STATE OF CALIFORNIA
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SANTA ANA REGION

JUNE 07, 2013
STAFF REPORT

ITEM: **7**

SUBJECT: General Waste Discharge Requirements for Site Maintenance and Water Quality Monitoring at Closed, Abandoned or Inactive Nonhazardous Waste Landfills Within the Santa Ana Region, Order No. R8-2013-0010

Summary

Active nonhazardous solid waste landfills in the Santa Ana Region are regulated by waste discharge requirements issued by the Regional Board. When an active landfill is closed, the Regional Board adopts post-closure waste discharge requirements that require the landfill to comply with the closure, site maintenance, and monitoring and reporting requirements contained in Title 27 of the California Code of Regulations.

Title 27 does not require landfills that were closed, abandoned or inactive prior to November 27, 1984 (CAI Landfills) to be closed in accordance with the closure requirements contained in Title 27. However, the site maintenance, monitoring and reporting requirements contained in Title 27 do apply to CAI Landfills. Regional Board staff have conducted routine inspections of CAI Landfills, and have requested the CAI Landfill owners to perform necessary site maintenance, monitoring and reporting consistent with Title 27. However, the Regional Board has not adopted waste discharge requirements for these CAI Landfills, with a few exceptions. Some degree of site maintenance and monitoring is necessary at CAI Landfills in order to assure that they do not impact water quality or cause nuisance conditions. Order No. R8-2013-0010 (Order) is being proposed to ensure that CAI Landfills do not impair or degrade water quality, and to provide consistency for the regulation of CAI Landfills in the Santa Ana Region under a uniform set of waste discharge requirements.

Background

In 1987, the California Water Code was amended to include Section 13273. Water Code Section 13273 required the State Water Resources Control Board (State Water Board) to develop a ranked list of all known landfills throughout the state on the basis of each landfill's threat to water quality. Section 13273 also required the operator of each solid waste disposal site on the ranked list to submit to the appropriate Regional Board the results of a groundwater assessment, referred to as a solid waste water quality assessment test (SWAT), to determine if the solid waste disposal site was leaking. The SWAT reports were required on a yearly basis, submitted by rank, beginning with Rank 1 in 1987.

Implementation of the SWAT Program was very successful in identifying leaking landfills throughout the State. However, SWAT Program funding was terminated by the Legislature in the early 1990's. This lack of funding forced the Regional Boards to stop requesting and reviewing SWAT Reports. Therefore, although most of the active landfills and many of the inactive landfills on the Santa Ana Region's SWAT list conducted groundwater assessments during implementation of the SWAT Program, groundwater assessment activities for landfills in the lower ranks were not performed.

The evaluation of over 500 SWAT reports by the State Water Board staff indicated that 72% of the landfills were found to have leaked waste constituents to groundwater[1]. The report also indicated that over half of the landfills "closed" for longer than 30 years leaked contaminants in concentrations above water quality objectives. Similar trends were observed in the CAI Landfills in the Santa Ana Region.

On July 18, 1997, the State Water Board adopted consolidated regulations for the treatment, storage, processing and disposal of solid waste (combined Regulation Division 2, Title 27, Subdivision 1, California Code of Regulations, hereinafter Title 27). Title 27 prescribes minimum standards for siting, design, construction, monitoring, and closure and post-closure maintenance for the treatment, storage, processing, and disposal of wastes at landfills. The Title 27 regulations were adopted to comply with the Federal Subtitle D regulations as well. However, the federal regulations and Title 27 regulations do not apply to CAI Landfills, except for the requirements for site maintenance, monitoring and reporting, including the requirement to develop a detection monitoring program (Title 27, Section 20080 (g)). A detection monitoring program is the monitoring program necessary to detect the earliest releases to groundwater, surface water, or the unsaturated zone. These proposed general waste discharge requirements will implement the Title 27 Section 20080 (g) regulations.

Discussion

Regulation of CAI Landfills via the proposed Order will facilitate better regulation and management of landfills that are required by Title 27 to implement detection monitoring, and may be required by Title 27 to implement corrective action measures. Adopting general waste discharge requirements for CAI Landfills will assist in:

- Protecting groundwater and surface waters of the state from pollution.
- Simplifying and expediting the waste discharge requirements application process for the Discharger.
- Reducing Regional Board staff time in preparing individual waste discharge requirements for each CAI Landfill.

[1] Water Resources Control Board, 1995, Solid Waste Assessment Test (SWAT) Program: Report to Integrated Waste Management Board (96-1CWP)

- Providing consistency in the regulation of CAI Landfills in the Santa Ana Region.

The proposed Order establishes minimum standards for detection monitoring and site maintenance at CAI Landfills. The proposed Order includes:

Findings: Establishes the regulatory basis for the proposed Order, the proposed Monitoring and Reporting Program, and the annual fees.

Eligibility: Describes the process for Dischargers to obtain coverage for a CAI Landfill under this Order.

Compliance with other Regulations, Orders and Standard Provisions: Applicable site closure and maintenance requirements contained in Title 27.

Prohibitions: Discharge prohibitions applicable to CAI Landfills.

Site Maintenance Specifications: Specifications the Discharger must comply with to implement the site maintenance requirements.

Water Quality Protection Standards: Monitoring parameters, concentration limits, monitoring points, and points of compliance.

Provisions: Other issues related to water quality, such as providing Regional Board access to the CAI Landfill, submittal of reports, Order severability, reporting and implementation provisions, and wet weather maintenance provisions. Provisions are also included to:

- Allow the Executive Officer to add CAI Landfills for enrollment and to approve termination of coverage under this Order.

- Require the Discharger to record a deed notice advising prospective buyers of the presence of a former landfill, in order to prevent nuisance conditions from future inappropriate land uses.

- Ensure that CAI Landfills do not impair or degrade water quality.

Monitoring and Reporting Program (M&RP): The proposed M&RP requires the Dischargers to perform regular monitoring and reporting of surface and groundwater quality and to perform necessary site maintenance activities. The M&RP may be modified at any time by the Executive Officer. The proposed M&RP includes the following items:

- Monitoring and Observation Schedule: This section addresses periodic routine CAI Landfill inspections, drainage system inspections, rainfall data collection, detection monitoring of all groundwater and surface water monitoring points, analytical monitoring of groundwater and gas monitoring parameters, and semi-annual determination of groundwater flow rate and direction.

- Sample Collection and Analysis: This section addresses sample collection, analyses and methods to determine concentration limits, and specifies how records shall be maintained. This section requires preparation and submittal of a Sampling and Analysis Plan. This section also establishes acceptable statistical and non-statistical methods the Discharger must use to perform data analysis, and outlines acceptable re-test procedures.

- Reporting: This section establishes formats and requirements that the Discharger must follow when submitting analytical data, annual reports, and summaries to the Regional Board, including notification requirements, contingency response and reporting requirements.

The M&RP represents the typical monitoring and reporting provisions for a CAI Landfill. However, each Discharger that enrolls under this Order will be issued an M&RP by the Executive Officer that is customized for the Discharger's specific CAI Landfill(s) based on the specific circumstances relating to that CAI Landfill(s).

CAI Landfills Proposed for Coverage Under the Order

Regional Board staff reviewed the existing data and reports for 23 known CAI Landfills in the Santa Ana Region and evaluated them based on the following factors: groundwater impact, surface water impact, surface drainage control, cover maintenance, degree of monitoring being performed, and staff time expended on each CAI Landfill. Based on the evaluation of the above factors, staff determined that thirteen CAI Landfills should initially be covered under this Order. These thirteen CAI Landfills have a viable responsible party, and sufficient site conditions are known to determine whether or not water quality has been impacted. The thirteen CAI Landfills can be divided into three groups: 1) CAI Landfills where discharges to groundwater have occurred, likely because of landfill gas or leachate migration, and corrective action measures are being implemented (Attachment 1); 2) CAI Landfills where groundwater monitoring has confirmed that water quality impacts have not occurred, but due to historic disposal practices or other conditions (e.g., no liners were installed at CAI Landfills that were constructed prior to the regulations), do pose a potential threat to water quality at this time (Attachment 2); and 3) CAI landfills where individual site-specific WDRs may be appropriate and that are not covered under the general WDRs (Attachment 3). CAI Landfills listed on Attachment 2 include, but are not limited to, landfills where open burning of refuse occurred (Burn Dumps). Burn Dumps pose a threat to water quality because the residual waste material contains soluble metals that can leach into groundwater. Also, severe erosion at CAI Landfills, including Burn Dumps, can expose waste, resulting in pollution of storm water runoff that can impact surface water.

Following adoption of this Order by the Regional Board, the Executive Officer will request the Dischargers to submit a report of waste discharge for these thirteen CAI Landfills. Other CAI Landfills in the Region that were not determined necessary to be covered by this Order at this time are either known to have not impacted water quality,

insufficient site-specific information is available to determine if water quality has been impacted, or otherwise are not considered to impose a threat to water quality at this time. These CAI Landfills may be requested to submit a report of waste discharge to be covered under this Order at a later date if information becomes available that indicates coverage under this Order is necessary.

Attachment 4 includes a short summary of each CAI Landfill listed in Attachments 1 and 2. A table that identifies the factors that staff have considered in evaluating the CAI Landfills, the relative score for each factor, and the total scores for each CAI Landfill is shown in Attachment 5. These scores, together with Regional Board staff's knowledge of each CAI Landfill, were then used to determine the appropriate annual fee, based on the fee schedule regulations contained in Title 23 of the California Code of Regulations (Attachment 6). Regional Board staff previously provided Attachments 1 through 6 to the Dischargers for their review and comment. The Attachments to the Staff Report include revisions that were made based on comments provided by the Dischargers.

RECOMMENDATION:

Adopt proposed Order No. R8-2013-0010 as presented.

Attachment 1

CAI Landfills Ranked Category 3-B

NO.	Landfill Name	Landfill Location	Discharger(s) w/Address
1	Crestmore	SW Corner of Jurupa Avenue and Linden Avenue, Bloomington	San Bernardino County 222 West Hospitality Lane 2nd Floor San Bernardino, CA 92415
2	San Joaquin	SE corner of Fairchild Road and MacArthur Blvd., Irvine	University of California Irvine Environmental Health and Safety 4600 Health Science Road Irvine, CA 92697 Orange County Waste & Recycling 300 N. Flower Street, Suite 400, Santa Ana, CA 92703

Attachment 2

CAI Landfills Ranked Category 3-C

NO.	Landfill Name	Landfill Location	Discharger(s) w/Address
1	Gothard Street	18131 Gothard Street, Huntington Beach	Orange County Waste & Recycling 300 N. Flower Street, Suite 400 Santa Ana, CA 92703
2	Huntington Beach	Huntington Beach Central Sports Complex	City of Huntington Beach 2000 Main Street Huntington Beach, CA 92648 Orange County Waste & Recycling 300 N. Flower Street, Suite 400 Santa Ana, CA 92703
3	La Habra	NE corner of Las Lomas Dr. and S. Idaho Street, La Habra (now Vista Grande Park)	City of La Habra Public Works Department 201 E. La Habra Blvd. La Habra, CA 90631 Orange County Waste & Recycling 300 N. Flower Street, Suite 400 Santa Ana, CA 92703
4	Reeve Pit	Santiago Blvd., West of Santiago Canyon Road, Orange	Thomas Reeve 19132 Ridge View Road Villa Park, CA 92677 Orange County Waste & Recycling 300 N. Flower Street, Suite 400 Santa Ana, CA 92703
5	Belltown	NW corner of 26th Street and Hall Avenue, Riverside	Oldcastle Precast, Inc. 2434 Rubidoux Blvd. Riverside, CA 92509 Riverside County Waste Management Department 14310 Frederick Street Moreno Valley, CA 92553
6	Waterman	Northwest of Carnegie Drive and Brier Drive, San Bernardino	Glenborough Inland Realty Corp. 650 E. Hospitality Lane, Suite 150 San Bernardino, CA 92408

			City of San Bernardino, 300 North "D" Street, San Bernardino, CA 92418-0001
7	Villa Park	5545 E. Santiago Canyon Road Orange	City of Orange 300 E. Chapman Ave. Orange, CA 92866 Orange County Waste & Recycling 300 N. Flower Street, Suite 400 Santa Ana, CA 92703
8	Sparks/Rains	SE Corner of Beach Blvd. and Lincoln Avenue, Anaheim	City of Anaheim 201 South Anaheim Blvd. Suite 1003 Anaheim, CA 92805 Westgate Investment Group LLC 141 N. Richmont Drive Anaheim, CA 92801 Orange County Waste & Recycling 300 N. Flower Street, Suite 400 Santa Ana, CA 92703
9	Beaumont	NW corner of Fourth Street and Nicholas Road, Beaumont	Riverside County Waste Management Department 14310 Frederick Street Moreno Valley, CA 92553
10	Pedley[2]	Jurupa and Van Buren Avenue Riverside	California Department of Fish and Wildlife 1416 9th Street 12th Floor Sacramento, CA 95814 Riverside County Waste Management Department 14310 Frederick Street Moreno Valley, CA 92553

[2] California Department of Fish and Wildlife has completed repairing the north slope of the Pedley Landfill that was washed off in 2010. Riverside County Waste Management Department is expected to continue the maintenance, monitoring and reporting for the site.

ATTACHMENT 3

CAI Landfills Where Individual WDRs May Be Appropriate

No.	Landfill Name	Landfill Location	Discharger(s) w/Address
1	Lane Road	SE corner Michelson Drive and Harvard Avenue, Irvine	National Golf Property (NGP) Realty Sub, L.P. 2951 28th Street, Suite 3001 Santa Monica, CA 90405 American Golf Corporation 2951 28th Street Santa Monica, CA 90405 Orange County Waste & Recycling 300 N. Flower Street, Suite 400, Santa Ana, CA 92703

Attachment 4

Summary of Closed, Abandoned and Inactive (CAI) Landfills

Crestmore Landfill

Crestmore Landfill is in corrective action for detection of volatile organic compounds (VOCs) in monitoring wells downgradient of the landfill. Groundwater monitoring is conducted quarterly. The corrective action measures include monitored natural attenuation and landfill gas (LFG) extraction. VOCs sporadically exceed the State Drinking Water Maximum Contaminant Levels (MCLs), and at other times are just below the MCLs.

Lane Road

The property where Lane Road Landfill is located has been operated by American Golf Corporation as Rancho San Joaquin Golf Course since 1966. Groundwater monitoring is conducted quarterly, and VOCs have been detected sporadically in a downgradient well above the MCLs. Corrective action remedies include active LFG extraction and site drainage improvement to minimize water infiltration through landfill cover and waste. VOCs above the MCLs could cause a short term loss of a beneficial use.

San Joaquin

VOCs have been detected in groundwater above the (MCLs) at the San Joaquin Landfill. Groundwater monitoring is conducted semi-annually. The corrective action remedies include regrading for long term drainage and erosion control, and active LFG extraction. VOCs above the MCLs could cause a short term loss of a beneficial use.

Gothard Street

Gothard Street Landfill is currently in a Detection Monitoring Program. Groundwater monitoring is conducted quarterly. Metals and general chemistry are above the MCLs downgradient of the site. However, the site is located within the Pacific Ocean salt water intrusion zone, and the underlying groundwater is not used for municipal water supply.

Huntington Beach

Huntington Beach Landfill is currently in a Detection Monitoring Program. Groundwater monitoring is conducted quarterly by Orange County Waste and Recycle. Metals and general chemistry are above the MCLs downgradient of the site. However, the landfill is located within the Pacific Ocean salt water intrusion zone, and the underlying groundwater is not used for municipal water supply.

La Habra

VOCs have been detected in groundwater below the State Drinking Water MCLs at the La Habra Landfill. Groundwater monitoring is conducted annually. The corrective action remedies include the installation and operation of a LFG system since 2005 and site re-grading in 2007 to provide adequate drainage control.

Reeve Pit Landfill

The Reeve Pit Landfill is an old Burn Dump and is in a Detection Monitoring Program. Groundwater monitoring is conducted semi-annually and there has not been any recent detection of VOCs in groundwater. The site was developed in the late-1990's to include a private school with irrigated grass fields, which could increase water infiltration and increase gas production, thus posing a threat to groundwater quality.

Belltown Landfill

The Belltown Landfill is in a Detection Monitoring Program and is currently used as a curing yard for a concrete pipe manufacturing facility. Groundwater monitoring is conducted semi-annually. The landfill poses a very minimal threat to water quality.

Waterman Landfill

The Waterman Landfill is in a Detection Monitoring Program. Groundwater monitoring is conducted quarterly. Low concentrations of VOCs have been detected in groundwater monitoring wells in the past.

Villa Park Landfill

The Villa Park Landfill is in a Detection Monitoring Program. Groundwater monitoring is conducted semi-annually. The landfill is open space with no plans for future development.

Sparks/Rains

Sparks/Rains Landfill is in a Detection Monitoring Program. Groundwater monitoring is conducted quarterly. A new development project planned for the site may impact groundwater.

Beaumont Landfill

VOCs have been detected in groundwater below the MCLs at the Beaumont Landfill. Groundwater monitoring is conducted semi-annually. The corrective action remedies include soil vapor extraction and Monitored Natural Attenuation

Pedley Landfill

The Pedley Landfill is directly adjacent to the Santa Ana River, and recently, approximately one-half acre of the landfill washed away into the River. This landfill is a direct threat to water quality, and is expected to continue to be a threat to water quality. However, the owner of the landfill has complete repairing the slope that has been exposed to the Santa Ana River is 2012. The Riverside County Waste Management District conducts groundwater quality monitoring every five years, and no landfill associated contaminants have been detected.

Attachment 5. Scoring Matrix for the CAI landfills in the Santa Ana Region to Determine the TTWQ and Complexity Rating

	TTWQ													Complexity					
	Groundwater Impact			Potential Surface Water Impact			Surface Drainage Control			Cover Maintenance			Total TTWQ	Facilitiy Compliance Inspections	Report Review	Monitoring Frequency	Total Complexity	Total Score	Rating
Site Name	High (3 Pts.)	Medium (2 Pts.)	Low/No (1 Pts.)	High (3 Pts.)	Medium (2 Pts.)	Low/No (1 Pts.)	Poor (3 Pts.)	Avg. (2 Pts.)	Good (1 Pts.)	Poor (3 Pts.)	Avg. (2 Pts.)	Good (1 Pts.)							
Beamont		2				1			1			1	5	1	2	2	5	10	3C
Belltown		2				1			1		2		6	1	2	2	5	11	3C
Lane Road	3			3			3				2		11	3	3	3	9	20	3B
San Joaquin	3			3				2			2		10	1	2	2	5	15	3B
La Habra		2		3				2				1	8	1	1	1	3	11	3C
Newport Ave.			1			1			1			1	4	0	1	1	2	6	-
Newport Terrace			1			1			1			1	4	0	0	0	0	4	-
Canal Street			1	3					1			1	6	0	0	0	0	6	-
Cannery Street			1			1			1			1	4	0	0	0	0	4	-
Pedley			1	3					1	3			8	3	1	1	5	13	3C
Longsdon North			1			1			1			1	4	1	1	0	2	6	-
Longsdon South			1			1			1			1	4	1	1	0	2	6	-
La Veta			1			1			1			1	4	1	0	0	1	5	-
Yorba Street			1			1			1			1	4	1	0	0	1	5	-
Villa Park			1			1			1			1	4	2	1	2	5	9	3C
Waterman		2		3					1			1	7	1	1	3	5	12	3C
Reeve Pit			1		2				1			1	5	1	1	1	3	8	3C
Crestmore	3					1		2			2		8	3	3	3	9	17	3B
Gothard Street			1			1			1			1	4	2	2	3	7	11	3C
Huntington Beach			1			1			1			1	4	2	2	3	7	11	3C
Sparks/Rains			1			1		2				1	5	1	2	3	6	11	3C
Cooley Ranch			1			1			1			1	4	1	0	0	1	5	-
Plunge Creek			1			1			1			1	4	1	0	0	1	5	-

Groundwater Impact

High	VOC release to groundwater above State Drinking Water MCLs
Medium	VOC release to groundwater below MCLs
Low/No	Very minimal to no groundwater impact due to effective environmental control system in place (e.g., LFG, a new cover, or groundwater treatment system)

Surface Water Impact

High	High impact potential (e.g. Adjacent to the River)
Medum	Medium Impact Potential (Within 500 feet of a surface water)
Low/No	Minimal impact potential (Greater than 500 feet to a surface water)

Surface Drainage Control & Cover Maintenance

Good	The property owner is proactive, very responsive in implementation of corrective actions, good cover maintenance
Avg.	The property owner inspects the site and maintains an average cover
Poor	The property owner does not inspect or maintain the site, not responsive in implementation of corrective actions

Facilitiy Compliance Inspections (number of inspections increases if violations occur at a landfill)

3	Regional Board staff inspects the site >=3 times per year
2	Regional Board staff inspects the site 2 times per year
1	Regional Board staff inspects the site 1 times per year
0	Regional Board staff does not inspect the site

Existing Monitoring Frequency

3	Quarterly report submittal
2	Semi-Annual report submittal
1	Annual report submittal
0	No report submittal

Report Review

3	High (greater than 20 hrs/yr)
2	Medium (between 10 to 20 hrs/yr)
1	Low (Less than 10 hrs/yr)
0	No Report review

TTWQ and Complexity Rating

≤7	No Threat to water quality at this time (These CAI Landfills are not recommended for coverage under this General Order)
8 to 14	Does not pose a significant threat to water quality at this time (These CAI Landfills have a TTWQ and CPLX of 3C)
15 to 21	Pose a significant threat to water quality at this time (These CAI Landfills have a TTWQ and CPLX of 3B)

Attachment 6

TTWQ and Complexity Rating

The following Threat to Water Quality and Complexity ratings are based on the California Code of Regulations, Title 23, Division 3, Chapter 9, Waste Discharge Reports and Requirements, Article 1, Fees.

Definitions and Annual Fee Schedule for Land Disposal Facilities

Threat to Water Quality (TTWQ)

Category "1" – Those discharges of waste that could cause the long-term loss of a designated beneficial use of the receiving water. Examples of long-term loss of a beneficial use include the loss of drinking water supply, the closure of an area used for water contact recreation, or the posting of an area used for spawning or growth of aquatic resources, including shellfish and migratory fish.

Category "2" – Those discharges of waste that could impair the designated beneficial uses of the receiving water, cause short-term violations of water quality objectives, cause secondary drinking water standards to be violated, or cause a nuisance.

Category "3" – Those discharges of waste that could degrade water quality without violating water quality objectives, or could cause a minor impairment of designated beneficial uses as compared with Category 1 and Category 2.

COMPLEXITY (CPLX)

Category "A" – Any discharge of toxic wastes; any small volume discharge containing toxic waste; any facility having numerous discharge points and groundwater monitoring; or any Class 1 waste management unit.

Category "B" – Any discharger not included in Category A that has physical, chemical, or biological treatment systems (except for septic systems with subsurface disposal), or any Class 2 or Class 3 waste management units.

Category "C" – Any discharger for which waste discharge requirements have been prescribed pursuant to Section 13263 of the Water Code not included in Category A or Category B as described above. Included are dischargers having no waste treatment systems or that must comply with best management practices, dischargers having passive treatment and disposal systems, or dischargers having waste storage systems with land disposal.

The annual fees for persons issued waste discharge requirements (WDRs), or general WDRs shall be based on the discharger's TTWQ and CPLX rating according to the following fee schedule, plus an Ambient Water Monitoring Surcharge of 9.5 percent.

2012-2013 Annual Fee Schedule for Land Disposal Facilities

Threat to Water Quality (TTWQ)	Complexity (CPLX)	Land Disposal Fees	9.5 % Ambient Water Monitoring Surcharge	Total Annual Fees
1	A	$48,125	$4,572	$52,697
1	B	$38,870	$3,693	$42,563
1	C	$24,988	$2,374	$27,362
2	A	$20,823	$1,978	$22,801
2	B	$16,659	$1,583	$18,242
2	C	$12,494	$1,187	$13,681
3	A	$8,329	$791	$9,120
3	B	$6,247	$593	$6,840
3	C	$2,776	$264	$3,040

STATE OF CALIFORNIA
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SANTA ANA REGION

ORDER NO. R8-2013-0010

GENERAL WASTE DISCHARGE REQUIREMENTS FOR SITE MAINTENANCE AND WATER QUALITY MONITORING AT CLOSED, ABANDONED, OR INACTIVE NONHAZARDOUS WASTE LANDFILLS WITHIN THE SANTA ANA REGION

The California Regional Water Quality Control Board, Santa Ana Region (hereinafter Regional Board) finds that:

1. Regulations governing nonhazardous solid waste landfills are included in the California Code of Regulations, Title 27, Division 2, Subdivision 1, Consolidated Regulations for Treatment, Storage, Processing, or Disposal of Solid Waste (Title 27).

2. Nonhazardous solid wastes mean "all putrescible and nonputrescible solid, semi-solid, and liquid wastes, including garbage, trash, refuse, paper, rubbish, ashes, industrial wastes, demolition and construction wastes, abandoned vehicles and parts thereof, discarded home and industrial appliances, manure, vegetable or animal solid and semi-solid wastes and other discarded wastes (whether of solid or semi-solid consistency); provided that such wastes do not contain wastes which must be managed as hazardous wastes, or wastes which contain soluble pollutants in concentrations which exceed applicable water quality objectives, or could cause degradation of waters of the state (i.e. designated waste)."[1]

3. Closed, abandoned and inactive nonhazardous landfills (CAI Landfills) are "waste management units that were closed, abandoned, or inactive prior to November 27, 1984"[2], and have not resumed the receipt of waste since that date. All active landfills in the Santa Ana Region have been regulated under waste discharge requirements (WDRs) for many years, but most CAI Landfills have not been regulated.

4. Pursuant to Title 27, §20080(d), CAI Landfills are not required to be closed in accordance with current Title 27 requirements.

5. If it is determined that a CAI Landfill poses a threat to water quality, the Regional Board may impose additional requirements if necessary to accommodate regional or site-specific conditions (Title 27, §20080(a)(1)).

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[1] California Code of Regulations, Title 27 Section 20220(a)
[2] California Code of Regulations, Title 27 Section 20164, Definitions

6. In accordance with California Water Code (CWC) §13263(d), the Regional Board may prescribe requirements although no report of waste discharge has been filed.

7. CWC §13273 required the State Water Resources Control Board to develop a ranked list of all known solid waste disposal sites (landfills) throughout the state, based upon the threat they may pose to water quality, by January 1, 1986. CWC §13273 required the operator of each landfill on the ranked list to conduct and submit to the appropriate Regional Board, the results of a solid waste water quality assessment test (SWAT report) to determine if the site was leaking hazardous waste. SWAT reports for the first rank were due by July 1, 1987. SWAT reports for each subsequent rank were due annually, thereafter.

8. The SWAT reports indicated that CAI Landfills in the Santa Ana Region that contained significant quantities of decomposable waste had leaked waste constituents, primarily volatile organic compounds (VOCs), to groundwater. The discharges occurred through landfill gas and/or leachate migration. These pollutants have the potential to impact the beneficial uses of groundwater.

9. CAI Landfills that do not contain significant quantities of decomposable waste, such as those that were operated by open burning of refuse, pose a less threat to water quality. However, those CAI Landfills still have the potential to impact water quality through the significant erosion of landfill wastes if they are not properly maintained.

10. The term "Discharger" within this Order is defined as current property owner(s) and operator(s) of the CAI landfills. The definition is consistent with the definition of CAI Units under Title 27, §20080(g): *"persons responsible for discharges at Units which were closed, abandoned, or inactive (CAI), on or before Nov. 27, 1984"*, and the definition of "Discharger" under Title 27, §20164: *"any person who discharges waste which could affect the quality of waters of the state."*

11. Pursuant to Title 27, §20080(g), the Discharger, may be required to develop and implement a detection monitoring program in accordance with Title 27 (§20380 et seq.). If water quality impairment is found, the Discharger may be required to develop and implement a corrective action program. An appropriate corrective action program may include, but is not limited to, construction of a final cover system, installation of a gas collection and recovery system, and/or implementation of necessary post-closure maintenance measures.

12. The monitoring requirements of this Order constitute a detection monitoring program. If water quality impairment is detected, Title 27 and the Monitoring and Reporting Program (M&RP) for this Order require the Discharger to submit a corrective action program that satisfies Title 27, §20430. Section 20430 contains the minimum requirements for a corrective action program. After a Discharger submits an acceptable corrective action plan, individual waste discharge requirements may be issued to include the specific corrective action measures.

13. Site maintenance at landfills is necessary to provide positive drainage, minimize erosion, minimize water infiltration through covers, and to prevent ponding. Under this Order, the Dischargers are required to maintain the existing CAI Landfill cover, to minimize erosion, and to provide adequate surface drainage control.

14. The annual fee for Dischargers covered under this Order is assessed based on the CAI Landfill's Threat to Water Quality (TTWQ) and Complexity Rating, as defined by California Code of Regulations, Title 23, §2200 (http://www.waterboards.ca.gov/resources/fees/). The Executive Officer can change a CAI Landfill's TTWQ and Complexity Rating based on information submitted by the Discharger (e.g., corrective action verification has been completed), or based on conditions at a CAI Landfill that may have changed (e.g., groundwater impacts are detected). If the TTWQ and Complexity Rating are changed, the annual fee could also change.

15. The M&RP for this Order requires the Discharger to perform regular monitoring and reporting of groundwater quality, and to confirm completion of necessary site maintenance activities. The M&RP may be modified as needed by the Executive Officer for each discharger. The monitoring and reporting requirements are necessary to assess compliance with his Order, to determine whether and to what extent each CAI Landfill covered by this order is impacting waters of the State, and to ensure implementation of all necessary long-term maintenance activities.

16. The adoption of this Order for CAI Landfills for site maintenance and water quality monitoring will assist in:

    a. Protecting groundwater and surface waters of the State from pollution.
    b. Simplifying and expediting the application process for the Discharger.
    c. Reducing Regional Board staff time preparing individual waste discharge requirements for each CAI Landfill.
    d. Providing consistency for regulation of CAI Landfillls in the Santa Ana Region.

17. This Order substitutes advanced retesting and time-between-samples approaches that the USEPA has established in its 2009 Unified Guidance publication in place of less effective prescriptive approaches to be found in the California Code of Regulations, Title 27, Division 2, subdivision 1, Consolidated Regulations for Treatment, Storage, Processing, or Disposal of Solid Waste (Title 27), as allowed by §20080(a)(1) of those regulations.

18. The Executive Officer will request a Discharger to submit a report of waste discharge for any CAI Landfill that the Executive Officer determines should to be covered under this Order.

19. A Water Quality Control Plan for the Santa Ana River Basin (Basin Plan) became effective on January 24, 1995. The Basin Plan, and its subsequent amendments, specifies beneficial uses and water quality objectives for waters in the Santa Ana

Region. The requirements specified in this Order are necessary to protect the water quality objectives and the beneficial uses.

20. Existing and potential beneficial uses of groundwater and surface waters within the Santa Ana Region are specified, by water body, in Table 3-1 of the Basin Plan. Groundwater and surface waters that do not have beneficial uses designated in Table 3-1 of the Basin Plan have the same beneficial uses as the streams, lakes or reservoirs to which they are tributary or the groundwater management zones to which they are tributary.

21. Discharges of pollutants to waters of the State, as a result of inadequate cover maintenance, drainage, erosion control, or other factors at CAI Landfills, constitute waste discharges, and as such, waste discharge requirements are necessary to ensure that discharges from these sites comply with water quality objectives established in the Basin Plan for groundwater and surface water.

22. This Order establishes minimum standards for maintenance and monitoring of CAI Landfills. In the event of an inconsistency between the provisions of this Order and the Basin Plan, the more protective water quality provision shall prevail.

23. This Order does not preempt or supersede the authority of municipalities, flood control agencies, or other federal, State or local agencies to prohibit, restrict, or control discharges of waste subject to their jurisdiction.

24. This project of adopting waste discharge requirements is being initiated by the Regional Board. The action to adopt waste discharge requirements is intended to protect the environment. These waste discharge requirements are for existing CAI Landfills and as such are exempt from provisions of the California Environmental Quality Act (Public Resources Code, Section 21000, et seq.) in accordance with Title 14, California Code of Regulations, Chapter 3, section 15301.

25. The Regional Board has notified interested agencies, the Dischargers, and all currently known interested parties of its intent to adopt general waste discharge requirements for CAI Landfills.

26. The Regional Board, in a public meeting, heard and considered all comments pertaining to the adoption of general waste discharge requirements for CAI Landfills.

IT IS HEREBY ORDERED that a Discharger who has received authorization to discharge under this Order in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted there under, shall comply with the following:

A. ELIGIBILITY

1. In order to obtain coverage under this Order, the Discharger shall submit a complete report of waste discharge and an appropriate filing fee in accordance with Section 13260 of the California Water Code. The report of waste discharge shall include the following:

   a. Form 200 (Application for Facility Permit/Waste Discharge) filled out in accordance with the instructions (http://www.waterboards.ca.gov/santaana/publications_forms/). If the Discharger has already submitted the information in subsections b, c, and d below, then only Form 200 is required.
   b. A description of the landfill and waste characteristics, including:
      i. Identification of the period during which waste was disposed of at the site.
      ii. Description of landfill disposal methods, operation and maintenance activities (if known).
      iii. Description of types of waste disposed.
      iv. Identification of the total volume of waste disposed.
      v. Any closure or post-closure activities conducted at the landfill subsequent to ceasing operation.
      vi. Present and future land use of the landfill area.
   c. A topographical scale map showing the location, users and uses of all wells located within one mile of the landfill.
   d. Any other information pertinent to protection of water quality or public health and prevention of nuisance.

2. If the Report of Waste Discharge is complete, the Discharger will receive notification from the Regional Board's Executive Officer stating that the Discharger is covered by this Order.

3. The Executive Officer may require any Discharger that is covered under this Order to apply for and obtain individual waste discharge requirements. A Discharger covered under this Order may apply for individual waste discharge requirements. If individual waste discharge requirements are adopted, then the applicability of this Order will be terminated on the effective date of the individual waste discharge requirements.

B. COMPLIANCE WITH OTHER REGULATIONS, ORDERS AND STANDARD PROVISIONS

1. If the Executive Officer determines that additional closure or corrective action activities, including the construction of a final cover system or implementation of post-closure maintenance, are necessary to protect water quality, the Discharger shall submit a closure plan or corrective action plan as directed by the Executive Officer.

2. If any applicable requirements in this Order overlap or conflict in any manner, the most water quality protective requirement shall govern, unless specifically stated otherwise or directed by the Executive Officer.

C. PROHIBITIONS

1. Any additional discharge of waste to land at a CAI Landfill is prohibited.

2. Odors, vectors, and other nuisances of waste origin beyond the limits of the CAI Landfill are prohibited.

3. The discharge of waste to surface drainage courses is prohibited.

4. The discharge of waste to property not owned or controlled by the Discharger is prohibited.

D. SITE MAINTENANCE SPECIFICATIONS

1. The CAI Landfills shall be maintained so that they neither cause nor contribute to a pollution or nuisance.

2. Water collected in any storm water catchment basin or groundwater treatment facility may be used in minimum amounts necessary for dust control, compaction, or irrigation of cover vegetation, provided that water does not infiltrate past the vegetation root zones or past a depth where effective evaporation can occur.

3. Surface drainage from tributary areas and internal site drainage from non-landfill surface or subsurface sources shall be diverted away from the waste so that water does not contact or percolate through wastes.

4. Drainage facilities shall be designed, constructed, and maintained to provide positive drainage, and minimize water ponding and infiltration through the wastes and cover. By October 31 of each year, site maintenance activities, such as drainage and erosion control measures, cover repair and maintenance, and grading, shall be completed.

5. Storage facilities associated with precipitation and drainage control systems shall be emptied immediately following each storm, or otherwise managed to maintain the design capacity of the system.

6. The structural integrity and effectiveness of all containment structures, including the CAI Landfill cover, shall be maintained as necessary to correct the effects of settlement or other adverse factors.

7. The migration of landfill gas from the site shall be controlled as necessary to ensure that landfill gases and gas condensate are not discharged to surface waters or groundwater. Gas condensate shall be collected and removed from the site.

8. All CAI Landfill areas with visible erosion damage, cracking, exposed waste, lack of vegetation, or ponding shall be repaired as soon as practicable after being discovered.

E. WATER QUALITY PROTECTION STANDARDS

1. The CAI Landfills shall not cause any Monitoring Parameter listed in the M&RP to exceed its concentration limit in groundwater at the Point of Compliance.

2. The concentration limits are specified in the M&RP. The Point of Compliance for each CAI Landfill is defined as the vertical surface located at the hydraulically downgradient limit of a CAI landfill and that extends through the uppermost aquifer underlying a landfill.

3. Monitoring results are subject to the most appropriate statistical or non-statistical test, as required by the M&RP.

4. The Discharger shall install groundwater, soil pore liquid, soil pore gas, surface water, and leachate monitoring devices as determined necessary by the Executive Officer to comply with this Order.

F. PROVISIONS

1. The Discharger shall comply with the M&RP issued by the Executive Officer. The Executive Officer can modify the M&RP, as necessary.

2. The Discharger shall have a continuing responsibility for waste containment and monitoring, and to assure protection of the waters of the State from discharged wastes, landfill gas, and leachate, including during any subsequent use of the property for other purposes. The Discharger is also responsible for correcting any problems that may arise in the future as a result of the discharge of waste including seeps, runoff and leachate containing waste that was previously deposited at a CAI Landfill. This responsibility continues as long as the waste poses a threat to water quality.

3. The Discharger shall furnish the Regional Board, within a reasonable time, any information that the Executive Officer may request to determine compliance with this Order.

4. All technical and monitoring reports required by this Order are pursuant to §13267 of the California Water Code. Failure to submit reports in accordance with this Order or the M&RP, or failure to submit a report of sufficient technical quality to be acceptable to the Executive Officer may subject the Discharger to enforcement action pursuant to §13268 of the California Water Code.

5. The Discharger shall notify Regional Board staff within 24 hours by telephone and within seven days in writing, of any noncompliance potentially or actually endangering public health or the environment. Any noncompliance that threatens the CAI Landfill's containment integrity shall be promptly corrected. Correction schedules are subject to the approval of the Executive Officer, except when delays will threaten public health, the environment and/or the CAI Landfill's integrity (i.e., emergency corrective measures). Corrections initiated prior to receiving Executive Officer approval shall be so stated in the written report. The written report shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times or anticipated duration; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance. The Executive Officer, or duly authorized representative, may waive the written report on a case by case basis if the oral report provides sufficient information and is received within 24 hours. Noncompliance includes, but is not limited to:

    a. Violation of a Discharge Prohibition.
    b. Violation of any Water Quality Protection Standard.
    c. Slope failure.
    d. Leachate seep occurring on, or in proximity to, the CAI Landfill.

6. The Discharger shall notify the Regional Board in writing of any proposed change in ownership of or responsibility for the CAI Landfill in accordance with Title 27, §21710(c)(1). Failure to submit the notice in writing shall be considered a violation of §13264 of the California Water Code. Written notice shall be given at least 90 days prior to the effective date of change in ownership or responsibility and shall:

    a. Be accompanied by any technical documents that are needed to demonstrate continued compliance with this Order.
    b. Contain the full legal name, state of incorporation if a corporation, address and telephone number of the persons assuming responsibility for the CAI Landfill.
    c. Contain a statement indicating that the new owner or operator assumes full responsibility for compliance with this Order.

7. In the event of any proposed change in ownership of the CAI Landfill, the Discharger shall notify the succeeding owner or operator, in writing, of the existence of this Order. A copy of that notification shall be sent to the Executive Officer.

8. The Discharger shall file an addendum to the report of waste discharge at least 180 days prior to the following:

    a. Significant change in maintenance activities, which would significantly alter existing drainage patterns and slope configurations, or pose a potential threat to the integrity of the site.
    b. Change in land use.
    c. Significant changes in waste limit (e.g. excavation and relocation of waste on site).
    d. Any planned change in the regulated facility or activity, which may result in noncompliance with this Order.

9. If the Discharger becomes aware that it failed to submit any relevant facts in a report of waste discharge, or submitted incorrect information in a report of waste discharge or in any report to the Regional Board, the Discharger shall promptly submit such facts or information.

10. The property owner shall file a deed notice with the Recorder of the County in which the CAI Landfill is located, which identifies the prior use of the property as a solid waste disposal site. The notice shall include a property description and a map that identifies the location of the former solid waste disposal site and shall state that the site is subject to this Order. Confirmation of recordation and a copy of the deed notice shall be provided to the Executive Officer within 120 days of a Discharger's coverage under this Order.

11. Coverage under this Order may be modified, revoked and reissued, or terminated for cause, including, but not limited to, the following:

    a. Violation of any terms or conditions of this Order.
    b. Obtaining coverage under this Order by misrepresentation or failure to disclose fully all relevant facts.

12. The filing of a request by the Discharger for the modification, revocation and re-issuance, or termination of coverage under this Order, or notification of planned changes or anticipated noncompliance, does not stay any condition of this Order.

13. The Discharger shall furnish to the Executive Officer, any information that the Executive Officer may request to determine whether cause exists for modifying, revoking and reissuing, or terminating coverage under this Order. The Discharger shall also furnish to the Executive Officer upon request, copies of records required to be kept by this Order.

14. At any time, the Discharger may file a written request (including appropriate supporting documents) with the Executive Officer, proposing appropriate

modifications to a CAI Landfill's M&RP. The Executive Officer will incorporate any appropriate modifications into a revised M&RP.

15. The Discharger shall submit a work plan at least 30 days prior to any activities that could alter existing surface drainage patterns or change existing slope configurations. These activities may include, but are not limited to, significant grading activities, the importation of fill material, the design and installation of soil borings, groundwater monitoring wells and other devices for site investigation purposes.

16. Final Cover Requirements – As provided in Title 27 Section 20950(a)(1), the Regional Board may require final cover design and construction at a CAI Landfill in accordance with Title 27, §21090 et sequence.

17. Closure of a CAI Landfill may be subject to the regulations of the California Department of Resources Recycling and Recovery and the Southern California Air Quality Management District.

18. The Discharger shall comply with all conditions of this Order and any additional conditions prescribed by the Regional Board in addenda thereto. Any noncompliance with this Order constitutes a violation of the California Water Code and is grounds for: (a) enforcement action including Regional Board orders or court orders requiring corrective action or imposing civil monetary liability; (b) termination, revocation and re-issuance, or modification of coverage under this Order; or (c) denial of a report of waste discharge application for new or revised waste discharge requirements. [CWC Sections 13261, 13263, 13265, 13267, 13268, 13300, 13301, 13304, 13340, 13350].

19. The Discharger shall take all reasonable steps to minimize or correct any adverse impacts on the environment resulting from noncompliance with this Order, including such accelerated or additional monitoring as may be necessary to determine the nature and impact of the noncompliance.

20. The Discharger shall, at all times, properly operate and maintain all systems of treatment and control (and related appurtenances) that are installed or used by the Discharger to achieve compliance with conditions of this Order. Proper operation and maintenance includes effective performance and adequate laboratory and process controls, including appropriate quality assurance procedures.

21. This Order does not convey any property rights of any sort or any exclusive privileges. The requirements prescribed herein do not authorize the commission of any act causing injury to persons or property, nor protect the Discharger from liability under federal, state, or local laws, nor create a vested right for the owner and operator to continue the regulated activity.

22. Authorized representatives of the Regional Board shall be allowed, at any time and without prior notification, to:

    a. Enter upon the Discharger's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this Order.
    b. Have access to and copy any records that must be kept under the conditions of this Order.
    c. Inspect any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order.
    d. Photograph, sample or monitor for the purposes of assuring compliance with this Order.

23. A copy of this Order shall be maintained at the local offices of the Discharger and shall be available to operating personnel at all times.

24. Provisions of this Order are severable. If any provision of this Order is found invalid, the remainder of this Order shall not be affected.

25. Except for data determined to be confidential under Section 13267(b) of the California Water Code, all reports prepared in accordance with this Order are considered public record and shall be sent to the Executive Officer of the Regional Board. All reports shall be signed as follows:

    a. For a public agency - by either a principal executive officer or ranking elected official, or their "duly authorized representative."
    b. For a partnership or sole proprietorship - by a general partner or the proprietor.
    c. For a corporation - by a principal executive officer of at least the level of vice-president, or their "duly authorized representative."
    d. For engineering, geologic, and environmental monitoring reports - by a California Registered Civil Engineer, Certified Engineering Geologist, Professional Geologist, or Certified Hydrogeologist as appropriate for the report.
    e. For a military installation - by the base commander or the person with overall responsibility for environmental matters in that branch of the military.

26. Any person signing a report prepared in accordance with this Order shall make the following certification:

    a. "I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the

information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

27. The Discharger shall submit reports required under this Order and other information requested by the Executive Officer through the State's electronic database (GeoTracker information system). The procedure to obtain a GeoTracker account and upload of information are included in Attachment 1 to the M&RP.

28. The California Water Code provides that any person who intentionally or negligently violates any waste discharge requirements issued, reissued, or amended by this Regional Board is subject to administrative civil liability of up to 1,000 dollars per day of violation. The Superior Court may impose civil liability of up to 10,000 dollars per day of violation or, if a cleanup and abatement order has been issued, up to 15,000 dollars per day of violation.

29. The California Water Code provides that any person failing or refusing to furnish technical or monitoring program reports, as required under this Order, or falsifying any information provided in the monitoring reports is guilty of a misdemeanor and may be subject to administrative civil liability of up to 1,000 dollars per day of violation.

I, Kurt V. Berchtold, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an order adopted by the California Regional Water Quality Control Board, Santa Ana Region, on June 07, 2013.

_____

Kurt V. Berchtold
Executive Officer

STATE OF CALIFORNIA
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SANTA ANA REGION

MONITORING AND REPORTING PROGRAM NO. R8-2013-0010

FOR SITE MAINTENANCE AND WATER QUALITY MONITORING
AT CLOSED, ABANDONED, OR INACTIVE NONHAZARDOUS WASTE LANDFILLS
WITHIN THE SANTA ANA REGION

I. MONITORING AND OBSERVATION SCHEDULE

A. Site Inspections

The Discharger shall inspect the CAI Landfill according to the schedule in Table 1, and record, at a minimum, the following:

1. Site Inspection:
   At least one inspection shall be conducted prior to the rainy season (October through April), and one post-rainy season inspection shall be conducted after April, unless otherwise directed by the Executive Officer.

2. Site Visual Observations:

   a. For Receiving Waters[1]:
      i. Floating and suspended materials of waste origin, presence or absence, source, and size of the affected area.
      ii. Discoloration and turbidity – description of color, source, and size of the affected area.
      iii. Evidence of odors – presence or absence, characterization, source, and distance of travel from source.
      iv. Evidence of beneficial use – presence of water-associated wildlife.
      v. Flow rate to receiving water.
      vi. Weather condition.

   b. Landfill Property and Along the Perimeter of the Landfill:
      i. Evidence of liquids leaving or entering the landfill, estimate size of the affected area, and flow rate (show affected area on a map).
      ii. Evidence of ponded water at any point on the landfill site (show affected area on map).
      iii. Evidence of odors – presence or absence, characterization, source, and distance of travel from source.
      iv. Evidence of erosion and/or exposed refuse.
      v. Inspection of all storm water discharge locations for evidence of non-storm

[1] Receiving Waters refer to any surface water and its tributaries with designated beneficial uses as specified in the Basin Plan

water discharges during dry seasons, and integrity during wet seasons.

3. Drainage Systems Inspection
   The Discharger shall inspect drainage control systems on a monthly basis, and record the following information:

   a. Condition of the drainage system controls, and whether the storm water storage basins and drainage ditches contain any liquids.
   b. Any apparent seepage from the landfill.
   c. Steps taken to correct any problems found during the inspection and dates when taken.

4. Site Maintenance
   By October 31 of each year, all necessary drainage and erosion control system repair and site maintenance activities must be completed (see Section D.9, Post-closure Maintenance Specifications of this Order).

B. Rainfall Data

The Discharger shall record the following information using data from the nearest weather station:

1. Total precipitation during the Monitoring Period.

2. Number of storms (≥ 1" in 24-hours) received during the Monitoring Period.

3. Return interval of most intense 24-hour storm that occurred during the Monitoring Period (e.g. 25- year, 100- year, etc.).

C. Monitoring

1. The following categories of CAI Landfills may have all or a portion of the monitoring program contained in this section waived by the Executive Officer:

   a. CAI Landfills that do not pose a significant threat to water quality;
   b. CAI Landfills that have demonstrated through either the completion of the appropriate SWAT reporting requirements (i.e., SWAT Reports) or other assessment activities that there has not been a significant discharge to groundwater; or
   c. CAI Landfills that are covered under an individual M&RP or an enforcement action (e.g. Cleanup and Abatement Order).

2. Groundwater monitoring for the monitoring parameters listed in Table 2 is required during a minimum of eight monitoring events at each monitoring point to establish the concentration limits. All sites with existing groundwater monitoring have already completed this task.

3. The Discharger shall establish and maintain an appropriate number of monitoring points for all media (groundwater, surface water, and gas), for implementing the water quality monitoring program. Within 180 days of receipt of Discharge Authorization under this Order, the Discharger may request for a waiver from monitoring according to C.1 above. The monitoring shall consist of at least three groundwater monitoring points designed to confirm groundwater conditions immediately below and adjacent to the landfill site. It shall also include proposed monitoring points for surface water monitoring, if applicable. The proposed Monitoring Plan must include a proposed list of monitoring parameters and the proposed monitoring frequency for all monitored media, particularly if the proposed monitoring parameters and monitoring frequency differs from the requirements of this Order. All waiver requests must be adequately supported.

4. Monitoring of each medium and monitoring at all Monitoring Points shall be carried out according to the schedule specified in Table 1. Analysis of Monitoring Parameters shall be carried out semi-annually at each of the site's surface water and groundwater monitoring points, unless an alternative monitoring frequency has been approved by the Executive Officer. Semi-annual monitoring shall be performed during the 2nd and 4th calendar quarters. The due date for any given report is specified in Table 1.

Table 1: Monitoring and Reporting Schedule[2]

Monitoring Program	Monitoring Frequency/Period	Report Due Date
Drainage System Control	Monthly	Nov. 30
Groundwater and surface water Monitoring	Spring/Summer (Apr. 1 - Sep. 30)	Nov. 30
	Fall/Winter (Oct. 1 - Mar. 31)	
Site Maintenance Monitoring	Pre-rainy Season before Oct. 1	Nov. 30
	Post-rainy Season after April 30	

5. Changes to any of the monitoring provisions require approval by the Executive Officer of the Regional Board.

D. Analytical Monitoring

2 Due to possible multiple party report submittals, the above reports (Table 1) can either be submitted separately or combined into one annual report.

1. Groundwater Monitoring Parameters: The Monitoring Parameters listed in Table 2 are typical parameters detected at landfill sites investigated during active implementation of the Solid Waste Water Quality Assessment Test (SWAT) Program.

2. All groundwater samples from all Monitoring Points shall be analyzed for the Monitoring Parameters listed in **Table 2,** below:

Table 2: Monitoring Parameters

Constituent/Parameter	USEPA Method[1]	Units [3]
Water Elevation[4]	-------	feet
Electrical Conductivity	2510B or Field Instruments	µmhos/cm
PH	Field	pH Units
Temperature	Field	°F/C
Turbidity	Field	NTU
Total Dissolved Solids (TDS)	160.1	mg/l
Chloride, Sulfate	300	mg/l
Nitrate (as nitrogen)	9200	mg/l
VOCs [2]	8260	µg/l

(1) The Discharger shall analyze for all constituents using the USEPA analytical methods indicated or the most recently approved SW-846 USEPA method or other equivalent USEPA method.
(2) All 47 Appendix I VOCs listed in Appendix I to 40 CFR 258.
(3) mg/l – milligrams per liter, °F/C – degrees Fahrenheit and Celsius, NTU – Nephelometric turbidity units, µmhos/cm – micro-mhos per centimeter, and µg/l – micrograms per liter.
(4) Water elevation shall be recorded from all monitoring wells.

3. Groundwater Flow Rate and Direction: For each monitored groundwater body, the water level in each well shall be measured. Semi-annual water level measurements shall be collected, unless the Executive Officer specifically requires or allows otherwise. Horizontal gradients, groundwater flow rate, and flow direction for the respective groundwater body shall be determined across an annual hydrogeologic cycle for each monitoring period. Groundwater elevations for all wells in a given groundwater body shall be measured within a period of time short enough to avoid temporal variations in groundwater flow. The observed groundwater characteristics shall be compared with those of previous determinations, noting the appearance of any trends, and any indications that a change in the hydrogeologic conditions beneath the site has occurred. This information shall be reported in the Annual Monitoring Reports.

4. Sample Procurement Limitation: For any given monitored medium, the samples

taken from Monitoring Points to satisfy the initial data analysis requirements for that Monitoring Period shall be taken within a span not exceeding the first 10 business days of that period. The first retest sample, if needed, shall be taken at mid-monitoring period. If a tentative release is indicated, retest procedures shall be carried out in accordance with Sample Collection and Analysis, Section II, of this M&RP below.

II. SAMPLE COLLECTION AND ANALYSIS

A. Sampling and Analytical Methods

Sample collection, storage, and analysis specified in this monitoring and reporting program shall be performed according to the most recent version of Standard USEPA Methods (USEPA publication "SW-846"), and in accordance with an Executive Officer approved Sampling and Analysis Plan (SAP). All future changes to the SAP must be submitted for Executive Officer approval prior to implementation. Laboratories must be certified by the State Department of Public Health for all analytical procedures they perform in accordance with this M&RP. Specific methods of analysis must be identified. If methods other than USEPA-approved methods or Standard Methods are used, the exact methodology must be submitted for review and must be approved by the Executive Officer prior to use. The director of the laboratory whose name appears on the certification shall supervise all analytical work in his/her laboratory and shall sign all reports of such work submitted to the Regional Board. All monitoring instruments and equipment shall be properly calibrated and maintained to ensure accuracy of measurements. Calibration and maintenance records shall be kept and made available upon request by the Regional Board. The Discharger is responsible for seeing that the laboratory analysis of all samples from all Monitoring Points meet the following conditions:

1. Method Selection: The methods of analysis and the detection limits used must be appropriate for the expected concentrations. For detection monitoring of any constituent or parameter that is found in concentrations which produce more than 90% non-numerical determinations (i.e., "trace") in historical data for that medium, the SW-846 analytical method having the lowest Method Detection Limit (MDL) shall be selected from among those methods that would provide valid results in light of any Matrix Effects involved.

2. Trace Results: Results falling between the MDL and the Practical Quantitation Limit (PQL) shall be flagged as "trace", and shall be accompanied by both the (nominal or estimated) MDL and PQL values for that analytical run. Likewise, any non-detect ("ND") determination shall include the nominal or estimated MDL concentration for that run.

3. Estimated MDL and PQL: The MDL and PQL shall be derived by the laboratory for each analytical procedure, according to State of California laboratory

accreditation procedures. Both limits shall reflect the detection and quantitation capabilities of the specific analytical procedure and equipment used by the laboratory. If the laboratory suspects that, due to a change in matrix or other effects, the true detection limit or quantitation limit for a particular analytical run differs significantly from the laboratory-derived MDL/PQL values, the results shall be flagged accordingly and an estimate of the detection limit and/or quantitation limit actually achieved shall be included.

4. Quality Assurance/Quality Control (QA/QC) Data: All QA/QC data shall be reported along with the sample results to which it applies. Sample results shall be reported unadjusted for blank results or spike recovery. The QA/QC data submittal shall include the following information:

   a. Method, equipment, and analytical detection limits.
   b. Recovery rates and an explanation for any recovery rate that is outside the USEPA specified recovery rate.
   c. Results of equipment and method blanks.
   d. Results of spiked and surrogate samples.
   e. Frequency of quality control analysis.
   f. Chain of custody logs.
   g. Name of the person(s) performing the analysis.

5. Common Laboratory Contaminant: Upon receiving written approval from the Executive Officer, a statistical or non-statistical procedure can be used for determining the significance of analytical results for a constituent that is a common laboratory contaminant (i.e., methylene chloride, acetone, 2-Butanone, diethylhexyl phthalate, and di-n-octyl phthalate) during any given monitoring period in which QA/QC samples show evidence of laboratory contamination for that constituent. Nevertheless, analytical results involving detection of these analytes in any background or down-gradient sample shall be reported and flagged for easy reference by Regional Board staff.

6. Unknowns: Unknown chromatographic peaks shall be identified, quantified, and reported to a reasonable extent. When unknown peaks are encountered, second column or second method confirmation procedures shall be performed in an attempt to identify and more accurately quantify the unknown analyte.

7. In cases where contaminants are detected in QA/QC samples (i.e., field, trip, or laboratory blanks), the accompanying sample results shall be appropriately flagged for easy reference.

B. Laboratory Records

Water quality records shall be maintained by the Discharger and retained throughout the post-closure maintenance period. The period of retention shall be extended during the course of any unresolved litigation or when requested by the Executive Officer. Such records shall show the following for each sample:

1. Identity of sample and the actual monitoring point designation from which it was taken, along with the identity of the individual who obtained the sample.
2. Date and time of sampling.
3. Date and time that analysis was started and completed, and the name of the personnel performing each analysis.
4. Complete procedure used, including method of preserving the sample, and the identity and volumes of reagents used.
5. Chromatographs and calculation of results.
6. A complete chain of custody log.
7. Results of analysis, and the Method Detection Limit and Practical Quantitation Limit for each analysis.

C. Concentration Limits

1. The concentration limit for a given monitoring parameter is a component of the water quality protection standard under §20390 and §20400. The concentration limits for the monitoring parameters specified in Table 2, except for the field-measured parameters and VOCs, shall be the respective background values, as determined by using an approved statistical data analytical method.

2. The concentration limit for each VOC monitoring parameter shall be determined as follows:
   a. In cases where the constituent's Method Detection Limit (MDL) is exceeded in less than ten percent of the historical samples making up the reference background data set, Practical Quantitation Limit (PQL) is the concentration limit.

   b. In cases where the constituent's MDL is exceeded in ten percent or more of the historical samples, and the source of the constituent has been confirmed in accordance with Section D of this M&RP to come from a source other than the landfill, the concentration limit shall be determined using an approved statistical method. Otherwise, the Discharger shall propose a concentration limit in accordance with Title 27, Section 20395(a).

3. The Discharger shall review concentration limits every three years using all data collected from the applicable background data pursuant to Section 5.3 of the USEPA's Unified Guidance.

D. Release Indication

Exceedance of a Concentration Limit is a tentative indication of a release, unless the constituent is naturally occurring with concentrations exhibiting spatial/temporal variability due to natural geochemical conditions. If a release from the landfill is tentatively indicated, the **Re-Test Procedure**, under Section E below, shall be carried out.

E. Re-test Procedure for a Tentative Release

1. In the event the Discharger concludes that a release has been tentatively indicated, the Discharger shall carry out the appropriate reporting requirements and by mid-period, shall collect a new sample for the monitoring parameter(s) that exceeded the concentration limit at each indicating monitoring point. The Discharger shall use a single re-test sampling approach. The re-test sample shall be taken at mid-monitoring period to provide an independent sample for the parameter that was exceeded. If a release is confirmed by the re-test, then the results exhibit a measurably significant indication of a release; otherwise, the original release indicated is nullified.

2. Re-tests shall be carried out only for the Monitoring Point(s) for which a release is tentatively indicated, and only for the Monitoring Parameter(s) which triggered the indication.

3. If the test results confirm the original indication of a release, the Discharger shall conclude that a release has been discovered and shall carry out the appropriate requirements under Section C, Contingency Response/Reporting, section of this M&RP.

III. REPORTING

A. Monitoring and Reporting Schedule

Unless otherwise indicated, all required monitoring and observations shall be reported in an **Annual Monitoring Report**. The Annual Monitoring Report shall be submitted in accordance with the time frames provided in Table 1 of Section I.C of this M&RP. The Monitoring Report shall include the results of all monitoring parameters analyzed as required by this Monitoring and Reporting Program. Monitoring reports shall be submitted in an electronic format through the State's electronic database (GeoTracker information system). The procedure to obtain a GeoTracker account and upload of information are included in Attachment 1 to the M&RP. All monitoring reports shall be comprised, as appropriate, of at least the following information:

1. Letter of Transmittal: The transmittal letter shall be signed by a principal officer at the level of vice president or above, or by his/her duly authorized representative, if such a representative is responsible for the facility. The letter shall contain a statement by the official, under penalty of perjury, that to the best of the signers' knowledge, the report is true, complete, and correct. All technical and monitoring reports shall be signed and stamped by a registered civil engineer, a certified engineering geologist, Professional Geologist, or a Certified Hydrogeologist as appropriate for the report.

2. Compliance Evaluation Summary - The summary shall contain the following

information:

a. A summary of the groundwater monitoring result analysis, indicating any changes made or discovered since the previous report.
b. A comprehensive discussion of the facility compliance record. A discussion of any violations found since the last report was submitted, and shall describe actions taken or planned for correcting those violations. If a detailed time schedule has been previously submitted for correcting violations, a reference to the schedule will be satisfactory. If no violations have occurred since the last submittal, this shall be stated. , A review of construction projects with water quality significance completed or commenced in the past year or planned for the upcoming Monitoring Period shall also be included.
c. Determination of the Velocity and Direction of Groundwater Flow Within Each Water-Bearing Zone: For each monitored groundwater body, a description and graphical presentation of the velocity and direction of groundwater flow under/around the facility, based upon water level elevations taken during the collection of the water quality data submitted in the Monitoring Report (i.e., groundwater elevation contour map for each water-bearing zone, beneath and adjacent to the facility). The analysis shall include a discussion of how the observed groundwater flow rate and flow direction compare with those from previous determinations, the appearance of any trends, and any other items which may indicate a potential change in the hydro-geological conditions beneath and adjacent to the facility.
d. Pre-Sampling Purge: For each monitoring point addressed by the report, a description of the method and time of water level measurement, the type of pump used for purging and the placement of the pump in the well, and the method of purging (the pumping rate, the equipment and methods used to monitor field pH, temperature, and conductivity during purging, the calibration of the field equipment, results of the pH, temperature, conductivity, dissolved oxygen, and turbidity testing, the well recovery time, and the method of disposing of the purge water).
e. Sampling: For each monitoring point addressed by the report, a description of the type of pump, or other device used, its placement for sampling, and a description of the sampling procedure (number of samples, field blanks, travel blanks, and duplicate samples taken; the type of containers and preservatives used; the date and time of sampling; the name of the person actually taking the samples; and a description of any anomalies).

3. Corrective Action Summary: When appropriate, discuss significant aspects of any corrective action measures performed during the Monitoring Period. Calculate the mass removed from the sites' impacted media (groundwater) by mass removal system(s), as applicable. Mass removal calculations shall be based on actual analytical data. Present discussions and indications relating mass removal data to the violation the corrective action is addressing.

4. Graphical Presentation of Analytical Data: As part of the annual summary, the

Discharger shall include relevant concentration-versus-time plots for each monitoring point in each medium, and submit the laboratory analytical data for all samples taken within at least the previous five calendar years. Plots shall effectively illustrate trends and/or variations in the laboratory analytical data. When multiple samples are taken, graphs shall plot each datum, rather than plotting mean values. For any given constituent or parameter, the scale for background plots shall be the same as that used to plot down gradient data.

5. Map(s): All monitoring reports shall include the following maps:

   a. A map or aerial photograph clearly showing the locations of all monitoring locations and relative physical features.
   b. A map showing the area of waste disposal.
   c. For each groundwater body monitored, a map depicting groundwater contours to the greatest degree of accuracy possible.
   d. For any CAI Landfill in a corrective action program, a separate plume map shall be provided for each formation (groundwater bearing zone) showing the extent of known contamination, all monitoring points, and groundwater flow direction.

6. Laboratory Results: Laboratory statements, concerning the results of all analyses, demonstrating compliance with the most recently approved sampling and analysis plan. Additionally, results of all sampling and analyses performed at the CAI Landfill, outside the requirements of this monitoring and reporting program, shall be summarized and reported. The following information must also be presented:

   a. All monitoring analytical data obtained during the previous year, presented in tabular format.
   b. The evaluation and interpretation of all available data.
   c. Groundwater elevation contour map for each water-bearing zone.
   d. Copy of sampling log (record) for each well.

7. An evaluation of the effectiveness of the run-off/run-on control facilities submitted as a section in the annual report or under separate cover to fulfill the reporting requirements of the Drainage System Control Monitoring Program.

8. A summary and certification of completion of all observations for the CAI Landfill, for the perimeter of the CAI Landfill, and for the Receiving Waters submitted as a section in the annual report or under separate cover to fulfill the reporting requirements of the Site Maintenance Monitoring Program.

B. Notification Requirements

1. The Discharger shall notify the designated Regional Board staff within 24 hours by telephone or via email and within 7 days in writing, of:

a. Any noncompliance potentially or actually endangering health or the environment.
b. Any flooding, equipment failure, or other change in site conditions that could impair the integrity of the site or any portion thereof, or any drainage control structures.

2. The Discharger, or persons employed by the Discharger, shall comply with all notice and reporting requirements of the State Department of Water Resources, and obtain concurrence of the Executive Officer, regarding the construction, alteration, destruction, or abandonment of all monitoring wells used for compliance with this monitoring program, as required by §13750.5 through §13755 and §13267 of the California Water Code.

3. Response to an Initial Indication of a Release: Should the initial statistical or non-statistical comparison indicate that a new release is tentatively identified, the Discharger shall:

   a. Within 24 hours, notify their designated Regional Board staff contact by telephone or via email as to the Monitoring Point(s) and constituent(s) or parameter(s) involved;
   b. Provide written notification within seven days of such determination; and
   c. Either of the following:
      i. Carry out a Re-Test Procedure. If the re-test confirms the existence of a release or the Discharger fails to perform the re-test, the Discharger shall perform the appropriate Release Discovery Response (Item C.3 below). In any case, the Discharger shall inform the Regional Board of the re-test outcome within seven days after the results become available.
      ii. Make a determination, in accordance with Title 27, §20420(k)(7), that a source other than the CAI Landfill caused the release or that the evidence is an artifact caused by an error in sampling, analysis, or statistical evaluation or by natural variation in the groundwater, surface water, or the unsaturated zone.

C. Contingency Response/Reporting

1. Leachate Seep: The Discharger shall notify the designated Regional Board staff within 24 hours report by telephone or via email the discovery of any previously unreported seepage from the CAI Landfill disposal area. A written report shall be filed with the designated Regional Board staff within seven days, containing at least the following information:

   a. Map - a map showing the location(s) of seepage.
   b. Flow rate - an estimate of the flow rate.
   c. Description - a description of the nature of the discharge (e.g., all pertinent observations and analyses).

d. Location – Location of sample(s) collected for laboratory analysis, as appropriate.
e. Corrective measures - approved (or proposed for consideration) by the Regional Board Executive Officer.

2. Physical Evidence of a Release: If either the Discharger or Regional Board staff determines that there is significant physical evidence of a release, per Title 27, §20385(a)(3), the Discharger shall confirm that a release has been discovered and shall:

   a. Within seven days, notify the Regional Board of this fact by mail (or acknowledge the Regional Board staff's determination).
   b. Carry out the appropriate Release Discovery Response for all potentially-affected monitored media.
   c. Carry out any additional investigations stipulated in writing by the Regional Board Executive Officer for the purpose of identifying the cause of the indication.

3. Release Discovery Response: If the Discharger or the Executive Officer concludes that a release has been discovered, the following steps shall be carried out:

   Within 90 days of discovering a release, submit an Amended Report of Waste Discharge proposing a corrective action plan.
   i. Meets the requirements of Title 27, §20430.
   ii. Commit to install at least one monitoring well at the facility boundary directly down gradient of the center of the release.

4. Release Beyond Facility Boundary: Any time the Discharger concludes that a liquid- or gaseous-phase release from the CAI Landfill site has traveled beyond the facility boundary, the Discharger shall make the following notifications to all persons who either own or reside upon land that overlies any part of the plume (Affected Persons):

   a. Initial notification to Affected Persons shall be accomplished within 14 days of confirming a release and shall include a description of the Discharger's current knowledge of the nature and extent of the release.
   b. Subsequent to the initial notification, the Discharger shall provide updates to all Affected Persons, including any persons newly affected by a change in the boundary of the release, within 14 days of concluding there has been any material change in the nature or extent of the release.
   c. Annually, the Discharger shall notify Affected Persons concerning the status of the release and any corrective action being taken or planned.
   d. Each time the Discharger sends a notification to the Affected Persons (under a. or b., above), the Discharger shall, within seven days of sending such

notification, provide the Regional Board with both a copy of the notification and the mailing list of the Affected Persons. In the case of an annual notification to the Affected Persons (c. above), notification to the Regional Board shall be via the Annual Report.

e. All notifications to all Affected Persons shall include (at a minimum) the following information:
   i A summary of the release and corrective action information.
   ii Contact information (i.e., Regional Water Quality Control Board, City, and County Environmental Health Department).
   iii The results of the most recent monitoring data and its availability.

D. Response to VOC Detection in Background Monitoring Point

1. Except as indicated in **D.2**. below, any time the laboratory analysis of a sample from a background monitoring point shows either three or more VOCs above their respective Method Detection Limit (MDL), or one VOC above its respective Practical Quantitation Limit (PQL), the Discharger shall:

   a. Within 24 hours, notify the Regional Board by phone or email that possible background monitoring point contamination has occurred.
   b. Follow up with written notification by mail within seven days.
   c. Immediately obtain one new independent VOC sample from the background monitoring point and send for laboratory analysis of only the VOCs that were initially detected above the concentration limit.

2. If the sample collected pursuant to D.1.c, above, validates the presence of a VOC(s) at the background monitoring point, the Discharger shall:

   a. Within 24 hours, notify the Regional Board that the VOC(s) have been verified to be present at that Background Monitoring Point.
   b. Provide written notification by mail within seven days of validation.
   c. Within 180 days of validation, submit a report, acceptable to the Executive Officer, which examines the possibility that the detected VOC(s) originated from other than the CAI Landfill, and proposes appropriate changes to the Monitoring and Reporting Program.

3. If the Executive Officer determines, after reviewing the report, that the VOC(s) detected originated from a source other than the CAI Landfill, the Discharger shall continue the existing Monitoring and Reporting Program.

4. If the Executive Officer determines, after reviewing the report, that the detected VOC(s) most likely originated from the Landfill, the Discharger shall assume that a release has been detected and shall immediately begin carrying out the appropriate Release Discovery Response of this monitoring and reporting program.

All reports required in this monitoring and reporting program are required pursuant to California Water Code §13267. Any person affected by this action of the Regional Board may petition the State Water Resources Control Board (State Board) to review the action in accordance with §13320 of the California Water Code and Title 23, California Code of Regulations, §2050. The petition must be received by the State Water Resources Control Board within 30 days of the date of this Order. Copies of the laws and regulations applicable to filing petitions will be provided upon request.

Kurt V. Berchtold
Executive Officer