
- Stockpiling and processing materials for beneficial use on site, such as using demolished concrete for wet-weather roads and access pads;
- Blending liquids with dry materials in a solidification process to make a product that can be landfilled or used as cover;
- Using contaminated soils and other wastes (biosolids, shredded tires, MRF fines, treated auto shredder fluff, etc.) for cover material, as permitted;
- Stockpiling construction and demolition (C&D) materials and scrap metal for processing elsewhere;
- Providing an area for the separation of plant debris from other wastes, to avoid landfilling plant debris; and
- Hosting site visits, by prior arrangement, for public education.

The ALRRF property covers more than three square miles. Within that area, the portion that is delineated as landfill is divided into FA1 and FA2. FA1 covers approximately 235 acres, including

an Asbestos-Containing Waste landfill operation which occupies several acres within the FA1 footprint. The FA2 footprint is approximately 250 acres. Although most refuse and cover material are currently being delivered to FA2, FA1 has not closed, and it will likely receive additional refuse to reach its permitted final elevation. It is currently the site of the active asbestos landfill and two solidification basins. The solidification basins are proposed to be relocated to FA2 in 2022-2023.

Lands surrounding FA1 and FA2 are mainly grazing land and some construction-support activities related to the continuing construction of FA2, which will take place in phases over several years. These surrounding lands include a Conservation Plan Area, protected with a permanent easement that provides suitable habitat for several special status species.

Much of the work done by the CM involves the review of data and reports required of the ALRRF by regulatory and permitting agencies, as described below.

1.5.1.1 *Water*

In California, the State Water Resources Control Board (SWRCB) and its Regional Water Quality Control Boards (RWQCBs) protect groundwater and surface water resources through laws, regulations and permit requirements. Because most of the ALRRF property drains into the Central Valley, the CVRWQCB issues and administers the WDRs for the site. These WDRs set various operating requirements, and they also define the programs that monitor water quality by periodically testing groundwater wells as well as storm water basin contents and discharges. The CVRWQCB also requires the ALRRF to address incidents that increase risk to groundwater, such as the inadvertent receipt of wastes that contain unpermitted levels of hazardous materials. The CM reviews semiannual groundwater monitoring reports, the stormwater pollution prevention plan, annual stormwater monitoring reports, and the annual Winterization Plan update, as well as correspondence and required reports that the CVRWQCB posts on its GeoTracker web site⁶.

1.5.1.2 *Air*

The BAAQMD administers its own regulations, including Regulation 8 Rule 34 regarding landfill gas control, as well as relevant State and Federal regulations. At the Federal level these are referred to as Title V requirements. The operation of (and especially the air emissions from) the landfill gas control systems, various diesel engines, and other processes that produce air emissions are regulated through permit requirements. Every six months the ALRRF submits a

⁶ ALRRF's profile can be accessed through:
https://geotracker.waterboards.ca.gov/profile_report?global_id=L10005834311

comprehensive “Title V report” to the BAAQMD. This report summarizes emission test results and landfill gas control system performance as required. The CM reviews these reports as they are issued. The landfill also produces an annual estimate of greenhouse gas (GHG) emissions, as required by Federal regulations. The most recent data available, for 2020, indicate that the ALRRF is the third highest GHG-emitting landfill in California, with 38,016 metric tons of total carbon dioxide (“greenhouse gas as carbon dioxide equivalent”) emitted, behind the Puente Hills landfill in Los Angeles County (122, 26 metric tons of total carbon dioxide emitted) and the Kiefer Landfill in Sacramento County (124,231 metric tons of carbon dioxide emitted).⁷

1.5.1.3 *Disposed Wastes*

Two agencies regulate solid waste disposal in Alameda County. At the county level, the LEA, and at the State level, CalRecycle which supports and oversees the LEA. The LEA is the main enforcement agency for the Solid Waste Facility Permit (SWFP) that governs many aspects of operations at the ALRRF, such as operating hours, landfill cover materials and cover frequency, types of materials that are allowed to be disposed, etc. The SWFP is reviewed and updated every five years, and the CMC and CM closely follow that process, as required by the Settlement Agreement. The CM also reviews ALRRF inspection reports made by the LEA, as those reports become publicly available; and each year at least four of the monthly CM site inspections are done in conjunction with the LEA, as required in the CM’s Scope of Work. Due to the COVID-19 pandemic and a fire on the property, the CM was only able to conduct eight site visits in 2021; Section 2.1 provides more details. Of the eight CM site visits in 2021 due to COVID-19 restrictions, one was performed with the LEA.

1.5.1.4 *Land Use*

Concurrently with the Settlement Agreement, Land Use Permit C-5512 for the ALRRF site was updated to incorporate mitigations specified by the Settlement Agreement. These modifications include restrictions on waste quantities, limits on truck traffic, and other operational constraints, as well as certain biological resource protection measures discussed in Section 1.5.2 below. The CM tracks compliance through site visits, review of data from ALRRF operations, and review of periodic reports submitted to regulatory agencies by the ALRRF, including the annual Mitigation Monitoring Report submitted to County Planning. Annual monitoring surveys of the on-site Conservation Plan Area are also reviewed by the CM.

⁷ Air Resources Board file <https://ww2.arb.ca.gov/mrr-data>, accessed November 28, 2021.

An additional Land Use Permit (PLN 2010-00041) was approved by Alameda County in March of 2013 for the future development and use of composting and material recovery operations at the ALRRF. In April 2018, the ALRRF began operation of its CASP compost facility northeast of FA1. Currently, Waste Management's position is that the CASP facility is not within the purview of the CMC. However, the CMC has taken the position that the additional permit *is* within its purview.

1.5.1.5 Waste Diversion Requirements

At the local level, the Alameda County Waste Management Authority and the Alameda County Source Reduction and Recycling Board formed StopWaste as a joint powers agency to pursue local and state waste reduction and diversion goals. StopWaste has implemented mandatory separation of recyclables and compostables at businesses and multifamily properties throughout the County, and it provides public education, training and other assistance. In addition, StopWaste has developed, and all of its member agencies have adopted, a single-use bag ban ordinance; and StopWaste has adopted a countywide ban on the disposal of plant debris in local landfills.

Section 1.3 of this Annual Report describes recent State legislation that requires increased solid waste diversion (or reduction) and more comprehensive reporting of disposed and diverted quantities.

1.5.2 Requirements for FA2 Development and Use

1.5.2.1 Background

In 2011, the last major permits for the development of FA2 were obtained after agreement was reached between regulatory agencies and WMAC regarding mitigation for the loss of a wetland channel and the loss of habitat for special status species. Mitigations were established through Alameda County Use Permit C-5512 and permits from several State and Federal agencies:

- US Army Corps of Engineers, which had jurisdiction over wetlands.
- US Fish and Wildlife Service, which consulted on wildlife protective measures.
- Central Valley Regional Water Quality Control Board, which certified that the mitigations would protect water quality.
- California Department of Fish and Wildlife, which concurred with the USFWS' Biological Opinion and placed specific conditions on work in the wetland channel.

The fundamental requirements of these permits are:

- The dedication of 750 acres of ALRRF land as a Conservation Easement, in perpetuity.
- The creation of additional wetlands, in the form of a new pond between FA2 and the Eastern Alkali Wetland.
- The enhancement of a riparian channel approximately the same size as the channel to be displaced by FA2.

To guide these efforts and many related requirements, the ALRRF and its consultants prepared the following documents:

- Conservation Management Plan
- Pest Management Plan
- Grazing Plan
- Waters and Wetlands Mitigation Plan

The ALRRF dedicated the 991.6-acre Conservation Easement in 2012 and built the mitigation wetland pond in 2013. In late 2017, the ALRRF executed an agreement with the Cosumnes Floodplain Mitigation Bank to fund river channel restoration and preservation in southern Sacramento County. The current status of these efforts is described in Section 1.5.2.3 below.

1.5.2.2 Corridors and Connectivity

The Biological Opinion from the U.S. Fish and Wildlife Service (USFWS) describes the need for wildlife connectivity and wildlife corridors in eastern Alameda County to provide for wildlife movement and thereby enhance species health by preventing inbreeding. The Biological Opinion states that this need exists for three of the four protected species in the area: San Joaquin Kit Fox, California Red-Legged Frog, and California Tiger Salamander. The ALRRF's Conservation Management Plan contains the following requirements in the Minimization and Mitigation sections of the document:

MIN-31 – The project proponent will contribute funding to conduct a research study of wildlife passage at local over- and under- crossings to determine if these conduits provide conductivity [sic] for wildlife through the Interstate 580 corridor. The study will entail the periodic placement of motion-activated camera station, track plates, and other approved sampling method. The project proponent will provide the Service and/or CDFW with as much as \$50,000 to perform the study. With the approval of the Service and CDFW, the project proponent may contract the study to an approved third party.

MIT-7 – The mitigation pond/wetland will be constructed in an upland area [...] immediately upstream from the Eastern Alkali Wetland. [...] This area provides suitable upland refugial habitat for tiger salamanders and suitable dispersal habitat for red-legged frogs to the Eastern Alkali Wetland and the Southern Alkali Wetland.

These requirements are also stated in the USFWS Biological Opinion, which in turn is referenced by the California Department of Fish and Wildlife (CDFW) Consistency Determination.

1.5.2.3 Current Status

Unfortunately, the wetland mitigation pond built in 2013 was badly damaged by sediment inflow due to unusually heavy rainfall in early 2014. Also, the channel enhancement was put on hold due to the drought that occurred between 2011 and 2016. To remedy this situation, the ALRRF has purchased off-site wetland channel mitigation credits from the Cosumnes Floodplain Mitigation Bank in southern Sacramento County and had the pond rebuilt and replanted in 2018. Also, to protect the pond from sediment inflow, in late 2018 the very extensive sedimentation basin SB-H was constructed between the pond and Fill Area 2. This basin SB-H performed well throughout the 2018-2019 wet season. In the pond itself, it appears that there has been some mortality among the plants that were installed in late 2018. ALRRF management has stated that this is being addressed. In 2021, the wetland mitigation pond was irrigated, water was observed in the pond and vegetation grew.

In 2017, the CM reviewed a summary report describing wetland and wildlife mitigation activities and issues. Wetland and wildlife mitigation activities continued in 2018, 2019 and 2020, with monitoring of construction areas and wildlife protection measures (e.g., relocating sensitive species such as California Tiger Salamander, when encountered). ALRRF staff have stated that a report is being prepared by their natural resources consultant, Dudek, but no reports were provided to the CM for review in 2020. In 2021, the CM received the 2019 and 2020 Annual Status Reports that describe conservation activities.

The CM also reviews the ALRRF annual mitigation monitoring progress report, which briefly summarizes the status of compliance with each of the 106 conditions in Conditional Use Permit C-5512.

2.0 COMMUNITY MONITOR ACTIVITIES AND ISSUES

2.1 Introduction

Under the Settlement Agreement, the CM has three ongoing duties:

- Review reports, data and information that are required to be submitted by WMAC to regulatory agencies, or that provide information regarding the ALRRF's compliance with applicable environmental laws and regulations (Settlement Agreement Sections 5.7.1.-5.7.3)
- Conduct inspections of the ALRRF facility up to 12 times per year (Sections 5.7.7, 5.8)
- Review the records of testing and acceptance of "Class 2 soils", i.e. soils known to come from a contaminated site (Section 5.7.9)

In 2021, as a result of COVID-19 health emergency and the statewide Shelter-in-Place Order issued in early March 2020, the CM site visits were suspended from January through March 2021. The ALRRF's policy in response to the pandemic, only allowed agency inspectors, or regulators who perform compliance related activities. Due to the reduction in COVID-19 cases, the county restrictions were eased, allowing for site visits to resume in April. The CM performed site visits from April to December of 2021. During the months when site visits could not be performed, the status of ALRRF operations was obtained by reviewing the LEA's site visit reports. Throughout 2021, the CM was active in each of these areas, as described below.

2.2 Monitoring of Improvements and Changes

Through report reviews and site visits, several new developments in ALRRF facilities and operations were monitored in 2021:

- On March 27, 2020, ALRRF requested an emergency waiver of minimum standards for landfill operations pursuant to 14 CRR, section 17210 (et seq.) and ALRRF's Conditional Use Permit: C-5512. The waiver was requested as a contingency in case of a direct or indirect impact from the virus. On April 3, 2020, the LEA granted approval of the Emergency Waiver allowing: (1) increase of 2,500 tons per day (from 11,150 tons per day to 13,650 tons per day); (2) increase of 125 vehicles per day, allowing up to 682 refuse vehicles for the duration of the emergency waiver only. The Emergency Waiver began on April 3, 2020 and continued for 120 days. On January 22, 2021, the LEA received a request for ALRRF on behalf of WMAC, for an extension of the existing Emergency Waiver of minimum standards for landfill operations that was originally approved on September 30, 2020. The LEA approved the extension of the Emergency Waiver on January 29, 2021 not to exceed another 120 days from this approval date. There were no changes to the original terms of the Emergency Waiver.
- On September 18, 2020, the LEA received a request for Altamont Landfill and Resource Recovery Facility on behalf of WMAC, for an Emergency Waiver of minimum standards for landfill operations as a result of the statewide wildfires and the potential disposal of fire debris at the site. According to the first 90 day report submittal, there was zero

tonnage accepted related to Fire Debris. On January 22, 2021, the Operator added information into the ALRRF log of special occurrences noting that the first loads of fire debris were accepted from Santa Clara County and disposed in Fill Area 2. A second emergency waiver was accepted on May 20, 2021. The LEA received the second 90-day report on April 26, 2021 and third 90-day report on August 13, 2021; according to the records, ALRRF did not exceed the 13,650 tons per day (TPD) limit or the 682 vehicle per day (VPD) limit. On October 12, 2021 the Operator submitted a letter to the LEA informing that the Facility would not request an additional Emergency Waiver of State Minimum Standards after the expiration on September 17, 2021 of the last approved extension. Therefore, ALRRF shall revert back to the tonnages as listed in the SWFP. All required reporting documents shall also be submitted related to the Emergency Waiver. The LEA received the fourth 90-day report on October 12, 2021; according to the records, ALRRF did not exceed the 13,650 TPD limit or the 682 VPD limit.

- On December 31, 2020, as a result of the sunset of Health and Safety Code, Section 25150.7, treated wood waste (TWW) could only be disposed in Class I hazardous waste landfills. Municipal solid waste landfills could no longer accept TWW for disposal, except as authorized by the Department of Toxic Substances Control (DTSC) TWW Disposal Facility Variance (TWW Variance). ALRRF received the DTSC variance on March 8, 2021, which expired on September 4, 2021. The TWW Variance authorized the operators to accept and dispose of TWW in a manner consistent with the previously approved alternative management standards.

On August 31, 2021, Assembly Bill 332 took effect. AB332 adopts new Alternative Management Standards (AMS) for TWW that are codified in California's Health and Safety Code section 25230. As a result of the chaptering of the bill, all TWW variances issued by DTSC since March 2021 became inoperative and have no further effect. TWW Variances are no longer necessary because they have been replaced by the AMS. The new AMS are similar to the rules that applied under the variance program, except that no variance is required. ALRRF has approval from the CVRWQCB to continue to receive TWW. The following conditions apply to the TWW that can be accepted: (1) the TWW means wood that has been treated with a preservative in or on the wood that is registered in accordance with the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) for use as a wood preservative; and is not subject to regulation as a hazardous waste under the federal RCRA and (2) TWW is not wood waste that is hazardous due to the presence of coatings, paint, or other treatments.

- On March 25, 2021, refuse disposal operations began in the Phase 3 portion of FA2. Excavation of the Phase 4 and Phase 5 portion of FA2 are ongoing, and liner construction is expected to be constructed in the spring, summer, and fall of 2021. FA2 Phase 4 groundwater monitoring wells MW-13A, MW-13B, MW-24, MW-25, MW-26 and gas probe VP-3, located in the excavation footprint of Phase 4 of FA2, were destroyed in May 2021 to allow construction of the landfill to proceed. The wells were replaced by FA2

Phase 4 monitoring wells MW-30, MW-32, MW-33 and MW-36 and gas probe VP-4. In addition, four new groundwater monitoring wells (MW-37, MW-38, MW-39, and MW-4) and seven new multi-depth soil gas probes (UGP-2, UGP-3, UGP-4, UGP-5, UGP-6, UGP 7, and UGP-8) were installed in FA1 as required under the CVRWQCB's Cease and Desist Order (CDO) R5-2021-0020 adopted on April 22, 2021. Monitoring well E-05 was also destroyed and replaced with E-05R as it was one of the oldest wells on site. E-05 was installed in 1985, had a 33 year old dedicated QED bladder pump installed in 1987, and had an obstruction 6 feet below the top of casing that potentially could be associated with root intrusion, a kink or break in the well casing, or other defect. E-05 was replaced to allow for further evaluation of the groundwater quality in the area.

- In the 12 months from June 2020 through May 2021, 20 poorly-performing landfill gas wells were decommissioned and 22 new wells were brought on line. Wells with higher than normal gas temperatures were monitored for possible subsurface combustion. On March 29, 2021, ALRRF requested that BAAQMD add Well 799 to the list of High Operating Value (HOV) wells. A review of the monitoring data for Well 799 indicated that the well has had elevated operating temperatures since the initial monitoring event in January 2021, and the percent oxygen data showed negligible oxygen had been detected. ALRRF monitored Well 799 for carbon monoxide (CO), an early indicator of subsurface fire. However, the CO readings between 50 and 60 parts per million by volume (ppmv) fell below the indication of subsurface fire of 1,000 ppmv, as well as CO concentration of concern of 500 ppmv. Methane concentration at Well 799 did not appear to be affected by operation at higher temperatures. As of March 1, 2021, WMAC will consider Well 799 on the HOV list for a temperature of 145 F. Any temperature measured during routine monitoring that exceeds 145 F will be tracked as an exceedance. No wells were detected for possible subsurface combustion.
- For the two FA1 ponds intended to hold leachate and underdrain water separately, installation of the liquids separation equipment and piping was completed in 2019, but earlier in 2019 the future underdrain water pond (LSI-2) was needed to hold excess stormwater from the CASP compost facility. This delayed the use of the liquid separation system through 2019. However, by October 2020, the two streams were separated and delivered into their respective ponds. In 2021, LSI-1 and LSI-2 were utilized as intended. Additionally in 2021, a second contact water pond (CWP-2) for the CASP compost facility was designed to handle anticipated flows from lower frequency wet years plus direct precipitation and pad runoff from a 100-year wet year. Runoff generated from the curing pad will be diverted and stored in CWP-2 and the liquids collected will be used for CASP makeup watering, and curing pad initial and makeup watering. When liquids collected in CWP and CWP-2 are insufficient to provide water at the monthly consumption rate, the remaining water for composting operating will be drawn from imported canal water or underdrain water.
- In 2021, efforts continued to be made to reduce stormwater pollution. Drop inlets that

were fitted in 2019 with “Ertec” filter cloth barriers to screen out silt had been damaged and accumulated sediment around the down drain. The sediment was removed and damaged guards were replaced as part of the 2021 winterization plan. In 2019, specialized Filtrexx™ wattles, designed to trap metals and hydrocarbons, were placed in ditches and along the bases of slopes, to trap hydrocarbons and other pollutants. The year old Filtrexx™ wattles were displaced with debris accumulation in certain locations. The debris was removed and the wattles replaced where necessary. Wattles were also installed upslope of certain concrete open channels. Inlets that were obstructed by vegetation, debris were removed and Filtrexx™ wattles were installed in preparation for rainy weather. Turf reinforcement mats (TRMs) and rip rap were installed within channels in the Phase 3 excavated area.

- During the 2020-2021 wet season, stormwater was sampled upstream of the FA1 stormwater basins, in an effort to identify the sources of volatile organic compounds (VOCs) that have previously been detected in the basins. It was not possible to identify specific sources, however; only low to non-detect concentrations and a single below reporting limit (RL) concentration of acetone were reported in InBasin samples. Acetone has historically been detected in equipment and field blanks associated with InBasin sampling. In addition, a single below RL concentration of acetone in an InBasin sample does not trigger either of the non-statistical indicators. Ketones also continue to be detected in interior stormwater samples upstream of the basins. Overall, the detections of VOCs were less frequent, presumably due to additional Best Management Practices (BMPs) put in place along the storm water conveyances. SCS Engineers and WMAC proposed that the 2014 Industrial Activities Storm Water General Permit (IGP) Order No. 2014-0057-DWQ for storm water samples no longer be analyzed for VOCs and that SW (interior locations of the site) storm water samples no longer be collected. For the time being, storm water samples will continue to be analyzed for VOCs.
- The 10-acre Evapotranspirative (ET) Cover Test area was observed during the April site visit. In general, most of the cover area had vegetation, with the exception of segments of the upper swale banks in the southern portion of the site, the southwestern and northwestern corners of upper flat area, and the northern end of the lower bench of the ET cover area, which had no vegetation. Native species were observed throughout the ET cover. There were only a few cracks observed on the surface, which were less than a 1/8-inch wide and appeared to be shallow. Erosional rills were observed immediately north of the ET Cover boundary and windblown litter was observed intermittently along the upper flat area and in the swales throughout the ET Cover area, and in particular Ditch 1. The plans for the ET Cover Test Area include annual monitoring, followed by a report to the CVRWQCB at the conclusion of the four-year study period. Since the ET Cover was completed on November 14, 2018, submittal of the Performance Monitoring report is scheduled for April 1, 2024.
- The windblown litter issue increased during 2021. During a monthly LEA inspection on

May 25, 2021, the LEA observed excessive amount of windblown litter through the site. The LEA issued a verbal Area of Concern (AOC), and requested improvements for the following month's inspection. The Special Occurrence log notes that ALRRF had experienced record setting winds for multiple weeks.

At the next LEA monthly inspection on June 29, 2021, the LEA observed an increase in windblown litter collecting throughout the site as well as off-site on the eastern boundaries along cattle fences and surrounding properties and beyond. On June 28, 2021 the LEA received a complaint regarding trash that had blown onto nearby cattle ranches at the Altamont Pass and well as beyond the ranch to the Bethany Reservoir. During the inspection, the LEA confirmed that the materials had blown several hundred yards off the ALRRF site in massive quantities. The LEA also observed 20 to 24 mph winds that caused a large section of the litter fence to be knocked down. The LEA observed windblown debris blowing past the fence towards the eastern boundary. The LEA issued a violation and requested that until the fence is repaired, the operator should take corrective measure to limit windblown litter from leaving the Active Face area, increase the amount of portable screening available, increase cleanup beyond the site boundary to collect windblown litter escaping ALRRF, and provide LEA with updates on cleanup efforts. Starting in June, the LEA restarted unannounced inspections of ALRRF to stay up to date on the windblown litter issue.

On July 8, 2021 the LEA received Complaint Report from the CalEPA Environmental Complaint Management System. The complaint was related to errant trash blowing likely from ALRRF into Bethany Reservoir in Alameda County, part of the State Water Project and the California Aqueduct. The Complainant stated that the Reservoir "is full of landfill waste that is covering the hillside and washing up on the land." On July 12, 2021, the LEA and CalRecycle conducted an unannounced inspection of the ALRRF site. The LEA observed several areas on the northwestern, western, northeastern, and eastern rocky shorelines of the reservoir where significant windblown litter had deposited. LEA staff observed eight WMAC employees collecting litter on the northeast and eastern sides of Bethany Reservoir shoreline. Several 60-gallon black bags of windblown litter that had already been collected were observed. ALRRF indicated that they would continue efforts to pick up windblown litter at Bethany Reservoir. The LEA requested for ALRRF to provide updates of the litter collection at Bethany Reservoir, including photos, wind speed/direction, map of the collection area, amounts of waste collected (number of 60-gallon garbage bags), number of litter collection employees, and number of hours worked.

As of the November 30, 2021 LEA site inspection, significant efforts and progress had been made by ALRRF during the cleanup process leading from the Bethany Reservoir back to the ALRRF. ALRRF will continue efforts to stop windblown debris from leaving the property boundary and collect all litter that has escaped the property boundary towards the Bethany Reservoir. Based on the progress observed, the LEA reduced the Violation to an Area of Concern; and reported that bi-monthly inspections would continue

to observe any windblown litter that may escape the site.

If significant windblown litter is observed in subsequent inspections, the Area of Concern may increase to a Violation for 27CCR Section 20830 - Litter Control.

- In the period from January through November 2021, the ratio of **Class 2 cover soil** to municipal solid waste increased to 21%. In 2020 that ratio had decreased to 20% from 25% in 2019.

2.3 Compliance and Significant Incidents

As noted above, the Settlement Agreement defines the CM's Scope of Work to include "issuing a written report each year summarizing the ALRRF's compliance record for the period since the last such report with respect to all applicable environmental laws and regulations." This Annual Report provides that summary. The regulatory agencies that administer these laws and regulations, and the environmental permits held by the ALRRF, include the following:

- Alameda County Planning Department
- Alameda County Department of Environmental Health
- Bay Area Air Quality Management District
- US Environmental Protection Agency
- California Department of Resources Recycling and Recovery
- Central Valley Regional Water Quality Control Board
- California Department of Fish and Wildlife
- US Army Corps of Engineers
- US Fish and Wildlife Service

To determine if there are trends in the compliance record, a list of compliance issues has been compiled; it is shown in Table 2-1, below. Persistent issues appear in the upper part of the table, followed by infrequent or one-time issues. Issues from 2011–2014 are shown in the 2017 Annual Report.

To compile this table, the CM reviewed publicly available data from the regulatory agencies listed above, ALRRF correspondence with those agencies, and the CM's monthly site inspection reports. The severity of the issues was rated subjectively by the CM using the 1 to 5 scale shown

below Table 2-1. Issues that were judged to be beyond the control of the ALRRF are not included in the annual total of severity scores but are listed below the total line.

For the purposes of this report and table, incidents involving the delivery of hazardous materials with incorrect profiles (showing them as non-hazardous) are considered to be beyond ALRRF's control; but the CVRWQCB's position appears to be that ALRRF is responsible nevertheless. Fortunately, no such issues occurred in 2021.

The total severity score for 2021 is slightly higher compared to 2020.

Two types of incidents that are of particular concern occurred in 2021:

- **End-dump Truck Overturns.** Within the ALRRF operating area, only two dump-trucks overturned in 2021. No injuries were reported. The average number of overturns per year from 2012 through 2019 was six. This is a tiny fraction of the roughly 16,000 truckloads of Class 2 soil and treated auto shredder fluff brought to the facility each year, but the risk of injury and damage in such incidents continues to be a concern for Committee members and ALRRF management. In 2019, the ALRRF increased its oversight of end-dump truck unloading and provides spotters for drivers to dump safely, which moderated the problem but did not eliminate it. Most of the dump truck accidents have been attributed to inexperienced or negligent drivers.
- **Windblown Litter.** This may be the single most persistent problem at the ALRRF. With the move of refuse fill operations from the FA1 hilltop into the FA2 canyon, a reduction in windblown litter was expected. However, this did not occur, and due to strong west winds, a fence fell and litter continues to be deposited beyond the east property line to surrounding properties including the Bethany Reservoir. ALRRF received an AOC and then a notice of violation (NOV) due to the amount of windblown litter deposited in outside of the property. The litter cleanup crew has been enlarged and is now a permanent part of the ALRRF work force. When necessary, the crew removes litter from neighboring properties to the east of the ALRRF. The ALRRF also redeploys other staff to retrieve litter when necessary. This is described further in section 2.2 above and section 2.3.1 and 2.3.2.1 below.

2.3.1 Compliance Issues Documented by the LEA

In 2021, one AOC notice and NOV were issued by the LEA. LEA inspection reports indicate concerns about the following:

- **Windblown Litter:** Record high winds of up to 42 MPH caused an increase in windblown litter collecting on permanent and perimeter wind fences all around the east and southeast portions of the site, especially in the Back 40 from the top of the hill down to the Frog Pond, as well escaping the site on the east side. A litter crew was observed

working at the perimeter of the east boundary and collecting any litter that escaped the site as well as along the permanent boundary fence. A special occurrence log entry was noted for June 28, 2021 and indicated that between 5:00AM and 10:00AM, excessive high winds knocked down 30 poles for the wind fence that was located east of FA2, Phase 3. The stretch of wind fence spanned approximately 300' long and the LEA observed windblown debris blowing past this area eastward towards the site boundary. The LEA increased the AOC to a NOV during the June 29, 2021 site inspection. The windblown litter was observed collecting in massive amounts throughout the site as well as off-site on the eastern boundaries along cattle fences and surrounding properties and beyond to the Bethany Reservoir, the headwaters for a California Aqueduct. High winds caused a large section of the litter fence to be knocked down which only increased the amount of windblown litter traveling offsite. The LEA issued a violation and requested that until the fence is repaired, the operator should take corrective measure to limit windblown litter from leaving the Active Face area, increase the amount of portable screening available, increase cleanup beyond the site boundary to collect windblown litter escaping ALRRF, and provide LEA with updates on cleanup efforts. Starting in June, the LEA restarted unannounced inspections of ALRRF to stay up to date on the windblown litter issue. WMAC is coordinating with the Department of Water Resources, who operates the Bethany Reservoir, and the local community to clean up the windblown litter. WMAC also hired a third party (Park Environmental) to complete litter cleanup and began the process of installing new fences. WMAC reports to be close to satisfying the requirements of CalRecycle and the LEA, however, the violation would remain as long as windblown litter continues to escape the site, and remains on neighboring properties and the Bethany Reservoir. The violation was reduced to an Area of Concern in the latest inspection report available on CalRecycle website, dated November 30, 2021.

On August 16, 2021 the LEA issued a violation for the CASP because windblown litter escaped the area permitted for use, into the area permitted for ALRRF. This violation was reduced to an AOC on November 16, 2021 when the LEA observed significantly less litter past the boundary of the CASP. Information regarding the CASP is provided for reference only.

**Table 2-1
 Compliance Issues Ranked by Severity**

Issue	Severity						
	2015	2016	2017	2018	2019	2020	2021
Contamination at E-05, E-07, E-20B	2	2	2	2	2	2	2
Stormwater contamination	3	3	3	3	3	2	2
Windblown Litter	2	4	2	3	4	3	5
Birds	2	2	2	2	2	2	2
Erosion	3	2	1	-	3	2	2
Cover thin / absent	4	-	-	-	1	1	1
Worker injury	1	2	1	-	1	1	-
Condensate/Leachate Leakage	3	-	3	3	3	2	2
Ponding in low-lying area of landfill	-	-	-	1	2	2	2
Sediment in Wetland Mitigation Area	3	3	2	-	-	-	-
Odor, on site	-	1	-	-	1	-	-
Leachate Seeps	1	1	2	-	4	2	2
Erosion control (sitewide)	-	4	-	-	3	2	1
Waste outside active area (trash, pallets)	-	4	-	-	-	-	-
Leachate Leak Disposal	-	-	4	-	-	-	-
Contaminants at monitoring well MW-4A	-	-	4	-	-	-	3
Windblown litter beyond last litter fence	-	-	-	4	2	2	5
Disposal of liquid into pond without prior approval	-	-	-	4	5	2	-
Lack of means to record liquid level in ponds	-	-	-	4	-	-	-
Failure to monitor landfill gas well	-	-	-	4	-	-	-
Incomplete groundwater monitoring report	-	-	-	4	-	-	-
Liquid separation not implemented, Fill Area 1					4	-	-
Medical waste (sharps) manifest issue	-	-	-	-	-	2	-
Totals	30	36	28	44	40	27	29
Issues Beyond Control of / Refuted by ALRRF							
Truck overturn	1	3	3	3	2	2	2
Methane Gas at Perimeter Probe(s) [cleared]	4	4	-	-	4	4	-
Fire in refuse &/or stored material	-	3	1	-	3	3	3
Fire on ALRRF property, outside active areas	-	-	2	2	3	2	-
Positive COVID case	-	-	-	-	-	-	1

 Indicates that a violation was issued by a regulatory agency.

Severity Criteria

- 1: Minor or ongoing issue having little potential to harm environmental or public health; below regulatory thresholds.
- 2: Issue having some potential to harm environmental or public health; below regulatory thresholds; being addressed.
- 3: Issue having potential to harm environmental or public health; below regulatory thresholds; not improving, or new.
- 4: Issue having significant potential to harm environmental or public health, or resulting in a violation being issued.
- 5: Issue having significant potential to harm environmental or public health; violation issued; willful non-compliance.
- : Not applicable/not evaluated

2.3.2 CVRWQCB Violations and Concerns

2.3.2.1 2021 Violations

Litter Control: In July, the CVRWQCB issued a NOV in response to the excessive litter that was reported to be escaping from ALRRF property. The NOV requested weekly reporting. WMAC staff reported that CVRWQB did not have authority to issue the violation and that legal counsel was discussing with the CVRWQB. In October, the CVRWQCB issued an Investigative Order that required submission of reports regarding the offsite waste. In November, WMAC legal counsel submitted a letter to the CVRWQCB that presented objections to requests of the Investigative Order, referred to the weekly e-mails WMAC sends to the LEA with CVRWQCB staff copied, and provided responses to request for information on the litter removal progress.

2.3.2.2 2021 Areas of Concern

On March 17, 2021 CVRWQCB staff conducted a targeted inspection at the ALRRF. The three areas of concern that were noted during the inspection are summarized below:

- 1) Notable erosion and deposition of soil along the eastern side of soil Stockpile #7. According to the inspection report the eastern side lacked best management practices (BMPs). This area of concern has been resolved.
- 2) Cattails were observed growing in LSI-3, which received leachate collected from FA2. This vegetation was removed in accordance with CVRWQCB staff request.
- 3) A leachate spill occurred in the FA1, Unit 1 LCRS pump house containment unit was contained with sand. At the time of the inspection, this sand was present in the containment unit. ALRRF removed and properly disposed of the sand following the inspection.

2.3.2.2 CDO

The CVRWQCB issued CDO R5-2021-001 for the ALRRF on April 22, 2021. In the CDO, the CVRWQCB alleges the ALRRF is being operated outside of applicable federal and state regulations, and the WDRs. The CDO provides a list of various items the Discharger (ALRRF) has performed out of compliance and also provides a time schedule with specific requirements to compel the Discharger to resolve past compliance issues, achieve compliance with Title 27 and the WDRs, and conform to its Notice of Applicability (NOA) in a time frame acceptable to the CVRWQCB. The items identified are not new and had been discussed during the past years with the CM, but the CDO raises the severity of the issues.

Requirements Outlined in the CDO include the following:

Implementation of FA2 Unit 1 Detection Monitoring Program

The CDO requires the Discharger to implement a CVRWQCB approved detection monitoring network. The Discharger has proposed and installed monitoring devices for FA2, nevertheless the CDO notes that it does not meet all the requirements outlined in the WDRs.

The following requirements will resolve this item:

- Installation of interim point of compliance (POC) wells in FA2 Unit 1.
- Installation of final permanent FA2 limit wells.
- Implementation of a Water Quality Monitoring and Response Program for FA2 Unit 1.

Completion of the MW-4A Evaluation Monitoring Program

In May 2017, MW-4A, located in the northeastern limit of FA1, reported exceedances of bicarbonate, calcium and five VOCs. Additional sampling confirmed a release in this area, which has been attributed to landfill gas. The Discharger has implemented focused extraction of landfill gas in this area and conducted additional investigation to define the extent of the release. A similar release had been documented in the vicinity of E-20B, which had implemented similar corrective actions. The CDO requires the Discharger to complete the MW-4A evaluation monitoring program addressing the following items:

- Monitoring of the nature and extent of the documented releases at MW-4A and E-20B
- Monitoring the effectiveness of corrective action near MW-4A and E-20B
- Establishment of a detection monitoring program along the northern and eastern (upgradient) limits of FA1

Continued implementation of the FA1 Corrective Action Program

The Discharger has chosen landfill gas extraction as the corrective action measure to address landfill gas effects (as described above). The CDO requires continued implementation of the Corrective Action Program, and to submit the following:

- Report outlining the Corrective Action Program (landfill gas extraction)

Continued operation of solidification basins

Title 27 and the WDRs require that the solidification process does not result in the introduction of liquids into a solid waste management unit (WMU) in excess of the moisture holding capacity of the unit. The solidification basins at ALRRF are operated atop of FA1 Unit 2. These solidification basins do not comply with the WDR requirements. To bring this item back into compliance, the CVRWQCB included the following requirements in the CDO:

- The operation of the two solidification basins atop of FA1 Unit 2 can continue until new solidification basins are constructed
- The new solidification basins shall be moved outside of the existing WMUs, shall be completed as double lined containment systems, with a leachate recovery system (LCRS) installed between the liners, and a monitoring system

On October 19, 2021, in accordance with the CDO, Golder Associates Inc. (Golder) prepared the Report of Waste Discharge (ROWD) for the proposed concrete-lined, Solidification Basins that will be re-located near Fill Area 2 (FA2) at the ALRRF. The basins will be constructed as Class 2 liquid waste management units and will be underlain by a geomembrane liner to provide a double containment system with a leachate collection and recirculation system (LCRS). A pan lysimeter will be constructed underneath the sump.

CDO Reporting Timeline

The timeline for the requirements and deliverables requested in the CDO are summarized below:

- Update the Sampling and Analysis Plan for the interim POC detection monitoring program no later than 90 days after adoption of the CDO (July 21, 2021).
- Revise the background water quality values and update the concentration limits (CLs) no later than one year after adoption of the CDO (April 21, 2022).
- Work plan to install the groundwater monitoring wells (interim and final) for FA2 no later than 90 days after adoption of the CDO (July 21, 2021).
- Work plan to install the soil gas monitoring wells (interim and final) for FA1 and FA2 no later than 90 days after adoption of the CDO (July 21, 2021).
- Report installation within 60 days of installing any new groundwater monitoring well or soil gas monitoring well.
- Work plan to conduct surface water monitoring for surface water flowing out of FA2 no later than 90 days after adoption of the CDO (July 21, 2021).

- Notify the CVRWQCB 30 days prior to removal of interim monitoring devices.
- Document the results of the MW-4A evaluation monitoring program (including groundwater and soil gas sampling) in separate Corrective Action Progress reports to be submitted semi-annually by 1 August and 1 February each year.
- Work plan to install the groundwater and soil gas monitoring network along the northern and eastern limits of FA1 no later than 60 days after adoption of the CDO (June 21, 2021). This work plan was submitted on May 10, 2021 and approved by the CVRWQCB on May 19, 2021.
- Update corrective action financial assurance cost estimates for FA1 and FA2 no later than 90 days after adoption of the CDO (July 21, 2021).
- Report outlining the LFG extraction wells operations as part of the Corrective Action Program to address the LFG impacts outside the limits of FA1 no later than 30 days after adoption of the CDO (May 22, 2021). This report was submitted on May 21, 2021.
- Submit a Report of Waste Discharge to install off-waste liquid solidification basins no later than 180 days after adoption of the CDO (October 19, 2021).
- Report the installation and operation of new off-waste footprint solidification basins no later than 12 months from approval of the Report of Waste Discharge (depending on approval, estimated after November, 2022).

The CDO also provides items associated with the Composting General Order, which have been included below for information.

- The leachate storage capacity at the composting facility has to comply with the requirement for storage for the 100-year wet year. The Discharger is required to submit an updated Permit Design Package for Contact Water Pond 2 or an alternative treatment or storage approach within 90 days from adoption of the CDO.
- The composting general order regulates the characteristics of detention ponds at composting facilities. The CASP detention pond was designed to meet the 25-year, 24-peak storm event. The CDO requires additional compost leachate storage capacity.

The majority of the tasks listed in the CDO have been completed on or before the due date included in the CDO. However, some items have not been completed; this issue will continue to be tracked. The CM presents a table that lists updates of the requirements outlined in the CDO, the expected completion timeline and progress that has been made on each item on each quarterly packet.

2.3.2.4 Other Concerns

There are several open issues that have arisen between the ALRRF and the CVRWQCB since the current WDRs were finalized in July 2016. They are briefly described below. Most of these issues were included in the CDO issued by the CVRWQCB in 2021, and described in section 2.3.2.3.

Identifying Sources of VOCs in Storm Water –The ALRRF’s 2020-2021 stormwater sampling again detected VOCs in several locations, but the data still did not clearly indicate specific sources, in spite of having added sample points to narrow down the possible sources. However, the BMPs included prior to the 2020-2021 wet season, and other improvements (e.g., eliminating leachate seeps), has reduced stormwater pollution. We will continue to track this issue.

Statistical Exceedance in Well PC-1C – CVRWQCB staff responded to the statistical exceedance of inorganic constituent concentrations in well PC-1C in FA 2, and expressed concern that a clear pattern of increasing inorganic concentrations (calcium, chloride, magnesium, sodium, sulfate, specific conductance, and TDS) in groundwater west of PC-1C was also observed in corrective action wells E-20B and MW-12. In addition, sporadic detections of VOCs in PC-1 wells has made the CVRWQCB suspect that the E-20B release from Fill Area 1 has impacted groundwater in FA 2. The CVRWQCB required an updated site conceptual model to understand the impact of E-20B and an updated engineering feasibility study to make appropriate changes to E-20B Corrective Action Program. In response, the ALRRF has reported that the source of inorganic compounds at PC-1C appears to be plant debris affected stormwater. Plant debris was placed for erosion control in FA-1, and runoff from that area flowed to Basin B, then traveled down a drainage channel between E-20B and PC-1C and infiltrated groundwater. Basin B inorganics in runoff increased significantly at the same time as the increase at PC-1C. The VOCs detected historically in E-20B have been attributed to landfill gas. ALRRF added that landfill gas controls placed in the vicinity of E-20B have led to the VOCs decreasing in E-20B. In June 2020, the CVRWQCB requested a revised site conceptual model to evaluate this issue. In 2021, the CDO issued by the CVRWQCB requested semiannual reporting of the Corrective Action Program landfill gas extraction. During the first semiannual 2021, the Corrective Action Progress report documented that the landfill gas extraction program was effective and would be continued. The CM will continue to track this issue.

Deviations from baseline concentration limits – A two year update to concentration limits (CLs) for monitoring parameters for FA 1 and FA 2 groundwater detection monitoring wells (per the 2016 WDR’s) was provided. For Fill Area 2, the CLs were established for three groundwater zones for monitoring wells: alluvial, weather bedrock and unweathered bedrock. The updated

CLs are based on historical baseline monitoring data through June 2020 for each constituent and were statistically calculated using the intrawell data evaluation procedure⁸. The 2020 updated CLs were similar to the previous CLs, which had been presented in 2016 and 2018. In January 2021, the CVRWQCB requested an amended 2 Year Concentration Limit Update Report by April 1, 2021 due to the fact that the strict use of Table VIII was no longer adequate to comply with the MRP. The CVRWQCB requested that the amended report include statistical concentration limits be calculated for 20 additional monitoring wells at the site. On March 31, 2021, WMAC responded to the CVRWQCBs request. WMAC acknowledged that many new wells were installed in FA2 since the most recent WDR/MRP was adopted and both parties have been working closely over the past year to solidify concentration limits for FA2 wells. However, WMAC noted that the additional wells are not contemplated as POC wells in the current WDR as the majority of wells, 17 of 20, that the CVRWQCB are requesting additional statistical limits are associated with FA1. WMAC noted there were multiple aspects of the CVRWQCB's request that they believed required further discussion from a regulatory, technical and practicality perspective, including both fundamental Title 27 and WDR provisions, as well as technical/feasibility issues which preclude preparation of the Amended WQPS Report as requested. WMAC requested to engage in a constructive dialogue to address the issues raised. In 2021, the CDO requested to revise the background water quality values and update the CLs no later than one year after adoption of the CDO (i.e. by April 21, 2022). This issue will continue to be tracked.

2.3.3 Other Incidents

The following information is based on reports filed in the site's Special Occurrences Log and on Community Monitor site inspections.

2.3.3.1 Vehicular Incidents

Within the ALRRF operating area, only two dump-trucks overturned in 2021. No injuries were reported.

2.3.3.2 Fire

Within the ALRRF operating area, only one fire occurred at the ALRRF site in 2021. On May 19, 2021, at approximately 2 AM, a fire started on the curing pad of the compost pad. Due to strong winds, the fire spread to other pads. ALRRF staff contained the fire, and notified the LEA and BAQQMD.

⁸ 2020 2-Year Groundwater Concentration Limits Update for Fill Areas 1 & 2 Report by GeoChem Applications, dated October 2020

2.3.3.4 COVID-19

In 2021, multiple special occurrences related to employees in close contact with a person who tested positive for COVID-19 or who reported symptoms similar to those of COVID-19. The employees were quarantined, and returned to work after following WMAC's COVID-19 directives. Altamont policy and directive mandated that the employee could not return to work until said employee completes Self-Certification health screening, experiences at least 72 hours fever free without the use of fever-reducing medication, the other COVID-19 symptoms improve, at least 10 days have passed since the symptoms appeared, and the employee was not in close contact with confirmed COVID-19 cases during absence. During this period, there were no reports of workplace transmission of the virus.

2.4 Review of Reports

2.4.1 Groundwater

Two groundwater monitoring reports were reviewed in 2021. The first covered the period from July through December of 2020; the second covered January through June of 2021.

The data in these reports indicate that most monitoring wells with VOC contamination are still fluctuating and a clear trend cannot be determined. However, all wells have VOC concentrations below the historical average. These will continue to be tracked.

A new development in 2020 that has continued into 2021 has been an increase in concentrations of inorganic constituents (dissolved calcium, chloride, sulfate, total dissolved solids, bicarbonate alkalinity), in certain wells in FAs 1 and 2. Near FA 1 these are MW-2A and MW-4A, on opposite sides of FA 1 itself. In FA 2 these are MW-8A, MW-8B, PC-1A and PC-1C, all near the bottom of the Fill Area 2 canyon and over half a mile from the active portion of FA 2. The CVRWQCB requires additional investigation, however ALRRF believes that the inorganic concentrations are related to stormwater (see Section 2.3.2.3).

In other respects, groundwater monitoring results were similar to those from prior years. Contaminants, when present, were below regulatory limits that would require immediate corrective action.

The two groundwater reports, especially the second one, presented some concerning QA/QC issues with field sampling and laboratory practices: contaminated trip and equipment blanks, hold time exceedances, and an increasing number of VOCs attributed to laboratory contamination.

SCS Engineers (the ALRRF's groundwater monitoring consultant) maintains that the issues are normal for all laboratories.

2.4.2 Storm Water

A new set of annual requirements for industrial storm water monitoring and reporting took effect throughout California on July 1, 2015. Stormwater samples are to be taken when a "qualifying storm event"⁹ (QSE) occurs. Up to four such QSE's are to be sampled at each discharge point during a stormwater year (July through June). For each type of industrial facility, certain key pollutants must be monitored; and if concentrations of those pollutants exceed specified Numeric Action Levels (NALs), the facility must make a plan that describes Exceedance Response Actions (ERAs) to be implemented. In the first year of exceedance, "Level 1" ERAs are selected, which emphasize minimum Best Management Practices (BMPs). These are low-cost measures such as improving housekeeping, cleaning drain pipes, etc. If the exceedance continues into its second consecutive year, Level 2 ERAs must be developed, and these typically involve advanced BMPs such as specialized equipment, paving projects, etc.

Stormwater monitoring and reporting is especially complex at a landfill site, and even more so at a site that is expanding, like the ALRRF. Since the current regulations took effect, the number of sampling points has increased from three to five. In the 2019 – 2020 wet season, ALRRF implemented new and improved BMPs. The landfill has implemented all applicable minimum BMPs and several types of advanced BMPs, including additional straw wattles, Filtrexx™ SiltSoxx wattles, flocculent logs, and rock dams. The ALRRF has also been tracking the presence of VOCs in stormwater, under a separate requirement in the WDRs. Data from previous years wet season's sampling indicated improvement in the stormwater quality. During the 2018-2019, 2019-2020, and 2020-2021 wet periods, only low to non-detect VOCs were reported in InBasin samples. In the 2020-2021 wet season, the detections of VOCs were less frequent, presumably due to additional BMPs put in place along the storm water conveyances in 2019-2021. However, ketones continued to be detected in interior stormwater samples.

Based on these results, ALRRF proposes that the 2014 Industrial Activities Storm Water General Permit (IGP) Order No. 2014-0057-DWQ for storm water samples no longer be analyzed for VOCs and that SW (interior locations of the site) storm water samples no longer be collected. For the time being, storm water samples will continue to be analyzed for VOCs in the 2021-2022 wet season. If, however, consistent VOC detections of acetone, MEK, and MIBK return in the future,

⁹ a precipitation event that: (1) produces a discharge for at least one drainage area; and, (2) is preceded by 48 hours with no discharge from any drainage area.

SCS recommends that additional discussions with the CVRWQCB be arranged to determine additional sampling program. The InBasin results will be included in each semiannual monitoring report.

It is important to note that under these stormwater regulations, a violation is not triggered by the exceedance of an NAL. Rather, an industry will receive a violation if it fails to (a) sample its stormwater discharges or (b) plan and implement any necessary ERAs. ALRRF has exceeded several NALs but has not received any Notices of Violation.

2.4.3 Air Quality

Title V is one of several programs authorized by the U.S. Congress in the 1990 Amendments to the federal Clean Air Act. The Bay Area Air Quality Management District (BAAQMD) administers Title V requirements for the ALRRF. Title V operating permits incorporate the requirements of all applicable air quality regulations. Hence, the semi-annual Title V reports provide a comprehensive review of compliance with BAAQMD permits and regulations.

In 2021, the CM received the Title V reports for the periods June – November 2020, and December 2020 – May 2021. These reports describe landfill gas control operations and source testing, and they also document new or unique developments at the site that can have an effect on air emissions. Results from the current reporting year are similar to those from the previous year:

- The required surface emissions monitoring (checking for methane leaks through the landfill cap) continued to occur, and although exceedances of methane were found, they were typically remedied on the first try, without the need for repeated repairs.
- From June 2020 – May 2021, 20 landfill gas wells were decommissioned, and 22 new wells were installed and began operation.
- New landfill gas wells were installed in FA-2 because FA-2 had received more than one million tons of material. The landfill gas wells were connected to the headers of FA-1.
- The LNG plant continued to operate at a fairly steady production rate. There were a few brief unscheduled down-time events due to maintenance and planned utility shutdowns from June 2020 to November 2020, but after each of those problems was resolved, the gas plant returned to steady production. From December 2020 to May 2021, there were major shut downs due to maintenance, testing, shutdowns due to high oxygen in the feed, the lack of oil in the refrigeration compressor, failures of the gas separation system, control system updates, and high condensate level on the feed compressor. The frequency of major shut downs was approximately the same compared to previous

reporting periods, however, the events lasted for longer durations. After each of the problems was resolved, the gas plant returned to steady production.

- All control devices passed their latest emissions tests without incident.

2.4.4 Mitigation Monitoring

The Mitigation Monitoring and Reporting Program Annual Progress Report, covering calendar year 2020, was reviewed by the CM during the fourth quarter of 2021. It is a table that lists each of the conditions described in the current Conditional Use Permit (CUP-5512), followed by a description of the implementation status of that condition or mitigation. The status descriptions together with the verification notes generally reflected the current status of each mitigation measure. Updates to this table from the previous year are listed below, with reference to the applicable CUP Condition number.

- Condition 4.4: This condition limits the amount of sludges, inert waste, and special waste accepted for disposal at ALRRF from outside Alameda County and San Francisco to not exceed 25,000 tons per calendar year. This condition is monitored through the life of ALRRF, and was not exceeded during year 2020.
- Condition 9: Closure/Post-Closure plans were prepared, and approved by the LEA/CalRecycle during the 5-year permit review (approved on May 8, 2020). This condition was updated to Completed.
- Condition 47: Seeps were encountered during Fill Area 2 (FA2) Phase 3 construction on the western side slopes. These seeps had been anticipated, and mitigated by the Phase 3 design. No seeps were encountered on the floor.
- Condition 73: BAAQMD permit was issued prior to the commencement of Fill Area 2 operations. Prior to expected reach of 1 million tons in Fill Area 2, ALRRF was required to submit a Change of Conditions permit application. This condition was updated to Completed.

In addition to the Annual Progress Report described above, in prior years the ALRRF has prepared reports to inform the natural-resource agencies about progress on their permit requirements for Fill Area 2 expansion: establishing the Conservation Plan Area, constructing the wetland mitigation project, protecting existing wetlands and surface waters, etc. The CM received the 2020 Annual Progress Report, prepared by Dudek. The report documents biological surveys conducted in the Conservation Plan Area. The CM review yielded the following comments on the report:

- Significant trash was reported at Stock Pond (SP) 10. It was recommended to remove the

trash.

- Bullfrogs were detected within ponds and wetlands in and adjacent to the Conservation Plan Area. It was recommended to implement remediation action as proposed in the Conservation Management Plan.
- SP-7 did not meet the performance criteria requiring 20% vegetation cover on the shoreline edge for “deep water” ponds. It was recommended to implement remediation action as proposed in the Conservation Management Plan.

2.5 Review of Records

Several types of site records were reviewed by the CM in 2021. The CM’s scope of work requires the periodic review of files that contain lab analyses and other descriptions of **Class 2 soils** (considered non-hazardous) that are brought to the site for use as cover soil.

The **Special Occurrences Log** for the ALRRF was examined four times during the year and summarized for the Committee. The **LEA’s monthly inspection reports** are publicly available on the CalRecycle web site and were checked by the CM every month, to note any new issues that may have been identified by the LEA.

2.5.1 Class 2 Soils

An ongoing CM task is the periodic review of files containing profiles (sample analyses) for Class 2 soils that are imported for use as cover soil in the Class 2 portion of the ALRRF. For efficiency, this is generally conducted two to three times per year, and it requires at least one full day for a qualified specialist from Langan to review each file to be sure that it is complete and within the regulatory limits for Class 2 materials. This review was conducted twice in 2021, from May 3 to 4 and May 10, for Class 2 soils accepted in through April 2021, and on December 21 and 23, for Class 2 soils accepted through November 2021. The files are made accessible electronically from Waste Management’s Livermore office.

A total of 88 profiles were reviewed on May 3, 2021 and May 4, 2021 that corresponded to Class 2 soil accepted at the landfill between January 1, 2020 and June 30, 2020 that were not reviewed previously. A total of 120 soil profiles were reviewed on May 4, 2021 and May 10, 2021 that corresponded to Class 2 soil accepted at the landfill between August 1, 2020 and April 30, 2021. During the May review, no out-of-compliance profiles were found in any of the reviews, and the 23 files that were incomplete were confirmed to be within compliance.

A total of 102 soil profiles were reviewed on December 21, 2021 and December 23, 2021 that corresponded to Class 2 soil accepted at the landfill between May 1, 2021 and November 30,

2021. During the December review, no out-of-compliance profiles were found in any of the reviews, and the seven files that were incomplete during the initial review were confirmed to be within compliance.

2.5.2 Special Occurrences Log

Each permitted solid waste disposal site in California must keep a Log of Special Occurrences to document unusual and potentially disruptive incidents, including fires, injury and property damage, accidents, explosions, receipt or rejection of prohibited wastes, lack of sufficient number of personnel, flooding, earthquake damage and other unusual occurrences. The ALRRF log was either checked by the CM in person during site visits or requested via email. Two dump trucks overturned, one in July and one in August, one fire was reported, several special occurrences related to employees in close contact with a person who tested positive for COVID-19 or who reported symptoms similar to those of COVID 19, and several special occurrences related to high winds and increased windblown litter occurred. Compared to previous years, the special occurrences higher in number, mostly due to increased windblown litter and COVID-19 related occurrences.

2.5.3 LEA Inspection Reports

In 2021, there was one type of Area of Concern noted in these reports. It pertained to high winds and increased windblown litter within the property boundaries as well as on surrounding properties.

2.6 Monthly Inspections

Eight site inspections were held during 2021. The inspection day and time were as shown in Table 2-2 below. One off-hours inspection, outside of the hours that the landfill is open to the public, was not conducted in 2021.

In general, satisfactory conditions were observed, although windblown litter and bird (seagull) presence were persistent issues. Minor problems generally were rectified prior to the next inspection. Details are available in the monthly site visit reports provided in CMC meeting packets. Distinct operations, such as the stockpiling and processing of specific materials, took place in well-defined areas. No instances of unpermitted activities were noted. There were no new problems seen regarding refuse placement, public safety or traffic management, whether on hours or off hours. Throughout these inspections, staff and management were forthcoming regarding operating practices and current conditions.

**Table 2-2
2021 Site Inspection Summary**

Date	Day of Week	Inspection Time	Announced in Advance?	With LEA staff?
Apr 15	Thur	12:00 PM	yes	no
Jun 2	Wed	1:00 PM	yes	no
Jul 15	Thur	1:00 PM	yes	no
Aug 31	Tue	10:00 AM	no	yes
Sep 28	Tue	12:00 PM	yes	no
Oct 27	Wed	9:00 AM	yes	no
Nov 16	Tue	4:30 PM	yes	no
Dec 28	Tue	10:00 AM	yes	no

In 2021, observations by the CM focused on:

- The operations in Fill Area 2.
- Completion and maintenance of the mitigation pond.
- Plant growth and soil conditions in the evapotranspirative cover test area.
- Storm drainage and erosion control.
- Observation of issues of ongoing concern, including the presence of large numbers of seagulls and management of windblown litter east of Fill Area 2.
- Excavation and construction of Fill Area 2 phases 4 and 6.
- Changes at the site that could harm the environment or public health.

The Scope of Work for the CM specifies that at least three inspections be performed off hours, and that approximately four to six be performed jointly with the LEA. As discussed above, due to the COVID-19 health emergency, only eight site visits could be conducted, one of which was performed jointly with the LEA.

No truck traffic counts were conducted in 2021, because ALRRF data on tonnage and traffic made it clear that the traffic volume requirements of the Conditional Use Permit were being met.

2.7 Per- and Polyfluoroalkyl Substances (PFAS) Updates

The PFAS Order was given by the State Water Resources Control Board (SWRCB) as part of a statewide effort to obtain a **preliminary** understanding of PFAS compounds concentrations in groundwater and leachate at various landfills. The Order indicates this sampling is necessary to

determine if PFAS compounds are present in and near waters that could be used for drinking water purposes. The SWRCB and Regional Water Quality Control Boards will evaluate the data collected, and use it to support of any regulatory action to be implemented.

To be representative, samples were collected from a background well, a downgradient well, and a composite leachate sampling location, where possible. PFAS compounds were reported at higher concentrations in groundwater monitoring wells in the previously affected assessment and corrective action areas (E-05, E-07, E-20B, and MW-20) than the background or the detection monitoring program (DMP) wells. The highest PFAS concentrations in groundwater were reported in corrective action wells E-05 and E-07, located immediately downgradient of the old permitted unlined portion of Fill Area 1. Relative to corrective action wells E-05 and E-07, lower concentrations of PFAS compounds were reported in the E-20B corrective action area, situated adjacent to the old unlined Fill Area 1.

No additional PFAS sampling is proposed or required at this time. The SWRCB is analyzing the compiled data in airports, landfills and drinking water supply systems to aid in the development of Public Health Goals in drinking water. The concentrations reported at the ALRRF were below the maximum concentrations for groundwater and leachate at other landfills covered by the PFAS Order, and within the middle of the concentration ranges.

In 2021 the United States Environmental Protection Agency (EPA) made several announcements regarding its goals for investigating, regulating, and remediating Per- and Polyfluoroalkyl Substances (PFAS) in consumer products and across environmental media, including the following:

- Emergency Planning and Community Right-to-Know Act and Toxic Substances Control Act Regulation. In 2022, EPA intends to propose rulemakings to (1) categorize PFAS on the Toxic Release Inventory list as “Chemicals of Special Concern” and remove the de-minimis eligibility from supplier notification requirements for all “Chemicals of Special Concern” and (2) add additional PFAS constituents to the Toxic Release Inventory. It also intends to finalize, by the end of 2022, an already proposed rule to collect data on PFAS that has been manufactured since 2011.
- Safe Drinking Water Act Regulation. The EPA plans to propose a rule setting national primary drinking water standards for two PFAS constituents, Perfluorooctanoic acid (PFOA) and Perfluorooctane sulfonic acid (PFOS), by fall 2022, with the intention of finalizing these standards by fall 2023.

- Clean Water Act Regulation. The EPA plans to propose a rule in summer 2023 that will restrict PFAS discharges from the organic chemicals, plastics and synthetic fibers, metal finishing, and electroplating industries. EPA also plans to continue to collect data and, where supported, initiate rulemakings that will restrict PFAS discharges from additional industrial categories, including electrical and electronic components, textile mills, landfills, leather tanning and finishing, plastics molding and forming, paint formulating, pulp, paper, paperboard, and airports.
- On October 26, 2021, the EPA built upon its PFAS Strategic Roadmap by announcing plans to initiate two proposed rulemakings; (1) to add PFOA, PFOS, Perfluorobutane sulfonic acid (PFBS) and GenX¹⁰ to the list of Resource Conservation and Recovery Act (RCRA) Hazardous Constituents, which would result in these chemicals being regulated as hazardous waste under RCRA and (2) clarify that constituents classified as RCRA hazardous wastes, such as these four chemicals, can be cleaned up through the RCRA corrective action process.¹¹ On July 30, 2021, related state information was released providing further support for PFAS regulation and remediation. The California Environmental Protection Agency's Office of Environmental Health Hazard Assessment (OEHHA) announced the availability of a draft technical support document for proposed Public Health Goals (PHGs) for PFOA and PFOS in drinking water. The public comment period for the draft ended on October 28, 2021. The intended effect once PFAS regulation and guidance is finalized at the Federal and State level is to comprehensively regulate and remediate PFAS.

3.0 LOOKING AHEAD: ANTICIPATED EFFORTS AND ISSUES

3.1 Introduction

The 2020 contract year was the beginning of a new Community Monitor contract, with Langan providing CM services, assisted by ESA. The CM team will continue to perform report reviews, site inspections and Class 2 soils file reviews. The COVID-19 health emergency and the resulting Shelter-in-Place orders brought changes in the way the CM conducts monitoring of the landfill activities. Two Emergency Waivers, one for the COVID-19 emergency and the other for wildfires, were requested and received by the ALRRF.

¹⁰ GenX is the trademark name for a short-chain PFAS, that is being marketed as a replacement for PFOA.

¹¹ The National Law Review: EPA Makes PFAS Announcements, Issues PFAS Strategic Roadmap and Planned RCRA Hazardous Waste Designations <https://www.natlawreview.com/article/epa-makes-pfas-announcements-issues-pfas-strategic-roadmap-and-planned-rcra>, accessed November 2021.

The four-year test of evapotranspirative (ET) cover methods is ongoing; the liquids separation system continued to operate; and ALRRF proposed that storm water samples no longer be analyzed for VOCs and that SW storm water samples no longer be collected. Exceedances at several monitoring wells and windblown litter issues will continue to be tracked.

3.2 Issues to be Tracked in 2022

3.2.1 Ongoing Review

The following issues will continue to be monitored in the coming year:

- Implementation of requirements of the 2016 Waste Discharge Requirements.
- Concurrence of natural-resource agencies with off-site wetland mitigations.
- Groundwater monitoring methods and data quality.
- Groundwater quality, including the vadose zone below the landfill liners.
- Stormwater quality and management practices.
- Performance of the landfill gas system; decommissioning and installation of gas wells.
- Effects of composting or material recovery development or operations on the landfill.
- Refuse truck traffic counts, if needed.
- Performance of the 10-acre ET cover test site.
- CDO compliance.
- Reduction of windblown litter on and off ALRRF property.

3.2.2 Site Inspections

All operations will continue to be observed, with close attention to the following areas.

3.2.2.1 Landfill Gas Control System

This system protects both air and groundwater quality, and it operates within a complex regulatory framework involving Federal permits, local permits, State regulations, and ALRRF CUP conditions. Physical changes to this system are likely to include the further addition of landfill gas extraction wells, decommissioning of wells that are no longer productive, and ongoing operation of the LNG plant, turbines, flares, etc. In 2022, four topics will be of special interest:

- The effect of the gas system on the concentrations of contaminants in wells E-20B and MW-4A.
- Concentrations of inorganic constituents in PC-1 well clusters.
- Gas temperatures, particularly in the high-temperature cluster of wells in Fill Area 1 Unit 2.
- Implementation of gas collection in FA 2.

3.2.2.2 Stormwater Controls and Monitoring

Throughout the year, and especially during wet weather months, the CM will monitor conditions at all stormwater basins. The new additions to the stormwater pollution controls – skimmers, flocculant addition, Filtrexx™ check dams, and additional discharge points – have likely reduced contamination, although sporadic VOCs are still detected.

3.2.2.3 Windblown Litter

This will likely continue to be an issue for Fill Area 2 and downwind areas. ALRRF has reported additional fences to prevent litter migration offsite will be installed during 2022. We will track progress on this.

3.2.2.4 New Systems

The CM will directly observe, and review available performance data, for:

- The ET cover test area
- The reconstructed wetland mitigation pond
- Sediment basin SB-H
- Tipper and truck wash equipment in Fill Area 2
- The liquids separation system
- Modifications to solidification operations

In addition, monitoring reports on the Mitigation Wetland and the Conservation Plan Area, will be reviewed as they are provided.

3.2.2.5 Groundwater Contaminants and Groundwater Data

The CM team will continue to check concentrations of MTBE, tert-butyl alcohol, and tetrahydrofuran, which showed an increase in 2015 but have not since then. The team will also

monitor data from wells E-20B, MW-4, MW-12, MW-20, PC-1C and other wells that have shown evidence of contamination. The quality of the groundwater sampling and analyses, especially the occurrence of contaminants in quality-control samples and field samples, will also continue to be monitored.

3.2.3 Class 2 Soils File Review

As required by the Scope of Work, the CM will conduct this review at least twice during 2022.

3.2.4 Permit Requirements Triggered by Expansion Date

In the Settlement Agreement, Section 4.3 defines the Expansion Date as “the date of the first deposition of solid waste in [Fill Area 2].” That occurred on March 25, 2019, triggering specific requirements in Conditional Use Permit C-5512, and in the resource-protection permit conditions that were imposed through the mitigations in the landfill-expansion EIR and the associated natural-resource-agency permits (Army Corps wetland permit, USFWS Biological Opinion, etc.; see Section 1.5.2, above).

3.2.4.1 Tonnage Limitations

Section 4 of the Settlement Agreement contains numerous restrictions on the types and source jurisdictions of wastes that can be brought to the ALRRF during specified time frames prior to and after the Expansion Date. Specifically:

- After the Expansion Date, the amounts of Sludges, Inert Waste and Special Waste from outside San Francisco and Alameda Counties is limited to 25,000 tons per year, and these materials may only originate within the nine Bay Area counties.
- Self-Hauled wastes (of all types) from Contra Costa County are limited to 25,000 tons per year.
- Materials brought for disposal may only originate from Alameda County, San Francisco, and San Ramon.

3.2.4.2 Natural Resource Protections and Reporting

The natural resource permits issued in connection with the ALRRF expansion contain over 80 explicit permit conditions, too many to enumerate here. In the near term, the following monitoring and reporting conditions are especially significant for the Community Monitor Committee:

- Every four years after the start of construction of Fill Area 2 (which began in 2015), the California Department of Fish and Wildlife (CDFW) is to receive a status report on the

required periodic surveys of the Conservation Plan Area. The wildlife surveys focus on Western Burrowing Owl, San Joaquin Kit Fox, California Red-legged Frog, and California Tiger Salamander.

- Annual wetland monitoring reports are required by the Lake and Streambed Alteration Agreement, which was issued by the CDFW, for the first five years of operation of the wetland mitigations, i.e. the constructed pond.
- Reconnaissance survey reports for the Conservation Plan Area are also required by the CDFW. These include baseline and periodic surveys for sensitive wildlife species (see list above), and annual rangeland and general reconnaissance surveys. These are due on January 15 of the calendar year following the survey.

In 2019, 2020 and 2021, these reports reportedly were being prepared, but none had been received by the CM. In 2021, we received and reviewed the 2020 Annual Progress Report. We will continue to request progress reports in the future.